



*The College of* \_\_\_\_\_  
**WILLIAM & MARY**

# **Facilities Management Design and Construction Manual**

**October 2007**

**Version 1.0**



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This publication represents the combined efforts and professional expertise of the directors, superintendents, managers, craftspeople, and other staff members throughout Facilities Management.

Without their valuable contributions and careful review, the **Facilities Management Design and Construction Manual** would not have been possible.



# **THE COLLEGE OF WILLIAM AND MARY DESIGN AND CONSTRUCTION MANUAL**

**October 31, 2007**

**This College of William and Mary Design and Construction Manual marks a significant milestone in the College of William and Mary's achievement of delegated authority over its capital construction program and lease approval processes which began in 1996 when the General Assembly authorized delegation of post-appropriation management of non-general fund capital projects, and administration of real property leases to certain institutions of higher education as a two year pilot project. The General Assembly continually extended the pilot project. The 2005 General Assembly Session passed the Restructured Higher Education Financial and Administrative Operations Act Chapter 933 (the Act) which made permanent those pilot delegations as well as providing further autonomy to the College of William and Mary for implementation of non-general fund and also general fund capital projects and administration of real property leases. The 2006 General Assembly Session passed legislation containing the Management Agreement By and Between the Commonwealth of Virginia and the College of William and Mary (the Management Agreement) as required by the Act which further defined and specified the policy and rules governing the additional autonomy granted by the Act.**

**This Manual incorporates all of the facilities design and construction, land acquisition, and leasing provisions of the Act and the Management Agreement and implements the policies and procedures of the College of William and Mary and its Board of Visitors. College of William and Mary representatives will continue to work with other institutions to improve and further this effort for the benefit of higher education.**

**Anna B. Martin  
Vice President for Administration  
College of William and Mary**



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# CHAPTER 1

## ADMINISTRATION:

### *INTRODUCTION, PROJECT REVIEW BOARDS, BUILDING COMMITTEE, CODE REVIEW TEAM, BUILDING OFFICIAL*

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#### SECTION 1.1 GENERAL

The College of William and Mary Design and Construction Manual (hereafter referred to as the Manual) for capital projects contains policy, procedures and standards that must be followed in the execution of capital outlay projects. Supporting documentation concerning the enabling legislation and delegation of authority from the Commonwealth of Virginia to the College of William & Mary (the College) is in Appendix W.

**1.1.1 The Act:** The Manual sets forth the policies authorized by the Restructured Higher Education Financial and Administrative Operations Act (hereafter known as the Act), Chapter 4.10 (§23-38.88 et seq) of Title 23 of the Code of Virginia.

**1.1.2 Deviations From Policy and Procedures:** Deviations from the policy, procedures and standards outlined within shall be requested by a Determination and Findings (D&F) [see Appendix R] and must have prior approval of the College of William and Mary Associate Vice President for Facilities Management (AVP-FM)

- The D&F shall justify and substantiate the need for the deviation. All deviations so provided shall be consistent with the authorities provided Agencies 204 and 268, particularly Exhibit G (Policy Governing Capital Outlay Projects), Exhibit H (Policy Governing Leases of Real Property) and Exhibit J (Policy Governing the Procurement of Goods, Services, Insurance, and Construction and the Disposition of Surplus Materials) to include Attachment 1 (Procurement Rules) of the Management Agreement which are shown at Appendices W and S of this manual.

**1.1.3 Presentation of Capital Outlay Process:** The Manual is designed to present the capital outlay process from project planning and approval through design and construction to project completion (occupied building). The Manual is arranged in a sequence that parallels the capital outlay process. A fold out which summarizes this process in a graphical timeline which aligns the stages of the planning, design and construction process with the chapters and appendices of this manual is shown at Appendix T.

**1.1.4 Manual Maintenance:** The College of William & Mary Code Review Team (CRT) in collaboration with the Planning, Design and Construction (FPDC) and the Operations and Maintenance (FO&M) Divisions of Facilities Management is responsible for maintenance of the Manual.

Suggestions for changes, notification of conflicting guidance, questions and requests for copies should be addressed to:

Director, Code Review Team  
Facilities Management  
P O Box 8795  
Williamsburg, Virginia 23187-8795  
(757) 221-2277; FAX (757) 221-1325

**1.1.5 Manual Location:** The Manual including errata corrections will be posted on the College of William and Mary Facilities Planning, Design and Construction Website and may be downloaded and printed by the users.

- Revisions to the Manual will be issued electronically by posting on the FPD&C Website. Changes or revisions will be marked or identified in the Manual where they occur. The revision package will contain a summary sheet generally describing the changes or revisions made and the summary sheet will describe the marking or identification used with that revision. The summary sheet will be numbered and dated. The summary sheet will become a permanent part of the Manual and is to be placed after the Table of Contents and before this chapter and before any previous summary sheet. Paper copies of the Revisions will not be issued.

## **SECTION 1.2 DESIGN PHILOSOPHY**

**1.2.1 Design Goal:** The design goal is to create a capital investment that meets the user's functional requirements and provides the most economical life cycle cost consistent with Exhibit G of the Management Agreement. The College's design philosophy envisions a long and useful life for projects. These projects will often be used for periods exceeding 50 years and, consequently, should be designed for durability, economy of operation and ease of maintenance.

- Projects shall be developed to meet College functional and space requirements within a cost range comparable to similar public and private sector projects.
  - Achievement of this goal should incorporate good architectural and engineering practice, and design solutions should be consistent with industry standards, Facilities Management Technical Standards (at FPDC Website and Appendix U), and must be designed by the

A/E to meet all requirements within the “Design Not To Exceed” budget for the project; consistent with Exhibit G of the Management Agreement.

**1.2.2 Project System Components:** Should be selected on the basis of life cycle costs. If an increased first or initial cost can be documented to show a reduced life cycle cost for the College, particularly for operating and personnel costs, then the design should incorporate the more expensive first cost feature or system.

**1.2.3 College of William and Mary Design Guidelines:** Designs will conform to the architectural guidelines of the College of William & Mary Campus Design Guidelines Report dated May, 2003 (at FPDC Website and Appendix X). Architects and engineers must exercise discipline in their designs to avoid inefficient use of space in terms of floor area and building volume. Exterior design features and materials should be consistent with the architectural character of the surrounding buildings and site. Excessive or grandiose features which are not related to the function or the intended use of the facility shall be avoided.

## **SECTION 1.3 FORMS**

College of William and Mary Higher Education Capital Outlay (HECO) Forms, Formats and Samples are referenced in Appendices B, C and J to the Manual. Electronic copies of many of these forms, formats and samples are available with electronic links and also on the FPD&C Website. Select "HECO Forms" from the FPD&C Website. More specific instructions are on the form download page. DGS Forms referenced in the Manual are available electronically at <http://forms.dgs.state.va.us/>

## **SECTION 1.4 INDEX**

This Manual is posted on the FPDC Website, (URL is <http://www.wm.edu/facman/FPDC/FPDC-Home.php> and is fully text searchable. Therefore, no index is provided for the Manual.

## **SECTION 1.5 PROJECT REVIEW BOARDS**

**1.5.1 Design:** Three independent review teams will review and approve the project for compliance with College and State standards.

- College Design Review Board - Site/architectural approval
  - Site selection approval
  - Schematic design architectural approval

- Preliminary design architectural approval
- State Art and Architectural Review Board – Architectural approval
  - Schematic design architectural approval
  - Preliminary design architectural approval
- College Code Review Team – Code compliance/tech standards compliance
  - Virginia Uniform State Building Code (VUSBC) compliance
  - College Facilities Management Technical Standards compliance

**1.5.2 Construction Review:** The Code Review Team will inspect construction for compliance with design documents. Upon certification by the A/E and construction manager/contractor that the project is complete, the Code Review Team, as the inspection agent for the College Building Official, will inspect and certify that the building is safe for occupancy and issuance of a Certificate of Use and Occupancy. See Appendix T (Planning, Design and Construction Process Timeline) for the timing of required events by these boards. The organizations and functions of each are outlined in succeeding paragraphs. Note that prior to issuance of a Certificate of Occupancy, a building must be inspected by the State Fire Marshall (SFMO) or his designee.

## **SECTION 1.6 BUILDING COMMITTEE**

**1.6.1 Scope of Authority:** Created to provide project team oversight during the planning, design and construction process. The committee can be established either when a feasibility study is conducted or when it is time to issue an RFP for the selection of an A/E for the design process depending on need. The committee has the following tasks:

- Select the A/E
- Provide the A/E with following project requirements/constraints
  - Program
  - Budget
  - Schedule
  - Other as required
- Provide direction subject to the requirement/constraints throughout the design process
- Participate in periodic meetings through design and construction



- Select members will assist senior members on the College Administrative staff in establishing and maintaining communications/liason with the College community and local public interest groups, as required

**1.6.2 Evaluation Standard:** Standards are as follows:

- A/E Selection
  - Project RFP selection criteria
- Design
  - Campus Design Guidelines dated May, 2003
  - VUSBC
  - CWM Design and Construction Manual
    - Includes CWM Facilities Management Technical Standards
- Construction
  - Construction documents

**1.6.3 Organization:** The Building Committee will be co-chaired by the VPA and the senior member(s) of the using organization. It is recommended that the Committee have no more than 12 members with the following membership:

- VP, Administration – Co-Chair
- Senior User, Co-Chair
- User representatives (no more than 3 recommended)
- Student representatives (no more than 3 recommended)
- LEE committee representative
- AVP/FM
- Director, FPDC
- PM

**1.6.4 Schedule:** Normally meets monthly during design based on the design schedule requirements keyed to A/E design production requirements for input and guidance and required presentations to the review boards as listed in the following sections. During construction, the user representatives and the PM attend monthly progress meetings conducted by the construction manager unless the project is of such scope or sensitivity that Building Committee meetings are desired throughout construction – usually on a quarterly basis.

- 1.6.5 Committee Presentation Requirements:** No standard agenda other than review of meeting minutes, schedule, budget and the status of design/construction issues. Agendas and meeting minutes are prepared by the A/E and CM PMs during design and construction, respectively.

## **SECTION 1.7 COLLEGE DESIGN REVIEW BOARD (DRB)**

- 1.7.1 Scope of Authority:** The College of William and Mary Design Review Board (DRB) will review and approve changes to the exterior of any facility on the Main Campus (to include the Law School) and at the Virginia Institute of Marine Science (VIMS). This includes any changes which alter the architectural elements of the façade but does not include repair by replacement as long as like color and materials are used for the repair.

- 1.7.2 Evaluation Standard:** Campus Design Guidelines Report dated May, 2003.

- 1.7.3 Organization:** The Chair of the Board of Visitors Buildings and Grounds Committee shall serve as the chair of the board; the Vice President of Administration shall serve as the vice-chair. Five members including the chair or vice-chair, in person or by telephone, shall constitute a quorum. No proxies may be given, and only a simple majority of the quorum is required to render a decision. The remaining committee members are:

Voting Members (6):

- AVP for Facilities Management
- Director of Historic Campus
- LEED Committee Representative
- Colonial Williamsburg Representative
- Building and Grounds Committee Representative
- Landscape Architect

Permanent Staff (2)

- Senior Planner, Office of Administration
- Director, Facilities Planning, Design, and Construction

Rotating Staff (1)

- Project Managers of projects being reviewed

- 1.7.4 Schedule:** The board shall meet four (4) times a year, in connection with the Board of Visitors calendar, with one or two ad-hoc meetings as required to meet

project schedules. Attendance may be by conference call for out of town members.

- 1.7.5 Board Presentation Requirements:** Each project must obtain board approval for site selection and for schematic and preliminary design architecture. Submissions to the board shall include, at a minimum, the following:

**1.7.5.1 Site Selection Presentation**

- Campus orientation map showing sites considered
- Topographic map with site overlay
- Selection criteria
- Advantages and disadvantages of each site

**1.7.5.2 Schematic & Preliminary Design Presentations:** The presentation should demonstrate compliance with the order and elements of the Campus Design Guidelines, and should highlight significant features/issues that require deviation from the guidelines along with recommended solutions. Elevations and renderings, if funded, should be submitted in nine copies one week prior to the presentation date. The presentation should include the following minimum elements:

- Campus site orientation map
- Precinct standards per the Campus Design Guidelines
- Site map with building footprint
- Elevations from all four sides
- Renderings (if funded)
- Demonstration of compliance with architectural guidelines' order and elements
- Proposed exterior materials (roof, wall, windows, glazing - at preliminary review only)
- Interior program notes only if, during the presentation, Board comments question impact interior design as a direct result of changes to the exterior form

- 1.7.6 Presentation Means:** Briefing boards or computer projection or a combination of both may be used. A/E firms should advise if a computer projection is to be used to ensure availability of a screen. Firms will provide their own projectors and easels.

## **SECTION 1.8 STATE ART AND ARCHITECTURAL REVIEW BOARD (AARB)**

- 1.8.1 Scope of Authority:** Appointed by the Governor (and a representative of the Department of Historic Resources) to advise him on the “artistic character” of buildings and works of art which are to be paid for by the state, or to be located on or over state property. In practice, the Board recommends approval or disapproval to the Director of General Services, to whom the Governor has delegated this authority.
- 1.8.2 Evaluation Standard:** The Board interprets its mandate from the commonwealth in straightforward terms: to encourage the design of buildings and works of art which are both aesthetically and functionally appropriate to the agency for which they are intended. While no rigid prescriptive standards exist, the Board generally requires each submission to demonstrate:
- A resolution of basic functional and organizational requirements
  - A command of the fundamental principles of good design, including refinement of color, form, scale, material and craft.
  - A positive contribution to the order and aesthetic of the physical setting.
  - Due consideration of its environmental, historical and cultural factors.
  - Concern for the greater public good.
- 1.8.3 Organization:** The Art and Architecture Review Board consists of five members Membership criteria are set out in Section 2.2-2400 of the Code of Virginia.
- 1.8.4 Schedule:** The Board meets at 10:00 a.m. on the first Friday of each month of the year, unless the first Friday or the following Monday is a state holiday, in which case the meeting will occur on the second Friday of the month, (please refer to the Commonwealth Calendar, <http://www.virginia.gov/cmsportal2/> for schedule and updates). Meeting locations will be noted on the Meeting Agenda. Generally speaking, meetings are held at the Science Museum of Virginia at 2500 West Broad Street, Richmond, VA 23219.
- 1.8.5 Board Presentation Requirements:** Two submittals are normally required for Capital Outlay projects. The first submittal will occur at the Schematic Design phase. The second submittal is made during the Design Development phase and should include samples of materials and colors. Presentations during the Construction Documents phase may be required in unusual circumstances. If necessary, special arrangements can be made to review projects at intermediate stages.

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**1.8.5.1 Agenda Request:** All requests for a place on the Board's Agenda will be made in writing via a Fact Data Sheet and **must** arrive in the office of the Board Chairman **no later than 4:00 p.m. on the Friday two weeks before the date of the meeting, (strict adherence to this policy is necessary)**, at which the Agency wishes to make its presentation. Agency requests should also include, where possible on 8 ½" x 11" sheets, the location and general form of the building, complete with north arrows and graphic scales. **Eight original copies** of presentation documents/materials shall be provided for distribution to Board members. These documents will comprise the Board Agenda and also serve as the basis for the recording of the Board's actions. Items to be included in the Consent Agenda or for demolition consideration should include enough information to allow Board deliberation without Agency representation at the meeting. Submission should include a site plan, proposed building plan and elevations and site photographs at a minimum.

**1.8.5.2 Presentations to the Board:** In general, Agency presentation should be organized so that they may be completed with 15 minutes, in order to allow adequate discussion within a 30-minute time frame. However, the Chairman will make a reasonable effort to accommodate the request of any Agency which feels that additional time may be required because of the complexity of a particular project, if this request is made at the time of the Agency's initial submittal.

The following items should be addressed (and well illustrated) by the Agency and it's Architect/Engineer at each presentation to the Board:

- Program: A brief description of the building program, including the purpose for the project and primary internal relationships.
- Relationship to the Surrounding Community, Adjacent Sites, and Agency Master Plan: Include discussion of land use policy, pedestrian and vehicular circulation systems, landforms, and architectural character.
- Site Plan Strategy: Discuss the relationships of the proposed design to existing topography and plantings, adjacent structures, service and pedestrian access, surface drainage, and orientation to the sun and wind. Photographs or slides and site diagrams are essential.
- Mass, Scale, Form and Architectural Character: Discuss the impact of the proposed design on existing views and the mass and scale of nearby structures. Explain how the proposed design conforms to the architectural and planning principles embodied in the Master Plan or in precedent examples. Describe and illustrate proposed materials, colors, finishes and constituent details. Include a brief description of the proposed site

development, including grading, site drainage, paving, lighting, landscaping, and site furniture.

Presenters should be organized and well prepared. Presentations should not be elaborate and overly formal. Sketches and study models are often more useful than finished professional renderings and highly detailed models.

**1.8.5.3 Presentation Means:** Briefing boards or computer projection or a combination of both may be used. A/E firms should advise if a computer projection is to be used to ensure availability of a screen. Firms will provide their own projectors and easels.

### **1.8.6 How to Contact the Board:**

The Board may be contacted through its Chairman, who also maintains the Board Agenda:

Brian J. Ohlinger, P.E. Associate Vice President for Facilities Management  
Virginia Commonwealth University  
P. O. Box 842502 Richmond, VA 23284-2502  
(804) 828-9647, Fax (804) 828-1288

Email address: [dagordon@vcu.edu](mailto:dagordon@vcu.edu)  
(please note, *no presentation information will be accepted via email*)

## **SECTION 1.9 CODE REVIEW TEAM (CRT)**

**1.9.1 Scope of Authority:** Created to review the design of major capital products and capital projects as the agent of the College in support of the College Building Official in compliance with the provisions of Exhibit G, Section VIII of the Management Agreements which states:

*If the College hires its own Building Official, it shall fulfill the code review requirement by maintaining a review unit supported by resources and staff who are certified by the Department of Housing and Community Development in accordance with section 36-137 of the Code of Virginia for such purpose and who shall review plans, specifications, and documents for compliance with building codes and standards and perform inspections of work in progress and the completed capital project.*

**1.9.2 Evaluation Standard:** Virginia Uniform State Building Code as authorized by DCHD, this manual and the College of William and Mary Facilities Management Technical Standards.

**1.9.3 Organization:** The team is composed of a Director and three senior code reviewer specialist. The Director is also a code review specialist selected by the College Building Official. The four specialists are professional engineers and/or registered architects qualified in the following engineering disciplines:

- Architecture/Fire Protection
- Civil/Structural Engineering
  
- Electrical Engineering
- Mechanical Engineering

**1.9.4 Schedule:** The CRT specialists are full time employees of the College. Priority of effort is determined by the College Building Official in coordination with the Director, Code Review Team, and Director, Planning, Design and Construction.

**1.9.5 Submission Requirements:** Construction document standards for submission of documents for CRT review are shown in Chapter 8A and 8B of this Manual.

## **SECTION 1.10 COLLEGE BUILDING OFFICIAL**

**1.10.1 Management Agreement:** Exhibit G, Section VIII (Appendix W) provides authority for a College Building Official for providing building official services to the College of William and Mary to include the Virginia Institute of Marine Science. Inspection by the State Fire Marshal or his designee is required prior to issuance of certificates of occupancy for capital projects.

**1.10.2 Permits and Certificates of Occupancy:** The Building Official is the Authority Having Jurisdiction and will enforce the Virginia Uniform Statewide Building Code (VUSBC) and accessibility requirements. As the Authority Having Jurisdiction, the Building Official will issue Building Permits, Temporary Certificates of Occupancy and Certificates of Occupancy.

**1.10.3 Modifications:** As part of his responsibilities under the VUSBC, the College Building Official is charged with granting necessary modifications and establishing rules and regulations as may be necessary to carry out Building Official responsibilities in accordance with State Law, the Restructuring Act and the Management Agreement.

**1.10.4 Department of Transportation:** Roads within the College of William and Mary are owned and maintained by the Virginia Department of Transportation (VDOT), which has authority over structures in the Right of Way that are not regulated by the VUSBC. Any projects requiring access to the right of way within the College of William and May must be coordinated with VDOT although a VDOT permit is not required.

**SECTION 1.11 REAL PROPERTY TRANSACTIONS**

**1.11.1** See Appendix V for all real estate transactions, including capital acquisitions and dispositions, easements, and leases.



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## **CHAPTER 2 ADMINISTRATION:**

### ***TERMS AND DEFINITIONS***

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#### **SECTION 2.1      GENERAL**

This chapter is designed to acquaint College Personnel, Contractors, and A/Es with terminology, symbols, acronyms and abbreviations customarily used in the procurement of construction and professional services and in the execution of the College of William and Mary's Capital Outlay Program. Definitions are taken from the *Code of Virginia*, the General Conditions of the Construction Contract, the Management Agreement and general customs and practices associated with the construction industry and professional service contracts.

#### **SECTION 2.2   ACRONYMS AND ABBREVIATIONS**

Whenever used in the **Design and Construction Manual (DCM)**, including the appendices and standard forms, the following terms have the meanings indicated, which apply to both the singular and plural and the male and female gender thereof:

<b>AARB:</b>	Art and Architectural Review Board
<b>ACSM:</b>	Advisory Committee on Space Management
<b>A/E:</b>	Architect/Engineer
<b>ASBO:</b>	Assistant State Building Official
<b>AVPFM:</b>	Associate Vice President for Facilities Management
<b>BCOM:</b>	Bureau of Capital Outlay Management, part of the Virginia Department of General Services, Division of Engineering and Buildings.
<b>CA:</b>	Commissioning Authority
<b>CM:</b>	Construction Management
<b>CO:</b>	Change Order Capital Outlay
<b>COB:</b>	Close of Business
<b>COE:</b>	Corps of Engineers
<b>COP:</b>	Change Order Proposal
<b>CRT:</b>	Code Review Team

<b>Cx:</b>	Commissioning
<b>DB:</b>	Design – Build Construction Delivery Method
<b>D&amp;F:</b>	Determination and Finding
<b>DCM:</b>	The College of William and Mary Design and Construction Manual
<b>DDC:</b>	Direct Digital Control
<b>DEB:</b>	Division of Engineering and Buildings of the Virginia Department of General Services.
<b>DEQ:</b>	Department of Environmental Quality
<b>DFPDC:</b>	Director, Facilities Planning, Design and Construction
<b>DGS:</b>	Virginia Department of General Services
<b>DHCD:</b>	Department of Housing and Community Development
<b>DPOR:</b>	Department of Professional and Occupational Regulation
<b>DRB:</b>	Design Review Board
<b>EIR:</b>	Environmental Impact Report
<b>eVA:</b>	Electronic procurement in VA. The eVA home page address is <a href="http://www.eva.state.va.us">www.eva.state.va.us</a> . Also called VBO or Virginia Business Opportunities
<b>E&amp;G:</b>	Education and General
<b>FAACS:</b>	The Fixed Asset Accounting and Control System of the Virginia Department of Accounts
<b>FAT:</b>	Factory Acceptance Test
<b>FICT:</b>	Restructured Higher Education Financial and Administrative Operation Act, Chapter 4110 of Title 23 of the Code of Virginia
<b>FPDC:</b>	Facilities Planning, Design and Construction
<b>FO&amp;M:</b>	Facilities Maintenance and Operations
<b>FRS:</b>	Financial Records System
<b>FT:</b>	Functional Test
<b>GC:</b>	General Contractor
<b>HECO:</b>	Higher Education Capital Outlay
<b>IFB:</b>	Invitation For Bids
<b>MOU:</b>	Memorandum of Understanding
<b>O&amp;M:</b>	Operation and Maintenance (Manuals)
<b>PM:</b>	Project Manager
<b>RFP:</b>	Request For Proposal
<b>SWAM:</b>	Small Business, Women Owned Businesses and Minority Owned Businesses
<b>USBC:</b>	The Uniform Statewide Building Code.
<b>VBO:</b>	Virginia Business Opportunities

## **Chapter 2**

### **Administration:**

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- VCCO:** Virginia Construction Contracting Officer
- VPA:** Vice President for Administration
- VPPA:** The Virginia Public Procurement Act, §2.2-4300 thru 2.2-4377, *Code of Virginia* as amended.
- VUSBC:** Virginia Uniform Statewide Building Code

## **SECTION 2.3 DEFINITIONS**

Whenever used in the **Design and Construction Manual (DCM)**, including the appendices and standard forms, the following terms have the meanings indicated, which apply to both the singular and plural and the male and female gender thereof:

**Act (The):**

The Restructured Higher Education Financial and Administrative Operations Act, Chapter 4.10 of the Title 23 of the Code of Virginia.

**Acceptance Phase:**

The phase of construction after startup and initial checkout when functional tests, O&M, documentation review and training occurs.

**Addendum:**

Written or graphic instruments issued prior to the receipt of bids that clarify, correct or change the bidding documents.

**Additional Services:**

A service that the College includes in the A/E's Scope of Work as part of the Work under the A/E Contract but which service is not included in the A/E Basic Services as described in the Manual. Compensation for the additional services is included in the fee negotiations prior to signing the contract and is, therefore, included in the A/E Contract.

**Advertisement:**

The term commonly used to describe the public announcement or "Notice" of the availability of the Invitation For Bids (i.e. bid document or IFB) or Request for Proposal (RFP) made by publishing a notice in the public Internet procurement Web site designated by the Department of General Services [i.e. VBO/ eVA] and by "Posting the Notice" (College of William and Mary Management Agreement).

**Advisory Committee on Space Management:**

The College committee that advises on space planning, policies and procedures and makes recommendations on College space utilization in support of the university's mission and strategic planning goals and objectives. The committee is advisory to the Provost on all matters related to space.

**A/E Contract:**

# **Chapter 2 Administration: Terms and Definitions**

The Form of Agreement (HECO-3, HECO-3.1, HECO-3.2) and any document expressly incorporated therein. Such incorporated documents customarily, include parts of this Manual, the Memorandum of Understanding and all modifications, including subsequent Change Orders.

**A/E Manual:**

This reference to portions of the manual are no longer applicable. The A/E Manual, when printed in any document or manual shall refer to the College of William and Mary Higher Education Manual HECOM, all Chapters and Appendices A thru Z, and all revisions thereto, and which shall be incorporated into the Contract in their entirety except as amended or superseded in the Contract or an addendum thereto.

**Agency:**

Means the College of William and Mary, (State Agency 204) and the Virginia Institute of Marine science (State agency 268).

**Agency Contracting Officer:**

The person designated in writing by the College who is delegated authority to approve, award and execute contracts, change orders and other documents related to a capital outlay project for the Agency.

**Architect:**

An individual licensed to practice in the Commonwealth of Virginia as an architect by the Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA) Board of the Department of Professional and Occupational Regulation. "Architect" may also be used to refer to a firm of such individuals which is properly licensed in Virginia. Also referred to as the A/E.

**Architect/Engineer:**

The term used to refer to the architect and/or engineer who contracts with the Owner to provide the architectural and/or engineering services for a Project. The Architect/Engineer is a separate contractor and is not an agent of the Owner. This term also includes any associates or consultants employed by the Architect/Engineer to assist the Architect/Engineer in providing services.

**Architect/Engineer (A/E) Change Order:**

A document (CO-11a/e) issued on or after the effective date of the Contract (CO-3) agreed to by the Architect/Engineer and approved by the Owner that authorizes an addition, deletion or revision in the Work, including any adjustment in the Contract price and/or the Contract time. A Change Order, once signed by all parties, is incorporated into and becomes part of the Contract.

**Art and Architectural Review Board (AARB):**

The Review Board appointed by the Governor to advise and provide counsel to the Governor as to the artistic merit of fixtures, structures, construction on state property, and works of art.

**Associate Vice President for Facilities Management:**

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The person designated as responsible for Facilities Management activities at The College of William and Mary in Virginia.

**Association:**

As applied to architects or engineers, this term shall mean a legal entity formed by several architects and/or engineers who have associated together for the purposes of working as a unit on a specific project. The Association may take the form of a partnership, joint venture, corporation, etc.

**Auxiliary Buildings:**

Support facilities which support the educational mission outside the classroom, but are not used for instruction or academic administration. Examples include Dormitories, Dining Facilities, Parking Garages, Intercollegiate athletics and extracurricular activities. These facilities often generate revenue through fees charged for their use.

**Beneficial Occupancy:**

The condition after substantial completion but prior to final completion of the project at which time the Project, or portion thereof, is sufficiently complete and systems operational such that the College could, after obtaining necessary approvals and certificates, occupy and utilize the space for its intended use. Guarantees and warranties applicable to that portion of the work begin on the date the College accepts the Project, or a portion thereof, for such Beneficial Occupancy, unless otherwise specified in the Supplemental General Conditions or by separate agreement.

**Bid:**

The offer provided by the bidder submitted on the prescribed form and setting forth the bidder's price(s) for the Work to be performed.

**Board of Visitors or Board:**

Means the Rector and Visitors of the College of William and Mary in Virginia.

**Bonds (State):**

Three types of bonds are issued by the State to finance capital projects and are authorized within the requirements of Article X, Sections 9(b), 9(c) and 9(d) of the Virginia Constitution.

**9(b) Bonds:** Triple A Rated; Legislative and voter approval required to issue; rarely issued.

**9(c) Bonds:** Triple A Rated; Used to fund revenue producing Capital Projects; Principle and Interest is expected to be paid for out of net revenues from the Capital Projects; Income from bonds that is not used within the intended capital project may be recovered by the College.

**9(d) Bonds:** Not Triple A Rated; Does not carry the full faith and credit pledge of the State; May be issued by the State or College; Income from bonds that is not used within the intended capital project may be recovered by the College.

**Building:**

Any roofed or occupiable structure.

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**Building Committee:**

The group constituted by The College of William and Mary in accordance with the requirements of Chapter 12 of the **DCM** and with the authority and responsibility to review and advise in the planning, design and construction of capital projects and other professional services required by The College of William and Mary.

**Building Official:**

The Building Official for all College of William and Mary and Virginia Institute for Marine Science Buildings, is the person so designated by letter by the College President, authorized to issue building permits regulated by the VUSBC; Certificates of Use and Occupancy; and other Building Official activities authorized by the VUSBC. Also referred to as the College Building Official.

**Building Permit:**

All work on College buildings and structures will be done in accordance with the Virginia Uniform Statewide Building Code (VUSBC) and other applicable codes and standards. Accordingly all College projects will be reviewed and permits issued in accordance with the College Building Official's Building Permits/project permits letter (Appendix P).

**Capital Lease:**

Means a lease that is defined as such within Generally Accepted Accounting Principles pursuant to the pronouncement of the Financial Accounting Standards Board.

**Capital Professional Services:**

Professional engineering, architecture, land surveying and landscape architecture services related to capital projects.

**Capital Project:**

As used in this manual, means the acquisition of any interest in land, including improvements, or the acquired land at the time of acquisition, new construction, improvements or renovations and capital leases.

**Capital Project (Major):**

Means a capital project with an acquisition, improvement, renovation or capital lease costing \$1 million or more or any improvement or new construction of 5,000 square feet or greater. Projects less than the above are considered Capital Projects.

**Change Order:**

A document (HECO-11) issued on or after the effective date of the Contract (CO-9) agreed to by the Contractor and approved by the Owner that authorizes an addition, deletion or revision in the Work, including any adjustment in the Contract price and/or the Contract time. The term "Change Order" shall also include written orders to proceed issued pursuant to Section 38 (a) (3) of the General Conditions of the Construction Contract, (HECO-7). A Change Order, once signed by all parties, is incorporated into and becomes part of the Contract.

**Code Official:**

The person designated in writing by the Agency Head as having authority to approve

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applications for Certificates of Use and Occupancy and Building Permits. Also referred to as the College Building Official or Building Official.

**College:**

College of William and Mary/Virginia Institute of Marine Science.

**College Building Official:**

See Building Official or Code Official.

**College of William and Mary:**

Inclusive of all State owned or leased property comprising the Main Campus and any Satellite Campus representing the College of William and Mary and the Virginia Institute of Marine Science. Agency Codes are:

204 – College of William and Mary

268 – Virginia Institute of Marine Science

**College Procurement Rules:**

Replaces the Virginia Public Procurement Act; see Appendix s..

**Code of Virginia:**

1950 *Code of Virginia* as amended, Virginia’s codified statutes. Sections of the *Code of Virginia* are referred to herein as § xx-xx.

**Code Review Team:**

See Review Team.

**Commissioning:**

A process of ensuring that building systems and equipment are designed, installed, tested, and capable of being operated and maintained according to the owner’s operational needs.

**Competitive Negotiations:**

A method of Contractor selection that includes the following two elements (College Procurement Rules. See Chapter 11 of the Manual for further descriptions.):

- a. Issuance of a written Request for Proposal (RFP) indicating in general terms that which is sought to be procured, specifying the factors which will be used in evaluating the proposal and containing or incorporating by reference the other applicable contractual terms and conditions, including any unique capabilities or qualifications which will be required of the Contractor.
- b. Public notice of the RFP at least ten (10) days prior to the date set for receipt of the proposal by posting in a public area normally used for posting of public notices and by publication on the public Internet e-procurement Web site designated by the Department of General Services [VBO/eVA].

**Competitive Sealed Bidding:**

A method of contractor selection that includes the following elements (College Procurement Rules:

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- a. Issuance of a written Invitation to Bid (IFB) containing or incorporating by reference the specifications and contractual terms and conditions applicable to the procurement.
- b. Public notice of the IFB at least ten (10) days prior to the date set for receipt of bids by posting in a designated public area and by publication of the public announcement or “Notice” of the availability of the Invitation For Bids (i.e. bid documents or IFB) on the public e-procurement Web site designated by the Department of General Services [i.e. VBO/eVA]. Bids may be solicited solely from Contractors who have prequalified. (College Procurement Rules). In addition, bids may be solicited directly from potential contractors. Any additional solicitations shall include businesses selected from a list made available by the Department of Minority Business Enterprise (DMBE).
- c. Public opening and announcement of all bids received.
- d. Evaluation of bids based upon the requirements set forth in the invitation.
- e. Award to the lowest responsive and responsible bidder.
- f. Competitive sealed bidding shall not be used for procurement of Professional Services as defined in this Manual.

**Construction:**

As used in this Manual, includes new construction, reconstruction, renovation, restoration, major repair, demolition and all similar work upon buildings and ancillary facilities owned or to be acquired by the Commonwealth, including any draining, dredging, excavation, grading or similar work upon real property.

**Construction Administration (CA):**

As used in this Manual, this term means nonprofessional services provided under a contract with the College which generally includes inspection of the Work, coordinating testing services contracts procured by the College, reviewing change orders and schedule submittals from the Contractor, and providing other construction period services for the benefit of the College. The Construction Administrator is the entity responsible to the College for providing services to assure compliance with the Contract Documents but is not responsible under the CA Contract for providing the Work. The College may use an employee to perform construction administration services.

**Construction Management (CM):**

As used in this Manual, this term means services provided under contract with the College, which generally include coordinating and administering construction contracts for the benefit of the College, but may also include, if provided in the contract, furnishing construction services to the College. See Chapter 11 of the Manual for further descriptions. The Construction Manager has direct responsibility and liability to the College for performing the Work as described by the Contract Documents. Also called the CM/GC, or the ‘Contractor’ for the CM project, or CM-Agent (CMA) when used for administering the project.

**Construction Administration Manager:**

The College employee designated as the College’s on-site representative during the construction phase of a project.

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**Consultant:**

An individual or firm with professional expertise engaged to render a specific service in connection with a project.

**Contract Administration:**

The duties and responsibilities normally performed by the A/E as his construction phase services during the construction phase of a project.

**Contract Completion Date:**

The date by which the construction Work must be substantially complete. The Contract Completion Date is customarily set forth in the Contract (CO-9) based on Notice to Proceed and the Time for Completion. In some instances, however, the Contract contains a mandatory Contract Completion Date, which date shall have been stated in the Invitation for Bid.

**Contract Documents:**

As used in this Manual and General Conditions of the Construction Contract (HECO-7), this term shall mean the Contract (CO-9) and any documents expressly incorporated therein. Such incorporated documents customarily include the bid submitted by the Contractor, the General Conditions of the Construction Contract, any Supplemental General Conditions, any Special Conditions, the plans and specifications, and all modifications, including addenda and subsequent change orders.

**Contract Price:**

The total compensation stated in the Contract, as modified by Change Orders, payable to Contractor for performing the work set forth in the Contract Documents.

**Contracting Officer:**

The person designated, in writing by The College of William and Mary Board of Visitors who is delegated authority to approve, award and execute contracts, change orders and other documents related to a capital outlay and/or higher education capital outlay project for the Agency. The College's Vice President of Administration has been delegated this authority.

**Contractor:**

A generic term used to indicate a person, firm or corporation with whom the College has entered into a contract agreement to perform work or provide a service. As used in the Manuals with respect to a capital outlay project, the contractor for the professional services is referred to as the Architect/Engineer or A/E. The contractor for the construction related work is referred to as the Contractor.

**Contractor:**

As used in the Manuals and the Standard Forms, "Contractor" means the specific person or firm with whom the College has contracted to do the Work described in the Contract Documents for that undertaking. On a Construction Management project, the CM or CM/GC is the 'Contractor'.

**Cure Notice:**

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A notice, either oral or in writing, that informs the contractor that he or she is in default and states what the contractor has to do to correct the deficiency. If the notice is oral it shall be confirmed in writing.

**Covered Institution:**

Means, on and after the Effective Date of its initial Management Agreement, a public institution of higher education of the Commonwealth of Virginia that has entered into a management agreement with the Commonwealth to be governed by the provisions of Subchapter 3 of the Act.

**Day(s):**

Calendar day(s), unless otherwise noted.

**Defective:**

An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty, deficient, does not otherwise conform to the Contract Documents, does not meet the requirements of applicable inspections, standards, tests or approvals referred to in the Contract Documents, or has been damaged prior to the A/E's recommendation of final payment (unless responsibility for the protection thereof has been assumed by College at Substantial Completion or Beneficial Occupancy).

**Design-Build (DB):**

A contract between the College and another party in which the other party agrees to both design and build the structure, roadway or other item specified in the Contract.

**“Design-not-to-exceed” Cost:**

The Project construction cost established in the A/E's contract and accepted by the A/E as the ceiling for the estimated construction cost of the Project the A/E is engaged to design.

**Determination and Findings (D&F):**

A document, usually prepared by the Project Manager, which justifies and substantiates the need for special procedures or actions. Typically this is for a deviation or waiver from standard policies or procedures which results in saving time and/or money and/or improving quality. The College Building Official or Associate Vice President for Facilities Management will consider D&F proposals after review and a recommendation by the Director, Facilities Planning, Design and Construction.

**Director, Facilities Planning, Design and Construction Division:**

The person responsible for all Facilities Management Planning, Design and Construction activities at The College of William and Mary.

**Disadvantaged Business Enterprise:**

A small business concern which is at least 51 percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more socially and economically disadvantaged individuals and whose management and daily business operations are controlled by one or more of the socially

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and economically disadvantaged individuals who own it.

**Drawing:**

A page or sheet of the Plans which presents a graphic representation, usually to scale, showing technical information, design, location, and dimensions of the various elements of the Work in sufficient detail for the Building Official to determine code compliance. Graphic representations include, but are not limited to, plan views, elevations, transverse and longitudinal sections, large and small scale sections and details, isometrics, diagrams, schedules, tables and/or pictures.

**Education and General:**

All Facilities used in the instruction and the direct administration and support of instruction that are funded by tuition and general funds.

**Emergency:**

Any unforeseen situation, combination of circumstances or a sudden occurrence or state resulting there from that poses imminent danger to health, life or property and which usually demands immediate action.

**Enabling Legislation:**

Means those chapters, contained within “§ 4-4.00 Capital Projects” of the 2005 Acts of Assembly which grant the delegated authority to the College of William and Mary.

**Engineer:**

A person who is qualified and licensed to practice engineering in Virginia as a Professional Engineer by Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA) Board of the Department of Professional and Occupational Regulation, also referred to as the A/E. “Engineer” may also be used to refer to a firm of such individuals which is properly licensed in the Commonwealth of Virginia.

**Equal:**

Any other brand, make or manufacturer of a product, assembly or equipment that, in the opinion of the A/E, is equivalent to that specified, considering quality, capabilities, workmanship, configuration, economy of operation, useful life, compatibility with design of the work and suitability for the intended purpose, and which is accepted as such by the College.

**Equipment:**

A tangible resource, such as machinery, articles or apparatus, of a permanent or long-term nature, used in an operation or activity.

**eVA:**

Electronic procurement in VA. The eVA home page address is [www.eva.state.va.us](http://www.eva.state.va.us)

**Extra service:**

A service which the College tasks the A/E to provide after the Contract has been signed and which was not included in the Basic Services or in the additional services as described in the A/E Contract. Extra services, and the compensation therefore, are authorized by a modification to the A/E Contract using the A/E Change Order, (HECO-11 a/e).

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**Facilities Planning, Design and Construction (FPD&C):**

The department in Facilities Management at the College of William and Mary responsible for planning, design and construction.

**Facility:**

A structure or group of structures, including all buildings and other improvements thereto, which is built, installed or established to serve a particular purpose.

**Field Order:**

A written order issued by the A/E which clarifies or explains the Plans, the Specifications, or any portion or detail therein, without changing the design, the Contract Price, the Time for Completion or the Contract Completion Date.

**Final Completion Date:**

The date of the Owner's acceptance of the Project from the Contractor upon confirmation from the A/E by a HECO-13.1 and the Contractor by a HECO-13.2 that the Project is totally completed in accordance with the Contract Documents. Procedures for determining Final Completion are set forth in Section 44 of the General Conditions of the Construction Contract (HECO-7).

**Firm Capacity:**

The maximum output of a heating or cooling system with out the availability of the largest single piece of equipment, and is an indication of the reliability of the system.

**Fixed Asset Accounting and Control System (The):**

As used herein, the real estate subsystem of the Fixed Asset Accounting and Control System of the Virginia Department of Accounts.

**Float:**

The excess time included in a construction schedule to accommodate such items as inclement weather and associated delays, equipment failures, and other such unscheduled events. It is the contingency time associated with a path or chain of activities and represents the amount of time by which the early finish date of an activity may be delayed without impacting the critical path and delaying the overall completion of the project. Any difference in time between the Contractor's approved early completion date and the Contract Completion Date shall be considered a part of the project float.

**Float, Free:**

"Free float" is defined as the time by which an activity may be delayed or lengthened without impacting upon the start day of any activity following in the chain.

**Float, Total:**

"Total float" is defined as the difference (in days) between the maximum time available within which to perform an activity and the duration of an activity. It represents the time by which an activity may be delayed or lengthened without impacting the Time for Completion or the Contract Completion Date.

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**General Conditions (GC):**

The General Conditions of the Construction Contract, HECO-7, latest edition. Also, the General Conditions of the Design Build Contract, HECO-7DB for use with design build contracts.

**Goods:**

Material, equipment, supplies, printing, and automated data processing hardware and software.

**Improvements:**

Work necessary to accomplish a specific purpose and produce a complete and usable improvement to an existing facility or structure, including the associated architectural and other technical services and fixed equipment installed and made part of the facility or structure, as well as any site development. Improvements include:

- a. alteration of interior space arrangement and other physical characteristics, such as utilities, so that it may be more effectively used for its present designated functional purpose;
- b. conversion of interior arrangement and other physical characteristics, such as utilities and fixed equipment installed on and made a part of the facility or structure so that it may be effectively utilized for a new functional purpose;
- c. renovation of most or all of a facility or structure, or an existing mechanical system for the purpose of modernizing the use or capability of such asset in order that it may be effectively utilized for its designated functional purpose or to comply with current code requirements.
- d. restoration of a facility or structure to the maximum extent possible to its former or original state (historic property);
- e. relocation from one site to another of a facility or structure either intact or by disassembly and subsequent reassembly; and
- f. major repair to restore a facility, mechanical system or utility system to such a condition that it may continue to be appropriately and effectively utilized for its designated purpose by overhaul, reprocessing or replacement of parts or materials which have deteriorated by action of the elements or wear and tear in use;
- g. demolition to remove a building or facility either for land clearance or to make land available for new capital use.

**Informality:**

A minor defect or variation of a bid or proposal from the exact requirements of the Invitation to Bid or Request for Proposal that does not affect the price, quality, quantity or delivery schedule for the goods, services or construction being procured. (College Procurement Rules).

**Invitation For Bids (IFB):**

A formal solicitation to the public including the Notice, Instructions To Bidders, Bid Form, General Conditions, Supplemental General Conditions, Special Conditions, Forms to be used, the Plans and Specifications, and any other documents listed in the Specifications, all of which request qualified bidders to submit competitive prices or bids for providing the described work on a project. The IFB is the "Invitation to Bid" required by College Procurement Rules.

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**Landscape Architect:**

An individual certified by the Commonwealth of Virginia as a ‘Certified Landscape Architect’ by the APELSLA Board of the Department of Professional and Occupational Regulation. The Certified Landscape Architect may function as a project manager and may be the prime professional on those projects where the preponderance of the work is represented by the application of the principles and methodology of landscape architecture in consultation, evaluation, planning (including the preparation and filing of sketches, drawings, plans and specifications) and responsible supervision or administration of contracts relative to projects principally directed at the functional and aesthetic use of land.

**Liquidated Damages:**

See Section 43 of the General Conditions of the Construction Contract (HECO-7). As used in this Manual, the term “Liquidated Damages” generally means a predetermined and fixed amount of money per period of time as stated in the Contract Documents and which will be charged to the Contractor as a measure of damages for delay suffered by the College due to failure of the Contractor to substantially complete, or finally complete, the Project/Work by the date or time established in the Contract Documents.

**Maintenance Prevention:**

A technique embracing reliability engineering and maintenance experience and directed at preventing potential design defects that would ultimately inhibit proper operation and maintenance of new equipment, buildings, and property components. Design deficiencies are identified, mitigated or eliminated through careful maintenance oriented review of the design document prior to purchase, construction, or installation. “Maintenance Prevention” is influenced heavily by life cycle cost considerations.

**Maintenance Reserve Project:**

A single effort undertaking which involves major repair or replacement to plant, property or equipment. Examples of such projects include:

1. repair or replacement of damaged or inoperable equipment such as elevators, furnaces, plumbing fixtures, air conditioning and ventilation equipment.
2. repair or replacement of components of a plant such as masonry, ceilings, floor, floor coverings, roofs, sidewalks, parking lots, exterior lighting, boilers, and air conditioners.
3. repair or replacement of existing utility systems, such as electrical, water and sewer, heating and cooling. When replacement of components of utility systems is required (e.g. transformers, distributions panels, cables, etc.), new components should be sized to account for future growth if the existing components are operating at or near capacity.
4. correction of deficiencies in property and plant that are required to conform with building and safety codes or those regulations associated with hazard corrections, including asbestos hazards when incidental to repair/maintenance.

5. correction of problems resulting from erosion and drainage.

**Management Agreement:**

The Management Agreement By and Between the Commonwealth of Virginia and the College of William and Mary passed by the 2006 General Assembly Session (HB 1502/SB675ER) as required by the Restructured Act and containing further defining controlling policy and rules governing the additional autonomy granted by the Restructured Act.

**Master Plan:**

A methodical process of data collection, analysis, evaluation of options and development of a planning document or tool.

**Memorandum of Understanding (MOU):**

A document signed by both the A/E and the College that formalizes the details of the fee negotiations, the scope of work, the A/E schedule, and other items agreed to during negotiations. The terms of the MOU are more project specific, supplementing and/or clarifying the requirements of the A/E Contract in terms of the particular project. However, the MOU does not supersede nor take precedence over the requirements of the Manual unless such change has been approved in writing using a D&F by the Associate Vice President for Facilities Management and such written approval is attached to the MOU.

**Minority-owned/controlled Business:**

A business enterprise that is owned or controlled by one or more socially or economically disadvantaged persons. Such disadvantage may arise from cultural, racial, chronic economic circumstances or background, or other similar cause. Such persons are listed on the College of William and Mary Procurement Services website or on that of the Department of Minority Business Enterprise, (DMBE) and are defined in detail by the DMBE on their current website.

**New Construction:**

The building of a new structure, facility or improvement (including utilities) on a site. A new construction project is a single undertaking involving construction applicable to one or more facilities, including all work necessary to accomplish a specific purpose and produce a complete and usable new facility, all associated architectural and other technical services, all installed equipment, site development and any improvements. New construction includes:

1. construction of a new plant including the erection, installation, assembly of a new facility or structure, utility system, or site work.
2. addition, expansion, or extension to a structure which adds to the overall exterior dimension of the plant; structure
3. complete replacement of a structure or facility that because of age, hazardous conditions, obsolescence, structural and building safety conditions or other causes is beyond the point where it may be economically repaired/renovated and can no longer be used for its designated purpose.

**Nonprofessional Services:**

Any services not specifically identified as professional services in the definition of professional services. (College Procurement Rules).

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**Notice:**

All written notices, including demands, instructions, claims, approvals and disapprovals, required or authorized under the Contract Documents. Written notice by either party to the Contract shall be sufficiently given by any one or combination of the following:

- (1) delivered in hand at the last known business address of the person to whom the notice is due;
- (2) delivered in hand to the person's authorized agent, representative or officer wherever they may be found; or
- (3) enclosed in a postage prepaid envelope addressed to such last known business address and delivered to a U.S. Postal Service official or mailbox. Notice is effective upon such delivery. Notice shall also mean the Notice of Invitation for Bids included in the IFB.

**Notice of Award:**

The written notification by the College to the apparent successful bidder notifying the bidder that it has been awarded the contract, pending the submittal and execution of all documents required in the IFB.

**Notice of Intent to Award:**

The written public posting by the College Facilities Planning & Construction Office of Contract Administration announcing the apparent successful bidder and notifying the bidder and all other bidders that the College intends to award the contract to the apparent successful bidder pending completion of the verification that it is a Responsible Bidder and the receipt and acceptance of all executed documents required in the IFB.

**Notice to Proceed:**

The written notification by the College to the apparent successful bidder notifying the bidder that it has been awarded the contract, pending the submittal and execution of all documents required in the IFB.

**On Demand Construction:**

Procurement of construction services from a pre-selected list of contractors or from College Facilities Management forces; referred to colloquially as "make-buy".

**Owner:**

For purposes of the Manual, "Owner" shall mean the Rector and Visitors of the College of William and Mary.

**Owner/Agency/College/VIMS:**

For the purposes of this manual, these terms are synonymous.

**Performance Specification:**

A specification which generally describes the characteristics of the article required, e.g. the style, type, quality, character, economy of operation and purpose to be served by the article and the results required of the article provided. It does not restrict bidders to the specific brand, make, or manufacturer, nor does it tell the Contractor how to achieve the required result.

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**Person:**

Any individual, corporation, partnership, association, company business, trust, joint venture or other legal entity.

**Plans:**

The group or set of project-specific drawings included in the Contract Documents.

**Pre-bid Conference:**

A meeting of interested, prospective bidders held by the College, usually with the assistance of the A/E, prior to the receipt of bids in which comments or questions concerning specifications or other provisions in the IFB or RFP can be received and considered (College Procurement Rules). Any response shall be in writing and distributed to all who requested/received the IFB and RFP.

**Prequalification of Bidders:**

The process by which the qualifications and credentials of potential bidders may be evaluated for particular types of services or construction in accordance with criteria established in writing and sufficiently in advance of their implementation to allow interested persons or firms a fair opportunity to complete the process (*College Procurement Rules*). See Chapter 11 of the Manual for further descriptions.

**Procurement Rules:**

See College Procurement Rules.

**Professional Services:**

For the purposes of the Manuals, services provided by a licensed professional within the scope of the practice of accounting, architecture, land surveying, landscape architecture, or professional engineering.

**Project:**

The term used to represent the specific or proper assigned title of the entire undertaking which includes, but is not limited to, the design services by the A/E and the construction “Work” performed by the contractor pursuant to the Contract documents.

**Project Inspector:**

One or more persons employed by the College to inspect the Work for the College and/or to document and maintain records of activities at the worksite to the extent required by the College. The College shall notify the Contractor in writing of the appointment of such Project Inspector(s).

**project manager:**

The designated representative of the A/E or the Contractor through whom written decisions and notices are generally conveyed.

**Project Manager:**

As used in the Manual, the “Project Manager” shall be the College’s designated representative for the Project.

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**Proprietary:**

An adjective used to describe a product or piece of equipment which is manufactured under some exclusive right but which is available to subcontractors from multiple vendors or suppliers; (e.g. a product or piece of equipment which is specified by a single brand name and model number and which is available to bidders from more than one source, but for which no “Equal” is permitted.)

**Provide:**

As used herein and in the Contract Documents, “Provide” shall mean to supply, to furnish and to install complete with all accessories, parts and/or services to be ready for its intended use.

**Real Estate:**

Any land and improvements including all rights and interest (i.e., leasehold, easements, permission, licenses, allotments, minerals, remainder or any other interest).

**Request for Proposal (RFP):**

A written public notification by the College soliciting proposals for professional, nonprofessional, or contractor services. The RFP generally describes the services sought, the unique capabilities or qualifications needed to perform the work, factors to be used to evaluate proposals and the conditions for negotiating prices and terms with the offerers (College Procurement Rules).

**Responsible Bidder:**

A bidder who has the capability, in all respects, to perform fully the Contract requirements and the moral and business integrity and reliability that will assure good faith performance, and who has been prequalified, if required (College Procurement Rules).

**Responsive Bidder:**

A person or firm who has submitted a bid which conforms in all material respects to the Invitation to Bid (College Procurement Rules).

**Restructured Act:**

The Restructured Higher Education Financial and Administrative Operations Act, Chapter 4.10 (§23-38.88 *et seq*) of Title 23 of the Code of Virginia (See Appendix W).

**Review Team:**

A staff unit of College Facilities Management consisting of registered and licensed architects and engineers with authority under the Management agreement to perform reviews of the College's construction project drawings and specifications and also perform other related functions. Also referred to as College Code Review Team.

**Sealed Bid:**

A bid which has been submitted in a sealed envelope to prevent its contents from being revealed or known before the deadline for the submission and opening of all bids.

**Services:**

Any work performed by an independent contractor wherein the service rendered does not

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consist primarily of acquisition of equipment or materials, or the rental of equipment, materials, or supplies (College Procurement Rules).

**Shop Drawings:**

The drawings, diagrams, illustrations, schedules, installation descriptions and other data prepared by or for the Contractor to provide detailed information for the fabrication, location, erection, installation, connection and methodology associated with the Work. Shop drawings are intended to aid in the preparation and installation of materials and to ascertain that the materials proposed by the Contractor conform to the requirements of the Contract Documents.

**Small Business:**

As used in this Manual for procurement and reporting of Small Business, Women Owned Businesses and Minority Owned Businesses, Small Business shall mean a Corporation, partnership, sole proprietorship, or other legal entity formed for the purpose of making a profit, which is independently owned and operated, has fewer than 100 employees and the average gross annual receipts for the preceding three years is less than \$2,500,000.

**Sole Source:**

A product, item of equipment, service or combination of these which is available from only one manufacturer, vendor or provider in an area to the exclusion of others (e.g. within the constraints of the particular Project, whether geographic, time, material or other). If products, equipment or services are franchised to only one vendor in an area, the vendor would be considered a Sole Source for such products, equipment or services specified for this project.)

**Special Conditions:**

That part of the Contract Documents which describes special or additional requirements or procedures applicable to the particular project. The Special Conditions do not amend or supersede the General Conditions.

**Specifications:**

Those portions of the Contract Documents containing the General Conditions as well as written technical descriptions of materials, equipment, construction systems, standards and workmanship describing the proposed Work in sufficient detail for the Contractor to perform the Work and providing sufficient information for the Building Official to determine Code Compliance.

**Subcontractor:**

An individual, partnership or corporation having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work. The Subcontractor may include any person who provides on-site labor but does not include any person who only furnishes or supplies materials for the project.

**Submittals:**

As used in the construction Contract Documents, shall mean all shop drawings, illustrations, brochures standard schedules, performance charts, and other data required by the Contract Documents which are specifically prepared by or for the Contractor to illustrate some portion of the Work and which are submitted to the A/E for review to assure conformance with the

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requirements of the Contract Documents. As used in the Professional Services Contract, shall mean the drawings, specifications, cost estimates, schemes and other documents required by Chapter 8 of the Manual to be submitted by the A/E to the College for review and/or approval.

**Substantial Completion:**

The date on which the project (or a specific part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the project (or the specific part thereof) can be utilized by the College for the purposes for which it is intended. The College, at its sole discretion, may take Beneficial Occupancy at this time or may choose to wait until final completion to occupy.

**Substitute:**

A material, product, equipment, or assembly that deviates from the requirements of the Contract Documents but which the Contractor deems will perform the same function and have equal capabilities, service life, economy of operation, and suitability for the intended purpose. The proposal must include any cost differentials proposed. Any such proposed substitute must be submitted to the A/E for review and, if acceptable to the A/E and the College, incorporated into the Contract by Change Order.

**Supplemental General Conditions:**

The part of the Contract Documents which amends or supplements the General Conditions of the Construction Contract, HECO-7. See DGS-30-377 Form for SWAM Supplemental General Conditions and DGS-30-376 for insurance and liquidated damages.

**SWAM:**

The acronym used to refer to Small Business and Women-Owned and Minority-Owned Businesses. See Supplemental General Conditions DGS-30-377 form for detailed requirements.

**Supplier:**

A manufacturer, fabricator, distributor, material provider or vendor who provides material for the project but does not provide on-site labor.

**Time for Completion:**

That number of consecutive calendar days following receipt of a Notice to Proceed that the Contractor has in which to substantially complete everything required of it by the Contract. The time for completion is usually set out in the IFB. When the Notice to Proceed is issued, it states a Contract Completion Date which has been set by the College based on the Time for Completion.

**Umbrella Project:**

A global appropriation fund for multiple projects, typically related in character of work. Individual projects are typically executed as stand alone projects, but funding may be shifted from one project to another, as necessary within the appropriation.

**Unit Price Work:**

Work to be paid for on the basis of established unit prices for the quantity of material provided or work done. No additional percentage markup for overhead or profit shall be added to the unit prices.

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**Unsealed Bid:**

An unsealed written offer conveyed by U.S. Mail, commercial courier service, facsimile, e-mail, or other means. The bids are normally opened and recorded when received.

**USBC:**

The Uniform Statewide Building Code adopted by the Virginia Department of Housing and Community Development (DHCD) in conformance with the *Code of Virginia*, § 36-98 (Also referred to as the VUSBC).

**VCCO:**

The acronym used to refer to a College employee who has completed the necessary training and testing by the Bureau of Capital Outlay Management, Division of Engineering and Buildings in state procurement law, policy and procedures and who has been awarded the designation of Virginia Construction Contracting Offer (VCCO). Where used in this Manual, the VCCO functions are related to the following: receipt of bids, opening of bids, review of the bids, and signing the HECO-8 recommending award of the contract to the successful bidder.

**Woman-owned/controlled Business:**

Business enterprise at least 50 percent of which is owned/controlled by women and where the woman is involved with the day to day operation of the business. In the case of a publicly owned business, at least 51 percent of the stock of which is owned by women.

**Work:**

All labor, materials, equipment and other services necessary to perform the complete services, or any separate identifiable part thereof, or to provide the complete product required by the Contract. In construction, Work includes, but is not limited to, performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction to provide the entire completed construction, or the various separately identifiable parts thereof, as required by the Contract Documents.



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## CHAPTER 3 PLANNING:

### *MASTER PLANS, SITE & UTILITY DRAWINGS*

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#### SECTION 3.1 CONFORMANCE WITH EXISTING MASTER PLANS

- 3.1.1 Each capital project must conform to a Site, Precinct or Master Plan developed by the College and approved by the Board of Visitors.
- 3.1.2 Each Capital Project shall conform to the College's Regional Storm Water Plan.

#### SECTION 3.2 SITE & UTILITY DRAWINGS

- 3.2.1 Utility Plans will be developed and maintained by the office of Facilities Planning, Design and Construction in conjunction with the Energy Manager to insure utility capacities exist' to support the Master Plan. Utility facility locations will be as defined in the appropriate Precinct or Master Plan.
- 3.2.1 Current site and utility drawings are intended to depict the current condition of the College's physical plant. Updates typically occur annually and show buildings completed, land acquired, utilities installed, etc.

#### SECTION 3.3 MASTER PLANS AND REQUIREMENTS

- 3.3.1 **Preparation:** The Master Plan shall be prepared by a Registered Architect, Engineer or recognized Professional Planner and shall include all existing and planned facilities, infrastructure and utility corridors.
- 3.3.2 **Intent:** The Master Plan shall depict the current land use and future development of the campus / physical plant in an orderly and efficient fashion to maximize resources and provide a planning framework sufficiently flexible to allow response to changing program requirements.
- 3.3.3 **Future Needs:** Plans should address needs through the next 20 or more years to include future building sites and planned construction. Specifically, each plan shall:
- Identify potential building sites available for future development and planned construction as outlined in the Capital Program.

- Utilities to future building sites shall be planned for and routed accordingly.
- Generally, the six year plan for capital construction is sufficient for facility siting planning.
- Long Range Development may be indicated as generalized areas and labeled as to the anticipated use.

**3.3.4 Chesapeake Bay Watershed:** Future development shall be sensitive to the Chesapeake Bay Watershed Development Policies and Guidelines, published by the Chesapeake Executive Council.

- Emphasis should be placed on compatible land use.

**3.3.5 Standardization of Content:** The Criteria and content requirements of this chapter shall apply to all future Master Plans. Materials shall be presented in the following sequence:

- **Cover Sheet** - "Comprehensive Master Plan for The College of William and Mary"
- **Table of Contents**
- **Narrative Detail**
- **Maps / Graphics** – Current Conditions
- **Maps / Graphics** – Future Developments
- **Site Utility Plans** are required separately but will also be included in a graphic master site and utility plan which records all existing work and is updated annually.

**3.3.6 Narrative information:** This information should supplement, not repeat, information contained on drawings or maps.

- **Vision:** Provide a brief narrative describing the vision for the Master Plan outlining existing conditions and future goals. Provide incremental milestones with intended time frames as may be applicable.
- **Existing Conditions:** Provide a brief description for each precinct (North Campus; South Campus; West Woods; Law School and Dillard Complex) outlining the following:
  - **Land Use:** Identify the general use for each precinct and note undeveloped land as green space, future building sites, current/future utility corridors, archeological and/or historical sites, hazardous materials and/or dump sites, etc. This data shall be used as the initial input for future six-year plans.
    - Identify any and all covenants, easements and preserves established by law or agreement.
    - Visions and plans for future programs, property acquisitions and similar information may be included in the narrative.

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# **Master Plans, Site & Utility Drawings**



- **Facilities:** Identify existing facilities and their respective current uses. Identify major deficiencies as may be applicable.
  - Facility condition assessment reports shall be performed by the College on a rolling 10 year cycle to be completed in two year increments opposite the major modifications to the six year plan. The Master Plan process shall cull all facility assessment reports and include current information within each update.
- **Infrastructure:** Briefly describe the capacity and current load of utility plants and energy and utility lines and the general areas of development on the Master Plan that requires increased energy/utility system capacity.
  - Where utilities are provided by commercial or municipal sources, indicate connected capacity and/or any limitations stipulated in the contract/agreement between the College and the commercial/municipal source (e.g., sewerage, water, electric and natural gas).
  - Provide a description and conditional assessment of existing roads and pathways. Note any specific driving or walking hazards that are not in compliance with ADAAG requirements.
- **Planned Development:**
  - **Land/Property Acquisitions and development:** Identify property that is intended to be acquired and/or developed. Indicate location, acreage, building square footage, number of floors and construction type as may be applicable.
  - **Facilities Modifications:** Identify each proposed new or altered building. Include the number of floors, gross square feet and the year construction is anticipated.
    - Identify any buildings which are anticipated to be surplus or demolished. Indicate the name, number and location of the building, the current function, the gross square feet, and the type of construction.
  - **Infrastructure:** Briefly describe the capacity of proposed new or enlarged energy/utility plants and systems and the general areas of development on the Master Plan that requires increased energy/utility system capacity.
  - Identify proposed improvements to pedestrian or vehicular path/road ways. Include improvements intended to comply with ADAAG accessibility and the Campus Precinct Guidelines.

**3.3.7 Maps:** Similar to the narrative, the maps shall distinctly identify both existing conditions and planned development in precinct level detail.

- **Existing Conditions:** Maps indicating existing conditions shall include the following as a minimum:

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- **Vicinity Map:** Include a vicinity map to show the location of the site in Virginia and in the overall setting, i.e., on a county road map or a USGS sheet.
- **Topographic Map:** A topographic map with contours showing buildings, roads, parking lots, vegetation/tree areas (both improved and unimproved areas), and major pedestrian avenues. Show the Limits of the 100 year Flood Plain, RMA – RPA and “wetlands”.
- **Site Plan:** A site plan / map without contours showing buildings with name and FAACS number, roads, parking lots, major pedestrian avenues, archeological sites, historic land-marks, dump sites, green spaces, etc.
- **Energy and Utility:** A map showing all heating and cooling plants and associated distribution utilities as applicable. Indicate capacities as a ratio of (current use) / (total potential capacity).
- **Water Distribution:** A map illustrating potable water distribution, as well as storm and sanitary collection systems. Indicate location of all water meters, including individual building meters and deductive meters for irrigation or cooling towers. Indicate if these meters are electronically metered or not.
- **Facilities Condition:** A map indicating by color or hatch pattern facilities which are considered to be in good condition; in need of major repair or renovation (detailed within the narrative) and facilities which have not undergone a facilities assessment within the last six years.
- **Planned Development:** Maps indicating planned development shall include the following as a minimum:
  - **Future Development Site Plan:** A future development site plan without contours showing existing and future buildings (future facilities will be cross-hatched or highlighted by some other technique), existing and future roads (with traffic direction indicated), areas identified as green space, parking lots and major pedestrian avenues, revised proposed property boundaries, archeological sites, historic landmarks, and uses for land proposed for acquisition.
  - **Land Acquisition:** If additional land is proposed for acquisition, indicate the proposed use, how this relates to existing use, the location, information on terrain, water courses and bodies of water, 100-year floodplain, archeological sites and historic landmarks.
  - **Surplused Land:** If land is anticipated to be surplus, indicate the location and amount of acreage.
  - **New or Recently Altered Buildings:** For new or altered buildings. Include the name (function) of the building, the number of floors, the gross square feet, and when the year construction is planned to begin.
  - **Facility Renewal:** Provide a brief outline or matrix for existing facilities in need of major repair or renewal. Where known, indicate the specific scope

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# **Master Plans, Site & Utility Drawings**

of work required and type of project required to accomplish the scope (Capital, Major Capital, Maintenance Reserve and departmental projects).

Type of projects shall include but not limited to:

- **Building Envelope** (roofs, window replacements, siding repair/replacement, pointing and calking, etc.).
- **Living Systems** (Systems with moveable parts subject to wear, including mechanical, plumbing, electrical, communication, moveable storage, etc.)
- **Finishes** (tile, carpet, paint, wall coverings and substrates, ceiling tile, etc.)
- **Structure and Substrates** (Floors, walls and roofs, including structural and non structural elements)
- **Built in Equipment and Systems** (Systems and equipment built into the facility which generally do not have moving parts but are critical to the building such as building wiring, drainage systems and water distribution systems)
- **Compatibility with Use** (Regardless of condition, report any known facility elements which are not compatible with current use and/or current technology which would impair or restrict the intended use. Such elements may include an incompatible floor plan, insufficient electrical outlets/panels/capacity, ADA accessibility issues, etc.)
- **Energy Plants:** Indicate location of proposed new or enlarged energy/utility plants and systems and the general areas of development on the Master Plan that requires increased energy/utility system capacity.
- **Surplused Buildings:** Indicate buildings that are anticipated to be surplus or demolished.

**3.3.8 Site and Utility Plans:** Site and Utility Plans must be on 24" x 36" Mylar reproducible sheets.

- **Scale:** All maps must be to scale of 1 inch equals 50 feet scale (1"=50').
- **Contours:** Where contours are specified, 2- foot contour interval is required.
- **Exceptions:** For tracts of land which are planned for limited development, or contain significant elevation change, smaller scale maps and/or greater contour intervals may be used where approved by the Director, Facilities Planning, Design and Construction.
- **Electronic Submittals:** For each annual update, AutoCAD drawings shall be prepared in accordance with the current version of College of William and Mary drawing standards, (as may be applicable) including:
  - Symbols
  - Layering standards

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# **Master Plans, Site & Utility Drawings**

- Incorporation of the State Grid System
- Provide a minimum of four (4) compact disks “CDs” in AutoCAD format. Both the Compact Disk and the AutoCAD file shall be identified by date in the title.
- **General Site Plan:** A site plan with contours showing property boundaries, easements, bench marks or reference points, buildings with name and FAACS number, roads, parking lots, major pedestrian avenues, RMA - RPA - “wetland areas”, 100 year flood plain limits, and vegetation / tree areas.
  - Political subdivision lines shall be shown and labeled with the name of each jurisdiction, if the facility lies within more than one political subdivision.
- **Utility Drawings Without Contours:** Utility drawings without contours showing buildings, roads, parking lots, aboveground and buried electrical and communication lines, water distribution lines, natural gas lines and heating and/or cooling distribution lines. For the purpose of clarity, utility drawings shall be subdivided into the following categories:
  - Data and electrical distribution
  - Potable water distribution
  - Storm and sanitary sewer drainage
  - Steam, hot water, chilled water and natural gas distribution
  - Depth of burial (3-dimensional data)
- **Utility Drawings With Contours:** Utility drawings with contours showing buildings, roads, parking lots and storm drainage and sanitary sewerage lines.
- **Abandoned Utilities:** Utilities known to be abandoned in place shall be identified as such on their respective utility drawing.

**3.3.9 Format:** The format and content requirements of this chapter shall apply to all future Master Plans.

- **Narrative:** This information will normally be presented in color on 11’ X 17 pages formatted with foldouts as necessary. Information may be provided in tabular form, if such presentation would make it more understandable to the reader.
- **Maps:** All precinct maps shall be printed in color and shall meet the following minimum requirements:
  - **Scale:** All maps must be to scale of 1 inch equals 100 feet scale (1"=100').
  - **Contours:** Where contours are specified, 5 - foot contour interval is required.
  - **Exceptions:** For tracts of land which are planned for limited development, or contain significant elevation change, smaller scale maps and/or greater

## **Chapter 3**

### **Planning:**

### **Master Plans, Site & Utility Drawings**

contour intervals may be used where approved by the Director, Facilities Planning, Design and Construction.

- **Drawings(s) / Site Plan(s):** Provide to the College on Mylar reproducible as well as electronic format “AutoCAD format on a ‘CD’.
- **AutoCAD Standards:** AutoCAD drawings shall be prepared in accordance with the current version of College of William and Mary drawing standards, (as may be applicable) including symbols, layering standards and incorporation of the State Grid System.

### 3.3.10: Distribution:

- **Electronic Distribution:** A minimum of six (6) electronic copies shall be required and distributed as follows:
  - (1) to Information Technology
  - (1) to Institutional Research
  - (2) to Facilities Planning, Design and Construction
  - (2) to Administration (1 ea. to Vice President for Administration and Senior Planner)
- **Hard Copy Distribution:** A minimum of eighteen (18) hard copies shall be required and distributed as follows:
  - (2) to Facilities Management (1 ea. to Associate Vice President for Facilities Management and Director Maintenance and Operations)
  - (12) to Facilities Planning, Design and Construction (1 ea. to the Director, Associate Director and each Project/Construction Manager)
  - (1) to Institutional Research
  - (1) to Information Technology
  - (2) to Administration (1 ea. to Vice President for Administration and Senior Planner)
- **Posting:** The current Master Plan shall be posted to the College of William and Mary web site.

**3.3.11: Updates:** The College shall update its site and utility drawings by February 28 of each year in order to ensure the drawings are sufficiently accurate to allow informed decisions for future work.

- **Intent:** The Campus all-plan site and utility drawings are intended to depict the current “as-built” condition of the College’s physical plant for day to day use in planning, design and construction activities.

## Chapter 3 Planning: Master Plans, Site & Utility Drawings

- **Each Update** shall include all completed site modifications since the previous update, including but not limited to:
  - Recently constructed/demolished buildings
  - New, existing and abandoned utilities
  - Modifications to contours for new facilities, storm drainage improvements, etc.
  - Miscellaneous Site improvements
  - Completed land transactions
  - Plans shall be annotated with: “Current as of (date)”.
- **“MISS UTILITY”** will notify participating utility providers (“operators”) who have utilities on College property and will come onto College property to mark their utilities upon request. College owned utilities on Campus are identified by College personnel who are notified through the “MISS UTILITY” system.
- **College Owned Utilities** typically fall into three main categories (Plumbing, Electrical and Information Technology).



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## CHAPTER 4 PLANNING:

### *PROJECT IDENTIFICATION AND APPROVAL*

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#### SECTION 4.1 GENERAL

This chapter describes the process to nominate projects for approval. It provides detailed guidance on documentation required for approvals. Unless specifically waived by the Vice President for Administration, execution of all capital outlay projects shall follow these approval procedures.

**4.1.1** The planning process is overseen by the Vice President for Administration and the Vice President for Finance, and managed by the Associate Vice President for Facilities Management. Facilities Planning, Design and Construction is responsible for the actual development of capital budget submission packages for approved projects. The resulting budget packages solicit the approvals of the Board of Visitors and General Assembly and the Governor, as appropriate, for projects supported by state funds and/or debt funds. Projects supported solely by non-general, non-debt College funds are approved by the Board of Visitors. Procedures for both state and College funded projects are detailed below.

**4.1.2** **Environmental Impact Report:** An Environmental Impact Report (EIR) shall be prepared for each qualifying project with an expected construction cost of \$300,000 or more.

**4.1.2.1 State Submission:** All EIR's shall be submitted to the State Department of Environmental Quality by letter signed by the AVP/FM.

#### SECTION 4.2 DEFINITIONS

**4.2.1** **Six Year Plan:** The College's rolling six year (three biennia) building program. Projects proposed for inclusion in the program must be reviewed, approved, and prioritized by the Advisory Committee for Space Management (ACSM) chaired by the Provost. The Six Year Plan is updated annually and formally submitted to the state on a biennial basis. Projects proposed for state and/or debt funding must be approved by the BOV, the General Assembly and the Governor. Projects which are non-general, non-debt College funded are approved by the BOV.

**4.2.2** **Project categories** (See Figure 4.1):



**4.2.2.1 Major Capital Projects:**

- Acquisitions of any interest of land, including improvements on the land costing \$1 million or more
- New construction of 5,000 gross square feet or larger
- Improvements or renovations costing \$1 million dollars or more
- Capital leases valued at \$1 million or more

**4.2.2.2 capital projects:**

- Acquisitions costing less than \$1.0M;
- New Construction less than 5000 GSF
- Renovations costing less than \$1.0M

**4.2.2.3 Maintenance Reserve Projects:** Major repair or replacement to plant, property or equipment, normally costing from \$25,000 to \$1,000,000. Examples include:

- Repair or replacement of antiquated, damaged or inoperable building systems
- Facility accessibility needs
- Repair or replacement of building envelope/site components
- Repair or replacement of existing utility systems
- Correction of deficiencies that are required to conform with safety codes or regulations associated with hazard corrections
- Correction of problems resulting from erosion and drainage

**4.2.3 Funding Categories (See Figure 4-1):**

**4.2.3.1 General (State) Funding:** State dollars provided by the Commonwealth for “education and general” (E&G) capital or maintenance reserve projects. These projects may fall under such functional uses as academic, research, instruction, administrative, support and infrastructure. Funding sources include:

- General funds
- State supported bonds (typically fund code 0811 or 0821).

**4.2.3.2 Non-General (College supported) Bond Funds:** College supported but Commonwealth issued bonds, which require authorization by the General Assembly and Treasury:

- 9(d) pooled bond (0817)– typically used for E&G projects
- 9(c) revenue bonds (0815)– typically used for “auxiliary” or revenue generating projects

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**Project Identification and Approval**

- 4.2.3.3 Non-General (College generated) Funds (fund code 0306):** Auxiliary funding generated by the College for non-instructional functions such as Residence Life, Dining Services, Bookstore and Intercollegiate Athletics. The College also maintains an “auxiliary fund balance” to address various campus needs.
- 4.2.3.4 Private (College donation) Funds (fund code 0302):** Funding provided in cash or in kind by an individual or group donor or foundation. Funds may be restricted to a specific project or purpose or “unrestricted”. The funds may come from the College’s 501C3 non-profit foundation (CWMF) or from the College’s Board of Visitors.

## **SECTION 4.3 PROJECT IDENTIFICATION AND NOMINATION**

### **4.3.1 Project Identification and Nomination**

- 4.3.1.1 Major Capital Projects** (> \$1 million or 5000 square feet) are proposed annually for presentation to the Advisory Committee on Space Management (ACSM) and inclusion in the College building program. These nominations occur via the Provost, Vice Provost, Associate provost(s); Dean(s); and/or Vice President(s).
- 4.3.1.2 Capital projects** (< \$1 million and < 5000 square feet) which are College funded (see definition) do not require nomination and inclusion in the College building program. However, funding approval does occur at the VP/Dean/Department Head level.
- 4.3.1.3 Project requests:** must provide sufficient scope detail to support a conceptual cost estimate to be prepared by Facilities Management. The project request should contain the following minimum information
- Project intent
  - Project justification
  - Project schedule
  - Project programming: planning assumptions for the organization/functions, including technical standards required for design and construction (i.e., Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) accreditation, etc.)
  - Planning constraints
  - Organizational breakdown (FTE) under the general categories of faculty, staff, graduate students and students, including planned increases.
  - Functional space requirements categorized in functional units (i.e., offices, support spaces, labs, classrooms, etc)
  - Special utility requirements

- Hazardous/special material requirements
- Site planning requirements
- Required linkage to other projects

**4.3.1.4 The nominating organization** should consider funding a feasibility study to define and price the project, if the project is selected for more detailed review by the approving authority. Feasibility studies generally cost \$50,000 - \$150,000 depending on the size and complexity of the project).

- Nominations are submitted to the VPA (via the Senior Planner) for recording and recommended prioritization. The VPA presents the nominations annually to the ACSM.

**4.3.1.5 ACSM** reviews the prioritized list of projects for functional, operational, and fiscal feasibility. If approved, the ACSM sequences projects within the College Program. Projects approved for sequencing in the first three biennia constitute the College “Six Year Plan” to be presented to BOV biennially.

## **SECTION 4.4 SIX YEAR PLAN PREPARATION (Timeline shown at Figure 4-2)**

**4.4.1 AVP, Facilities prepares the formal Six Year Plan** in accordance with instructions from Department of Planning and Budget. Information developed includes conceptual project scopes, schedules, and budgets.

**4.4.2 DPB Six Year Plan preparation instructions** are disseminated in the winter of the odd numbered years, for submission later that spring. Any authorization by the Governor and/or General Assembly would be effective the following July 1 of the even numbered year.

**4.4.2.1 Initial Six Year Plan** submissions require the following for each project in the plan:

- Form H-1 (Project Summary and Financial Information).

**4.4.2.2** From May through August of the odd year, the reviewing agency at the College (BOV) or the State (DPB) may request detailed project information, to include scope, cost, and technical information. Detailed submissions require the following:

- DBP Form CNJ (Project Request Justification) – A more detailed project description and justification which includes program information and consideration of project alternatives. This document should be drafted by the end-user;
- DBP Form S-1 (Scope Profile)
- DBP Form C-1 (Cost Profile)
- DBP Form E-1 (if significant energy component)

- DPB Form T-1 ( if significant technology component)

## SECTION 4.5 PROJECT APPROVAL

**4.5.1 BOV Presentation:** The formal Six Year Plan is presented to the BOV biennially at the February and April meetings of odd numbered years. The plan should be updated annually, as required, during even numbered years. (Urgent projects may be presented anytime but require a statement of urgency approved by the ACSM.).

### 4.5.1.1 General Fund (State funded) Projects

- BOV approves the General Fund portion of the program for presentation to the Governor and General Assembly for approval.
- No changes are allowed for projects that are to be funded entirely or in part by a General Fund appropriation or proceeds from State Tax Supported Debt
- The status of design and construction for State funded Major Capital Projects must be provided to State Agencies (see Chapter 15, Reports).

### 4.5.1.2 Non-General Fund (College funded) Projects

- Projects fully funded by the College (non-debt) are approved by the BOV.
- The budget, size and scope shall not be materially changed beyond the plans and justifications that were the basis for project approval unless approved in advance. Minor changes (< 5% scope?) increase may be approved by the President or his designee subject to availability of funds.
- The status of design and construction of any project fully funded by the College shall be provided to the President and, if > \$2 million, to the designated state agencies (see Chapter 15, Reports).

**4.5.2 Off-Cycle NGF (non-debt) Project Nomination and Approval:** When a project is required between Six Year Planning cycles due to need and/or time sensitive availability of funds, all required project documentation required for a Six Year Plan project must be prepared and submitted to the ACSM and the Board of Visitors at the earliest next scheduled meeting.

**4.5.2.1** If circumstances dictate a more rapid review and approval, approval by the VPA, the Provost as Chair of the ACSM and Chairs of the BOV Buildings and Grounds and Finance Committees, in order, may be used as an expedient review and approval method. It must be noted that this expedient review by less than the full BOV should only be used in unique circumstances where loss of funding may

occur without rapid action. Funding must be validated in accordance with paragraph 4.5.4 below and initiation must be approved per para 4.5.5.

**4.5.3 Emergency NGF (non-debt) Project Nomination and Approval:** In the event of an emergency situation where health and/or safety or damage to a facility are imminent if an immediate response is forthcoming, an emergency letter of authorization can authorize a project required to prevent the emergency from occurring or to mitigate/remediate the impact of an emergency event which has already occurred. Emergency project signature authority is as follows:

- Projects < \$1 million - Vice President for Administration
- Projects > \$1 million - President

Funding must be validated in accordance with paragraph 4.5.4 below and initiation must be approved per para 4.5.5. Information copies of the emergency authorization letters will be provided to the Board of Visitors electronically.

**4.5.4 Project Funding Authorization:** Approval of a HECO-2 (Authority to initiate a general funded/non-general funded project) will require the signature of the VP for Finance, to ensure funding is available from the identified sources and can be provided in the amount, timing and sequence required to support design and construction.

**4.5.5 Project Initiation:** Architectural or engineering planning for construction of, or acquisition of, any capital project shall not commence without an approved HECO-2. Submit a fully executed Form HECO-2 to the Director, FPD&C prior to proceeding as described below at section 4.6.2.1. For projects which consist of acquisition and construction, the acquisition must be submitted on a separate Form HECO-2 from the construction. The normal authorization cycle for projects beginning implementation is on or about July 1.

## **SECTION 4.6 PROJECT EXECUTION AUTHORITY**

**4.6.1 Acquisitions, Leased and Temporary Facilities** - See Appendix V, Real Property Transactions.

**4.6.2 Construction Projects:** An eight digit project code will be the basic project identifier. Projects under blanket or umbrella appropriations, a project with work or acquisitions at multiple locations that will be accomplished by separate actions/contracts or a single project to be accomplished through two or more contracts must have a two digit sub-project code for each undertaking. The sub-code must be used on all capital outlay forms and correspondence.

**4.6.2.1 HECO-2 (Authority to Initiate Capital Outlay Projects)**

- The Project Manager must possess an approved “Request for Authority to Initiate Capital Project, Form HECO-2” on all capital projects prior to the initiation of an acquisition, design or construction for an approved project. For project involving acquisition and construction, the acquisition and the design/construction must be submitted on separate form HECO-2s.
- Authority and funding to begin Major Capital Projects is normally given on July 1st.
- An EIR should be done at this point.
- The College normally hires an A/E firm to prepare drawings and specifications upon approval of a HECO-2. An advertisement for A/E services is issued and a short list of firms is determined. A RFP is issued to the short listed firms and interviews are held.

#### **4.6.2.2 HECO-3 (A/E Contract)**

- With the Director, FPDCs approval, a fee proposal from the selected firm is received, negotiated and approved.
- MOU is prepared on the basis of the fee negotiations and a contract awarded on a HECO-3.
- No later than this point a procurement strategy planning session occurs to determine the preferred construction delivery method. (CM-at-Risk with pre-construction and construction phase services are normally advertise immediately after A/E selection.)

#### **4.6.2.3 HECO-4 (Approval of Schematic Design)**

- A pre-design conference is held after which the A/E develops and submits schematic designs for review by the Building Committee, the Code Review Team, the DRB and the AARB.
- The Code Review Team, as outlined in Chapter 12 of this Manual, shall perform schematic, preliminary and contract document reviews and coordinate with the responsible State Fire Marshal Office for completion of fire safety reviews. The City of Williamsburg will be notified by the Code Review Team of the availability of the construction documents for review
- The A/E will present the project site selection and the schematic design to the Design Review Board (DRB) for review and approval.
- The A/E will present the schematic design to the Art and Architectural Review Board (AARB) for review and approval.
- Additional DRB and AARB reviews may be required. See Chapter 12 of this Manual for review requirements.

- Upon DRB, AARB and CRT approval of schematic design, the A/E is authorized to initiate preliminary design.

#### **4.6.2.4 HECO-5 (Approval of Preliminary Drawings and Specifications)**

- The A/E develops preliminary designs for review and approval by the Building Committee, the Code Review Team, the DRB and the AARB.
- The A/E will present the preliminary design to the Design Review Board (DRB) for review and approval.
- The A/E will present the preliminary design to the Art and Architectural Review Board (AARB) for review and approval.
- Additional DRB and AARB reviews may be required. See Chapter 12 of this Manual for review requirements.
- Upon DRB, AARB and CRT approval of preliminary design, the A/E is authorized to initiate working drawings.
- Some projects (e.g., work on historic landmarks, demolitions, water and wastewater treatment plants, central heating plants, etc.) may require the review of the Department of Health, Department of Historic Resources and/or the Department of Environmental Quality at both preliminary and working drawing stages. The PM shall be responsible for determining when these reviews are necessary and ensuring that the appropriate review agencies receive the plans and specifications and that their comments are incorporated.
- If the project construction costs exceed \$5 million formal V/E reviews are required.
- PM are encouraged to have the A/E develop the HECO-6a (Statement of Structural and Special Inspections) for review and approval prior to and not later than the submission of working drawings.

#### **4.6.2.5 HECO – 6 (Approval of Working Drawings and Specifications)**

- Completed working drawings and specifications shall be submitted by the A/E to the Code Review Team for review and approval
- The CO-6a (Statement of Structural and Special Inspections) will be submitted for review and approval not later than the submission of working drawings.
- The PM will submit working drawings to the York –Rappahannock Water Shed Office of the Division of Soil and Water Conservation for storm water and erosion and sediment review and approval.

- The PM will submit working drawings to other reviewing agencies as noted above and as determined by the project team.
- The College shall ensure comments of other reviewing Agencies are received and incorporated in the bid package no later than 10 days prior to bid opening.

**4.6.2.6 HECO-8 (Authorization to Award a Contract)**

- Advertise the project via IFB or RFP at a time consistent with the procurement method.
- An approved HECO-8 is required before contract award
- An approved HECO-17 (Building Permit) is required before a Notice to Proceed is issued.

**4.6.2.7 HECO – 11/11a/e (Contract/A/E Contract Change Orders)**

- For information on Construction Change Orders see Chapters 7 (Form HECO-11a/e) and Chapter 12 (HECO-11).

**4.6.2.8 HECO-13.3 (Certificate of Use and Occupancy)**

- A building or facility may be occupied when the project is substantially complete and a Certificate of Use and Occupancy has been issued for the building or facility. A new or renovated building may not be occupied until the College has applied for and a Certificate of Occupancy has been issued.
- Substantial completion is accomplished when the building can perform its intended function and all fire and life safety criteria have been met. Application for substantial completion shall include:
  - HECO-13.1a (Certificate of Substantial Completion by A/E)
  - HECO-13.1b (Final Report of Structural and Special Inspections
  - HECO-13.2a (Certificate of Substantial Completion by Contractor)
  - Letter of Acceptance from the responsible State Fire Marshal Office stating it has no objections to the building being occupied or stating conditions for occupancy of the building.
  - Contractor and A/E's punch lists
- Final completion is when all punch lists and deficiencies have been completed. A final inspection of all projects will be conducted by



the College, the A/E and, if acceptance has not been achieved, the responsible State Fire Marshal Office. Application for final inspection shall include:

- HECO-13.1a (Certificate of Final Completion by A/E)
- HECO-13.1b (Final Report of Structural and Special Inspections)
- HECO-13.2a (Certificate of Final completion by Contractor) Letter of Acceptance from the responsible State Fire Marshal Office stating it has no objections to the building being occupied or stating conditions for occupancy of the building.

**Figure 4-1**  
**Project Funding, Authorization and Funding Matrix**

	Major Capital	Capital	Maintenance Reserve
<b>Dollar Limits</b>	\$ 1 Million and Higher	Less Than \$ 1 Million	\$ 1 Million or less
<b>Scope Limits</b>	5000 Sq Ft and Larger	Less Than 5000 Sq Ft	
<b>Authorization</b>	Board of Visitors	VP, Administration Deans/VPs	Vice President for Administration
<b>FUNDING TYPE</b>			
State GF or Debt	•		
State GF for Maintenance Reserve			•
College NGF - debt	•	•	
College NGF (non-debt)		•	
Private Funds	•	•	
<b>Building Permit</b>	*	*	*
<b>DRB / AARB Approval</b>	**	**	**

\* Projects are permitted by Building Official or annual permit process as outlined in Chapter 1, depending on character of work.

\*\* DRB and AARB Approval are required for all projects which modify the exterior architectural appearance.

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Figure 4-2

Key Dates for Capital Budget Submissions (Six Year Plan)

**Even FY**

August	AVP/FM prepares draft Six Year Plan Summary for submission to VPA for review and mark-up.
September	VPA disseminates draft Summary (w/ copies of previous Six Year Plan Summary) to Provost, Deans and VPs for review and mark-up in preparation for October ACSM meeting
October	VPA issues draft Six Year Plan to ACSM for review, discussion and prioritization
November	ACSM review, discussion and prioritization of Six Year Plan

**Odd FY**

February	ACSM final review and approval of Six Year Plan. BOV reviews approved draft at
March	The Department of Planning and Budget (DPB) issues instructions for the preparation of six-year capital proposals.
April	Board of Visitors approves final Six Year Plan via resolution.
April	Agencies submit summaries of all projects in their Six Year Plan to DPB (DPB Forms H-1) along with their first biennium maintenance reserve requests (DPB Forms MR-1), maintenance reserve projects planned for future biennia (DPB Forms MR-2), and a summary of proposed capital outlay leases (DPB Form H-1).
June	Agencies submit detailed narrative and technical information for those projects identified by DPB that are currently unfunded and in the Governor’s approved Six Year Capital Improvement Plan if projects are still needed based on current conditions, strategic plans and master site plans.
June	DPB validates new subprojects for inclusion in agency next biennium Maintenance Reserve Plans and notifies agencies.
Jun – Aug	Project team meetings, if needed, are held on selected major projects.
Jun - Aug	Based on the April submissions and the June agency strategic plans, DPB notifies agencies of first biennium capital projects for which project request justifications and technical information (project cost and scope profiles, project request justification, and technology profile) are needed.

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July	Agencies submit to DPB an updated Maintenance Reserve Plan (DPB Form MR-3) including those subprojects validated for the next biennium.
August	Higher education agencies submit financial feasibility studies to the State Council for Higher Education for proposed 9(d) revenue bond projects.
August	Agencies submit to DBP updated project timelines and draw schedules for capital projects included in the Governor’s Capital Implementation Plan (CIP)
September	Higher education agencies submit financial feasibility studies to Treasury for Proposed 9(c) revenue bond projects.

Figure 4-3

**Project Authorization Summary**

<b>Authorization</b>	<b>Purpose</b>	<b>Req’d Approvals</b>	<b>Copy Distribution</b>
<b>HECO-2</b> (blue)	<p><b>Authority to initiate non-general funded Capital Outlay project.</b></p> <p>This form shall be prepared by the Project Manager (PM) upon receiving Board of Visitors authority for the projects. Completion and approval of this form accomplishes the following:</p> <ul style="list-style-type: none"> <li>• Identifies fund sources</li> <li>• Confirms appropriation</li> <li>• Establishes the budget</li> <li>• Establishes the construction time</li> <li>• Allows schematic and preliminary design to proceed</li> </ul> <p>Revisions to the authorized Project Budget total are accommodated on a revised HECO-2</p>	PM FPDC F & A Mgr Deputy Dir, FPDC Dir, FPDC Dir, CRT AVP/FM Sr. Planner VP/A VP/F	All Approvals FPDC Admin <b>DGS</b>
<b>HECO-4</b> (green)	<p><b>Approval of Schematic Design</b></p> <p>Schematic Design must be approved by the Board of Visitors and the State Art &amp; Architectural Review Board. Approvals will be obtained by the Architect for the College.</p> <ul style="list-style-type: none"> <li>• Requires acceptance of the schematic design documents by the Code Review Team.</li> </ul>	PM FPDC F&A Mgr Deputy Dir, FPDC Dir, FPDC Dir, CRT Senior Planner	All Approvals FPDC, Admin

<b>HECO-5</b> (yellow)	<p><b>Approval of Preliminary Drawings and Specifications</b></p> <p>This form shall be prepared by the PM upon completion of preliminary design documents. Completion and approval of this document accomplishes the following: Note – Date of schematic approval by BOV and Architect for the College must be included.</p> <ul style="list-style-type: none"> <li>• Requires acceptance of the preliminary design documents by the Code Review Team</li> <li>• Establishes the construction budget</li> <li>• Updates the project budget</li> <li>• Allows construction document preparation to begin</li> </ul> <p>Preliminary design must be approved by the AARB, the Board of Visitors and the Architect for the College.</p>	PM FPDC F&A Mgr Deputy Dir, FPDC Dir, FPDC Dir, CRT Senior Planner	All Approvals FPDC, Admin
<b>HECO-6</b> (pink)	<p><b>Approval of Working Drawings and Specifications (Required for all projects regardless of dollar value)</b></p> <p>This form shall be prepared by the PM upon completion of the contract documents. Completion and approval of this document accomplishes the following: Note – Date of preliminary approval by BOV and Architect for the College must be included. See HECO-17 below for Building Permit requirements.</p> <ul style="list-style-type: none"> <li>• Signifies acceptance of the contract documents by the Code Review Team</li> <li>• Confirms the budget</li> <li>• Confirms the construction time</li> <li>• Authorizes the construction procurement process</li> </ul>	PM FPDC F&A Mgr Deputy Dir, FPDC Dir, FPDC Dir, CRT AVP/FM Senior Planner	All Approvals FPDC, Admin
<b>HECO-6a</b>	<p><b>Statement of Structural and Special Inspections</b></p> <p>Structural and special inspections schedule in Appendix M.</p>	PM Deputy Dir, FPDC Dir, FPDC Dir, CRT	All Approvals FPDC, Admin
<b>HECO-8</b>	<p><b>Authorization to Award Contract</b></p> <p>This form shall be prepared by the PM upon completion of the procurement process. Final approval allows award of the construction contract. Note a HECO-17 Building Permit is also required prior to contract award. Revisions to the authorized Project Budget total are accommodated on a revised HECO-2.</p>	PM VCCO FPDC F&A Mgr Deputy Dir, FPDC Dir, FPDC AVP/FM Senior Planner VP/A	All Approvals FPDC, Admin <b>DGS</b>
<b>HECO-11</b>	<p><b>Contract Change Order</b></p>	A/E or Contractor PM	All Approvals FPDC Admin

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	Authorizes a change in a construction contract. This form shall be prepared for each change in a construction contract. All changes involving contract cost or performance time will be included in an approved change order.	FPDC F & A Mgr Dir, FPDC AVP/FM Sr. Planner VP/A	
<b>HECO-11 a</b>	<b>Change Order Justification</b>  Provides justification and reasons for the change.	As per HECO-11	As per HECO-11
<b>HECO-11a/e</b>	<b>Architect Engineer Change Order</b>  Authorizes a change in a contract for A/E Services	As per the HECO-11	As per the HECO-11
<b>HECO-13.1</b> <b>HECO-13.1a</b> <b>HECO-13.1b</b>  <b>HECO-13.2</b> <b>HECO-13.2a</b>	<b>Certificate of Completion by A/E</b> <b>Certificate of Partial or Substantial Completion by A/E</b> <b>Final Report of Structural &amp; Special Inspections</b> <b>(See VIII, Section 1.8; also App T)</b> <b>Certificate of Completion by Contractor</b> <b>Certificate of Partial or Substantial Completion by Contractor</b>  These forms shall be prepared by the project manager at the appropriate time. When completed and signed they shall be submitted in a package along with a form HECO-13.2 "Certificate of Use and Occupancy."	Per the form(s)  Per the form(s)	PM FPDC F&A Mgr FPDC Admin Dir, CRT PM FPDC F&A Mgr FPDC Admin Dir, CRT
<b>HE(CO)-13.3</b>	<b>Certificates of Use and Occupancy</b>  This form authorizes use of the facilities. Refer to Director 564 for Medical Center Projects.	Dir, EHS Dir, FPDC Dir, O&M Dir, CRT Building Official	All Approvals PM FPDC Admin
<b>HECO-14</b>	<b>Project Completion Report</b>  This form is prepared by the project manager and the accounting office upon completion of the project.	PM FPDC F&A Mgr Deputy Dir, FPDC Dir, FPDC Dir, CRT AVP/FM Senior Planner	All Approvals FPDC, Admin <b>DGS</b>
<b>HECO-17</b>	<b>Building Permit</b>  This form is prepared by the Code Review Team upon review of the construction documents and normally accompanies the HECO-6 for Director FPD&C review and Building Official approval. It is required prior to award of any construction contract.	PM Deputy Dir, FPDC Dir, FPDC Dir, CRT AVP/FM	All Approvals FPDC, Admin

## Chapter 4

### Planning:

# Project Identification and Approval



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## **CHAPTER 5A DESIGN SERVICES:**

### ***GENERAL TERMS AND CONDITIONS***

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#### **SECTION 5A.1      GENERAL TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES**

This Chapter contains the General Terms and Conditions for Professional Services.

#### **SECTION 5A.2      GENERAL POLICIES ON ARCHITECTURAL AND ENGINEERING SERVICES**

**5A.2.1      License/Registration:** Entities (e.g. individual, partnership, or corporation) offering to provide architectural and/or engineering services shall be properly registered and licensed in Virginia as required by the Department of Professional and Occupational Regulation (DPOR), Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA) board, and , if incorporated, the State Corporation Commission. Professional Corporations must obtain a Certificate of Authority as required by §54.1-411., Code of Virginia, as amended.

**5A.2.1.1      The Architect or Engineer (i.e. the person) “in responsible charge”** for each discipline shall be currently licensed in the Commonwealth of Virginia and shall affix his or her seal to those documents for which he or she is responsible.

**5A.2.2      Prime Design Professional:** The College will normally contract with a single entity as “Prime Design Professional” to provide the project architectural and/or engineering services. Such Prime Design Professional may have all necessary disciplines in-house or it may subcontract with consultants to provide services in some disciplines. The Prime Design Professional may be an Architect, an Engineer, or an A/E entity. The College shall determine which entity best satisfies the Universities’ requirements for providing the services, meeting the time schedule and budget limitations, and managing the services to be provided on the particular project.

**5A.2.3      Associations:** Contracting with an association of firms, such as joint ventures or associated A/E’s, involves additional business and legal considerations. Factors to be considered include whether the Association is a registered or licensed entity authorized to offer the services in Virginia, the nature of each party’s responsibilities to the other and to the College, the professional liability insurance coverage of the Association, its organization and management structure, each firm’s financial condition and/or stability with respect to fulfilling its obligations under the Contract, and whether the parties to the Association are jointly and severally liable for the Work. Prior to selecting an Association fee negotiation for a possible contract award, the College shall request a review of the Association’s legal documents, by the College’s legal counsel. Associations not legally constituted and

authorized to offer the requested services in Virginia at the time of the closing date of the RFP will be deemed 'not responsive'.

- 5A.2.4 Disadvantaged Businesses:** It is the policy of the College to contribute to the establishment, preservation, and strengthening of small businesses and businesses owned by women and minorities and to encourage their participation in State procurement activities. The College encourages contractors to provide for the participation of small businesses and businesses owned by women and minorities through partnerships, joint ventures, subcontracts, or other contractual opportunities. All procurements by competitive negotiation for professional or non-professional services that are expected to exceed \$100,000 in value shall include consideration of the proposer's past and proposed use of small businesses and businesses owned by women and minorities in the evaluation of proposals.

### **SECTION 5A.3 PROFESSIONAL SERVICES**

- 5A.3.1 Licensed A/E of Record:** The architectural, civil, structural, mechanical and electrical portions of the project shall be planned and designed by or under the immediate supervision of a licensed Architect or Engineer who has expertise in the particular discipline involved.

**5A.3.1.1 Where such licensed expertise is not available** within the A/E of record or where the A/E chooses to subcontract a part of the Work, the A/E shall employ an associate or consulting Architectural or Engineering firm with the requisite expertise to provide the required services.

**5A.3.1.2 Change of Sub consultants:** The consultants, associates, or subcontractors proposed by the A/E during the selection process to be part of the A/E project team shall perform the Work as proposed. If circumstances require a change, the A/E shall advise the College of the proposed change, the reasons therefore, and the name and qualifications of the proposed replacements. The replacements must be acceptable to the College.

**5A.3.1.3 A/E Responsible Charge:** Associates, consultants or subcontractors proposed to be part of the A/E's project team shall be contracted by the A/E at the beginning of the Work and shall be active participants in all phases of the Work related to their discipline from beginning to end. The A/E shall be responsible to the College for the Work of all associates, consultants and subcontractors, whether employees of the A/E or not, performed under the Contract.

### **SECTION 5A.4 TAXPAYER IDENTIFICATION NUMBER**

- 5A.4.1** The A/E shall furnish to the College at the time of contract award its Federal Employer Identification Number (FEIN) if a corporation or a partnership or its Social Security Number (SSN) if a sole proprietor.

### **SECTION 5A.5 RELATIONSHIP OF ARCHITECT/ENGINEER TO COLLEGE**

## **Chapter 5A Design Services: General Terms and Conditions**



**5A.5.1 The A/E:** Once the Contract for A/E services has been fully executed, the A/E shall be the professional advisor and consultant to the College for technical matters related to the project and shall be responsible directly to and only to the College.

**5A.5.1.1** The A/E shall advise the College of changes necessary to keep the project within the prescribed area and cost limits.

**5A.5.1.2** The A/E's status, relationship and authority during the construction phase of the project are further defined in Section 15, paragraphs (a) thru (h) of the General Conditions of the Construction Contract, and are included herein by reference.

**5A.5.2 The College:** shall communicate all approvals, rejections, change requirements and other similar information to the A/E.

**5A.5.2.1** Generally, the College will observe the procedure of issuing orders to the Contractor through the A/E or, if the A/E's construction period duties have been so modified, through the College's designated project representative.

**5A.5.2.2** If the College issues orders directly to the Contractor, the A/E shall be copied on such orders.

## **SECTION 5A.6 COLLEGE DESIGN AND CONSTRUCTION MANUAL**

**5A.6.1 Incorporation of the Manual into A/E Contracts:** This Manual, and all revisions thereto, shall be incorporated into the Contract in their entirety except as amended or superseded in the Contract or an addendum thereto.

**5A.6.2 Application of Manual to A/E Services:** For the sake of simplicity, the provisions of this Manual dealing with Architects and Engineers are written as though they apply to the design of buildings and to construction administration only. They also shall apply, however, to all architectural and engineering services of every kind including, but not limited to, project studies, development of master site plans, other studies, and related professional services.

**5A.6.3 Application of Manual Revisions to A/E Contract:** Many of the changes, additions, or deletions made in revisions to this Manual are necessary to keep abreast with codes, statutes, or regulations related to the project. They require immediate compliance.

**5A.6.3.1 Additional A/E Cost:** If the A/E determines that including the requirements of any Manual revision issued subsequent to the revision shown on the Contract Between the College and A/E (HECO-3), will require additional work on its part, the A/E shall notify the College of same within 60 days of the date of distribution of the revision, and shall provide an itemized list of the additional work required by the revision.

- The College shall provide direction to the A/E regarding incorporating the requirements of the revision and, if appropriate, issue a change order to the A/E for the extra work as described in Chapter 7 of this Manual.

**5A.6.3.2** Generally, revisions issued prior to the date of approval of the preliminary submittal can be incorporated with minimal, if any, additional work on the part of

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## **Design Services:**

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the A/E.

**5A.6.3.3 Failure to Notify College of Additional Cost:** If the A/E fails to notify the College within 60 days after the date of distribution of the revision that the revision will require additional work on the A/E's part, the A/E waives the right to make claims for additional services based on the contents of the revision.

## **SECTION 5A.7 "DESIGN-NOT-TO-EXCEED" COST AS RELATED TO A/E CONTRACT**

**5A.7.1 Project Description and Requirements:** The College shall provide the A/E with a description of the project including information on functions, space requirements, special features and requirements, aesthetic requirements, authorized square footage and "Design-not-to-exceed" construction budget.

**5A.7.2 Design not to Exceed:** The A/E's Contract requires that if the low bid exceeds the "Design-not-to-exceed" cost identified in the A/E Contract by more than 10%, any A/E revisions to the plans and specifications required to bring the cost of the project within the "Design-not-to-exceed" cost may be executed by the A/E at no additional cost to the College.

**5A.7.3 Cost Estimate Format:** The A/E's cost estimate shall be in the systems format described in Chapter 8B and Appendix E and shall be to a level of detail commensurate with the current level of design. The A/E shall submit a cost estimate with each phase submittal.

**5A.7.3.1 If the cost estimate indicates a potential problem** in securing a bid within the "Design-not-to-exceed" cost, the A/E shall notify the College and shall work with the College to redefine the design concepts of space utilization, building efficiencies, materials of construction, etc., so that the estimated cost of construction does not exceed the "Design-not-to-exceed" cost.

**5A.7.3.2 Substantial changes** in the project scope, such as those which affect the area or function of the proposed facility, must be justified by the A/E and may require the approval of the Associate Vice President for Facilities Management.

## **SECTION 5A.8 CODE AND REGULATORY COMPLIANCE**

**5A.8.1 A/E Responsibility:** The A/E is responsible for designing the project and administering the construction phase of the project in accordance with the Virginia Uniform Statewide Building Code (Code), this Manual and other regulatory requirements applicable to the project.

**5A.8.2 Professional and Legal Responsibility:** Nothing contained herein shall be construed as relieving any A/E, professional design consultant, contractor, supplier or any other participant from any professional or legal responsibility for performance.

**5A.8.2.1 Reviews, comments and approvals** by the College, or the staff of any State Department in no way absolve any other person, firm or corporation involved in a project from their full responsibilities under law, codes and professional practice.

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**5A.8.2.2 Lack of comment** by a College or State reviewer does not relieve the A/E from designing to meet the Code or this Manual requirements or applicable state regulations or local regulations related to water, sewer, fire department service, and other utilities.

**5A.8.3 Regulatory Corrections:** If the correction of a Code, Manual requirement, or regulatory violation results in a Change Order during construction, any additional costs incurred shall be borne by the party responsible for the violation. The College will bear only the costs attributable to the actual Code or regulation-required enhancement of the project.

**5A.8.4 Code & Manual Interpretation:** If the A/E believes that a Code, a Manual requirement, or a regulation is unclear as to meaning, he shall request a written opinion as to the applicable interpretation from the College or from the applicable regulatory agency, as appropriate, and the A/E shall be entitled to rely on the written opinion, if any, which he receives.

## **SECTION 5A.9 A/E LIABILITY INSURANCE, DESIGN ERRORS AND/OR OMISSIONS AND RECORDS RETENTION**

**5A.9.1 Errors & Omissions Liability Insurance:** The A/E shall carry professional liability insurance covering negligent acts, errors, and omissions in an amount not less than 10% of the estimated cost of construction of all College-owned projects designed by the A/E which are currently under construction, but in no event shall the amount of professional liability insurance be less than \$100,000. The A/E shall maintain this insurance in force after completion of the services under the contract for a period of five years after completion of construction.

**5A.9.1.1** The form and amount of liability coverage will be negotiated with the A/E firm, and the cost and source of the coverage will be reflected in negotiated fees. The amount of any deductible must be acceptable to the College considering the design firm's financial capability, capacity and loss history.

**5A.9.2 Errors & Omissions Liability:** The College's review, approval, or acceptance of, nor payment for any of the services required shall be construed to operate as a waiver by the College of any rights or any cause of action arising out of the Contract. The A/E shall be and remain liable to the College for all costs of any kind which are incurred by the College as a result of negligent acts, errors, or omissions on the part of the A/E including its subcontractors and consultants, in the performance of any of the services furnished.

**5A.9.3 The A/E Shall be Responsible for:** all costs resulting from its errors, omissions, and other breaches of the applicable standards of care established by this Manual and/or under Virginia law including, but not limited to, its own costs for labor and other in-house costs, any resulting Contractor Change Order costs including the costs for demolition, cutting, patching, repairs, removal, or modification of Work that is already in place, any Contractor or College delay damages, and any judgments, fines or penalties against the College resulting from A/E errors, omissions, and other breaches of the applicable standards of care.

**5A.9.3.1** However, the A/E shall not be responsible for the cost of the correct equipment or system which should have been originally specified, except the A/E shall be

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responsible for any increased costs, whether the result of inflation, reordering, restocking or otherwise, of incorporating the corrected Work into the Contractor's Contract Change Order.

- For the purposes of determining the A/E's share of such costs for Work which has not yet been performed, the cost of Work performed by Contractor's Change Order shall generally be presumed to be 15% greater than if the Work had been included in the Contractor's Contract. The A/E shall have the burden of disproving this presumption.

**5A.9.4 College Reimbursement:** The College shall actively pursue reimbursement of costs resulting from the A/E's errors, omissions, or breaches of the applicable standard of care.

**5A.9.4.1 Upon determination that there may be A/E financial responsibility involved:**

- The A/E shall be contacted by the College and advised of the deficiency.
- The A/E shall be informed that it is the College's opinion that the A/E may be financially responsible, and requested to provide a technical solution to the problem, including cost estimate.

**5A.9.4.2 Upon notification of potential liability, the A/E should:**

- Coordinate with the College to determine required technical support and timing to minimize delay costs.

**5A.9.4.3 Pending final decision by the College:**

- The A/E will be invited to attend all price negotiations with the Contractor for the corrective work, and participate as a non-voting technical advisor to the College's negotiator.
- If the A/E refuses to cooperate in the negotiations or disputes its responsibility, the College shall have the right to proceed with the remedial construction and/or change order negotiations without the A/E.

**5A.9.5 Alternatively, where design error is clearly at fault:** The A/E may discharge its financial responsibility through negotiation with, and direct payment to, the Contractor. This action must be participated in and approved by the College.

**5A.9.6 Records Retainage:** The A/E shall retain record copies of its design calculations, drawings, bid/contract documents, addenda, field orders, clarifications and responses to Requests For Information, approved shop drawings and submittals, inspection / observation reports, fiscal records, and other documents relative to the contract for five (5) years after completion of the services under the contract or five years after completion of construction, whichever occurs earlier.

**5A.9.6.1 Should the A/E cease its business prior to that time:** The A/E will provide

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those project related documents to the College for safe keeping.

## **SECTION 5A.10 OTHER INSURANCE REQUIRED OF THE A/E**

**5A.10.1 Certificates of Insurance:** Prior to the start of any work under the contract, the A/E shall provide to the College Certificates of Insurance forms approved by the College and shall maintain such insurance until the completion of all Work under the contract. The minimum limits of liability shall be as follows:

**5A.10.1.1 Worker's Compensation:** Standard Virginia Workers Compensation Policy with statutory requirements and benefits;

**5A.10.1.2 Employers Liability:** \$100,000;

**5A.10.1.3 Broad Form Comprehensive General Liability:** \$1,000,000 Combined Single Limit coverage. The College shall be named as an additional insured with respect to the services being provided. The coverage shall include: Premises / Operations Liability; Products and Completed Operations Coverage; Independent Contractors Liability; College's and Contractor's Protective Liability; and Personal Injury Liability (Libel, Slander, Defamation of Character, etc.);

**5A.10.1.4 Automobile Liability:** \$500,000 Combined Limit for bodily injury and property damage per occurrence.

## **SECTION 5A.11 OWNERSHIP OF DOCUMENTS AND MATERIALS**

**5A.11.1 Ownership of all materials and documentation including:** the original drawings and the Plans and Specifications and copies of any calculations and analyses prepared pursuant to the Contract between the College and the A/E, shall belong exclusively to the College.

**5A.11.1.1 Such materials and documentation, whether completed or not,** shall be the property of the College whether the work for which they are made is executed or not.

**5A.11.1.2 The A/E shall not use these materials on any other work** or release any information about these materials without the express written consent of the College.

**5A.11.2 Public Inspection:** Such material may be subject to public inspection in accordance with the College Procurement Rules.

**5A.11.2.1 Security-related documents** and information are excluded from the Act unless a specific need to know can be shown.

**5A.11.2.2 Trade secrets or proprietary information** submitted by a bidder, offeror, or contractor in connection with a procurement transaction shall not be subject to disclosure under the College Procurement Rules, provided the bidder, offeror, or contractor invokes the protections of the College Procurement Rules, prior to or upon submission of the data or other materials, identifies the data or materials to

be protected and states the reason why the protection is necessary.

**5A.11.3 The A/E shall provide the following documents to the College at the completion of the A/E's work:**

**5A.11.3.1** original sealed and signed drawings and specifications

**5A.11.3.2** copy of analyses made for the project

**5A.11.3.3** indexed copy of the calculations made by each discipline for the project

**5A.11.3.4** the College copy of all shop drawings, submittals, cut sheets, operation and maintenance instructions, parts lists, and other material related to the project.

**5A.11.2 College Rights:** The College, as owner of the documents prepared for its projects, has the right to use the project documents as a prototype to demonstrate scope, size, functional relationships, etc., to an A/E designing a similar project. The A/E for the original project design shall not be responsible or liable to the College for any such use of the documents.

**5A.11.2 Similar Projects:** The A/E for the similar project shall be responsible for providing a complete set of project and location-specific "Final Documents" with its seals and signatures which meet all applicable codes and standards in effect at the time those "Final Documents" are submitted.

## **SECTION 5A.12 STANDARD PLANS**

**5A.12.1 Standard Plans:** Where the College has engaged the A/E to prepare "Standard Designs" and/or "Standard Plans" for structures such as picnic shelters, sheds, bath houses, single family residences, cabins and utility buildings for the College to site adapt for use at various locations, the drawings for the Standard Plans shall show:

- The name of the Owner, i.e. College of William and Mary
- The Title of the Standard Structure for which the design was developed,
- The name of the A/E, and
- The seal and signature of the responsible licensed professional.
- The Standard Plans shall also show the applicable codes, standards, loadings and design parameters used to develop the design.

**5A.12.2 Responsibilities:** Where the A/E has not been engaged to review the site adaptation of the Standard Plans nor review the submittals or construction, the College, and not the A/E, shall be responsible for the proper site adaptation and use of the Standard Plans. The A/E shall, however, be responsible for negligent acts, errors or omissions in the Standard Plans.

**5A.12.3 When the Work involves the site adaptation of Standard Plans,** the cover sheet for the project plans shall list the drawings included in the set of plans and shall differentiate between the Standard Plans and the "site-specific" site development, utility, and foundation drawings prepared by the A/E for that site. These site-specific drawings shall be sealed and signed by the responsible licensed A/E.

## **SECTION 5A.13 REQUIREMENTS FOR A/E SEALS AND SIGNATURES**

**5A.13.1 General:** The Seal and Signature of the licensed Professional Engineer, Architect or Certified Landscape Architect on the drawings provides notice to the public the drawings are complete and that the professional has exercised complete direction and control over the work to which the seal or signature is affixed. All plans and specifications for building projects designed for the College must bear the seal and signature of the responsible licensed professional.

**5A.13.1.1 Document Standards:** See Section 8B for additional information.

**5A.13.2 "Contract Documents" (Working Drawing Submission):** submitted to the College for review is expected to be complete documents ready for bidding.

**5A.13.2.1** All drawings except the cover sheet shall bear the seal (Un Signed) of the responsible licensed professional. The Cover Sheet shall show a complete list of the drawings in the set, but a seal and signature are not required at this submission.

**5A.13.2.2** The specification table of contents shall bear the seal (Un Signed) of each responsible licensed professional.

**5A.13.3 "Final Documents":** are completed documents ready for bidding and include all corrections required by the College review.

**5A.13.3.1** Each sheet of the drawings reproduced in the bid documents, including the cover sheet, shall bear the seal and signature of the responsible licensed professional and a uniform document date.

**5A.13.3.2** The original cover sheet without seal and signature shall be reproduced and attached to copies of the other drawings in the set. Each cover sheet print shall then be sealed, signed and dated with original seals and signatures.

**5A.13.3.3** The specification table of contents shall bear the seal and signature of each responsible licensed professional.

**5A.13.3.4** These official "Final Documents" shall be distributed to the following:

- 1 set College Building Official
- 1 set Regional State Fire Marshal's Office
- 3 additional sets College

**5A.13.4 "Addendum" to the Final Documents:** The first sheet of each and every addendum issued to bidders shall show the number of pages in the addendum and shall list any attached sketches, drawings or other material included in the addendum. In addition, the first sheet of each and every Addendum shall bear the name of the project, the 8 digit State Project Code number, the date and the seal and signature of the responsible licensed professional.

**5A.13.4.1** Copies of each addendum with seal and signature shall be distributed to the above recipients in the same fashion as the official "Final Documents".

## SECTION 5A.14 SUBCONTRACTS

**5A.14.1 Prior Written Consent:** No portion of the A/E professional services shall be subcontracted without prior written consent of the College. Consultants proposed by the A/E during the selection and fee negotiation phases are assumed to be acceptable to the College unless the College notes otherwise during those phases.

**5A.14.2 Subcontracts after Contract initiation:** In the event that the A/E desires to subcontract some part of the Work required by the Contract to a consultant or subcontractor not previously approved, the A/E shall furnish the College names, qualifications and experience of the proposed consultants. The A/E shall, however, remain fully liable and responsible for all Work performed by his consultants and subcontractors and shall assure that their Work complies with all requirements of the A/E's Contract.

## SECTION 5A.15 MODIFICATION OF THE A/E CONTRACT (A/E CHANGE ORDERS)

**5A.15.1 Individual Change Orders:** The College may, upon mutual agreement with the A/E, issue written modifications to the scope of services of the Contract using HECO-11a/e. Any single change order, or accumulation of change orders, which increases the original A/E Contract Amount by 25% or \$50,000, whichever is greater, must have the approval of the Vice President for Administration or his/her designee.

**5A.15.2 Cumulative Change Orders:** Once the cumulative total of modifications exceeds 25% of the original contract amount, or \$50,000, whichever is greater, all succeeding Change Orders must receive said prior approval. In making any modification, the resulting increase or decrease in cost shall be determined by one of the methods selected by the College in accordance with requirements of the College Procurement Rules and Chapter 7 of this Manual.

## SECTION 5A.16 PAYMENTS TO THE ARCHITECT/ENGINEER

**5A.16.1 Invoice Submissions:** The A/E shall submit its invoice to the College using the COLLEGE OF WILLIAM AND MARY FACILITIES MANAGEMENT PROFESSIONAL SERVICES STANDARD INVOICE form, HECO-12a/e. The invoice shall itemize a breakdown of the various phases or parts of the Total Contract Amount, the value of the various parts, the previously invoiced and approved amounts for payment, and the amount of the current invoice.

**5A.16.1.1 Failure to use the required form will** result in return of the invoice and payment will not be made until the proper completed format is used. Although basic service fees are delineated by fee per task, payments will be made with overall fee percentage completed as a major factor. By submission of a current request for payment of the fee for services rendered, the A/E warrants to the College that:

- The date shown is accurate;



- The work covered by the invoice has been completed in conformance with the A/E contract,
- All previous payments received from the College on account of the A/E contract have been applied to discharge (except for allowable retainage) all obligations of the A/E to its sub-consultants incurred in connection with work covered by prior invoices.

**5A.16.2**      **The HECO-12a/e format** requires the use of Microsoft Excel software. Should the A/E accounting procedures use another spreadsheet, the addition of Excel must be added to its accounting operation. The A/E may request payment for this software package as an additional service to a College A/E contract if it is not a part of the available computerized systems.

**5A.16.3**      **The A/E shall submit three (3) copies** of the invoice with original signatures to the Facilities Planning, Design and Construction Finance and Accounting Manager

**5A.16.3.1 Hourly Not to Exceed:** Invoices for Work being performed on an hourly rate, not-to-exceed, basis shall show the extended cost amount.

**5A.16.4**      **Payment Date:** Unless there is a dispute about the compensation due the A/E including, but not limited to, claims by the College against the A/E, then within thirty (30) days after receipt by the College of the A/E's invoice, which shall be considered the invoice receipt date, the College shall pay to the A/E the amount approval less any retainage and less than any prior payments or advances made to A/E. The date on which payment is due shall be referred to as the Payment Date.

**5A.16.5**      **Partial Payments:** The College may agree to make progress or partial payments to the A/E during any phases of the Work based on the estimated value of the Work completed by the A/E on that phase.

**5A.16.5.1 College Opinion of Work completed to Date:** Any such progress payment shall be based on the College's opinion of the value of the Work completed as the date of the invoice.

**5A.16.5.2 Maximum Payout for Each Phase of Work:** The A/E may invoice the College and, if the College agrees that the submittal for the particular design phase is complete, the College may approve payment of a cumulative amount of not more than 95% of the value of that phase at the time the phase submittal is made to the College.

- The A/E may invoice the College for the remaining 5% (balance of the value of that phase) when the submittal has been reviewed and approved.

**5A.16.6**      **Disputes about the compensation due the A/E:** may include, but are not limited to, the amount due, the value or percentage of the Work completed, defects or deficiencies in the Work, quality of the Work, compliance with the Contract Documents, completion itself, or negligent acts, errors, or omissions on the part of the A/E.

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**5A.16.6 In the event of disputes,** payment shall be mailed on or before the Payment Date for amounts and Work not in dispute, subject to any setoffs claimed by the College.

**5A.16.7 Corrections to Payments:** All prior payments, whether based on estimates or otherwise, may be corrected and adjusted in any payment and shall be corrected and adjusted in the final payment.

**5A.16.7.1 Invoice Defects:** In the event that any invoice by the A/E contains a defect or impropriety which would prevent payment by the Payment Date, the College shall notify the A/E in writing of such defect or impropriety within ten (10) days after the invoice receipt date.

**5A.16.7.2 Disputed Amounts:** Any disputed amounts determined by the College to be payable to the A/E shall be due thirty (30) days from the date the dispute is resolved.

**5A.16.8 Interest on Outstanding Invoices:** Interest shall accrue on all amounts owed by the College to the A/E which remain unpaid seven (7) days following the Payment Date. Said interest shall accrue at the discounted ninety day U.S. Treasury bill rate as established by the Weekly Auction and as reported in the publication entitled The Wall Street Journal on the weekday following each such Weekly Auction.

**5A.16.8.1 Weekly Interest Rate Fluctuations:** During the period of time when the amounts due to the A/E remain unpaid following the fifteenth day after the Payment Date, the interest accruing shall fluctuate on a weekly basis and shall be that established by the immediately prior Weekly Auction.

**5A.16.8.2 A/E Responsibility:** It shall be the responsibility of the A/E to gather and substantiate the applicable weekly interest rates to the satisfaction of the College and to calculate to the satisfaction of the College the interest due.

**5A.16.8.3 Maximum Interest rate:** In no event shall the rate of interest charge exceed the rate of interest established pursuant to §58.1-1812, Code of Virginia.

**5A.16.8.4 Disputed Invoices:** No interest shall accrue when payment is delayed because of a dispute between the College and the A/E as described in subparagraph (5A.16.6) above, or dispute as to the accuracy of any Request of Payment received.

- This exception to the accrual of interest shall apply only to that portion of a delayed payment which is actually the subject of the dispute and shall apply only for the duration of such disagreement.
- Nor shall interest accrue on retainage, which is withheld to assure faithful performance of the Contract.

**5A.16.9 Comptroller's Debt Setoff Program :** No interest penalty shall be paid to any debtor on any payment, or portion thereof, withheld pursuant to the Comptroller's Debt Setoff Program commencing with the date the payment is withheld.

**5A.16.8.1 Errors in withholding:** If, as a result of an error, a payment or portion thereof is

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withheld, and it is determined that at the time of setoff no debt was owed to the College, interest shall accrue at the rate determined above on amounts withheld which remain unpaid after seven days following the payment date.

**5A.16.10 Invoice Mailing Date:** In those cases where payment is made by mailing, the date of mailing of any payment by the U.S. Postal Services is deemed to be the date of payment to the addressee. Where payment is made by electronic transfer of funds, the date of the transfer of funds is deemed to be the date of payment.

**5A.16.11 Interest Owed to the College:** The College is entitled to interest on all amounts from the A/E that remain unpaid thirty (30) days after the amount is deemed due, whether as a result of a resolution of a dispute or otherwise. Any such interest shall be calculated by the same method as set forth in this subsection.

## **SECTION 5A.17 PAYMENTS BY ARCHITECT/ENGINEER**

**5A.17.1 General:** The following procedures are established in conformance to the College Procurement Rules. The A/E shall at the time of contract award require every consultant, subcontractor and supplier to provide its Social Security Number (SSN), if a sole proprietor, or its' Federal Employer Identification Number (FEIN), if a corporation or partnership.

**5A.17.2 A/E Payments:** Except in cases of bona fide disputes, or where the A/E has some other justifiable reason for delaying payment, the A/E shall pay:

**5A.17.2.1 To each of its Consultants, Subcontractors and Suppliers,** not later than seven (7) calendar days after receipt of amounts paid to the A/E by the College, the proportionate share of the total payment, including any interest, received from the College attributable to the Work performed by Consultants and Subcontractors and materials furnished by Suppliers less a retainage of not more than five percent (5%), said retainage being the same money, not additional money, retained by the College from the payment to the A/E.

**5A.17.2.2 In the case of bona fide disputes** or where the A/E has some other justifiable reason to delay payment, not later than seven (7) calendar days after receipt of amounts paid to the A/E by the College, the A/E shall notify the College and the Consultant, Subcontractor or Supplier, in writing, of his intention to withhold all or a part of the Consultant, Subcontractor or Supplier's payment with the reason for nonpayment. The A/E shall make timely payments of those portions of the payment not in dispute.

**5A.17.2.3 The A/E shall pay interest** to the Consultants, Subcontractors or Suppliers on all amounts owed by the A/E that remain unpaid after seven (7) days following receipt by the A/E of payment from the College for work performed by the Consultants, Subcontractors or materials furnished by Suppliers under the contract, except for amounts withheld as allowed in subsection (2) of this Section. Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent per month.

**5A.17.2.4 The A/E's obligation** to pay interest to its Consultants, Subcontractors or

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Suppliers pursuant to subsection (5A.17.2.3) of this Section shall not be construed to be an obligation of the College.

**5A.17.2.5 A contract modification** shall not be made for the purpose of providing reimbursement to the A/E for such interest charge. The A/E's invoice shall not include any amount for reimbursement for such interest charge.

## **SECTION 5A.18     AUDIT**

**5A.18.1     Cost Reimbursement or Hourly Rate:** The A/E shall provide documentation subject to audit for all invoices requesting payment for services provided on a cost reimbursement or hourly rate basis. Compensation paid to the A/E on these bases is subject to adjustment based on the results of the audit.

**5A.18.2     Record Retention:** The A/E, by signing the Contract, agrees to retain all books, records, and other documents relative to the contract for five (5) years after final payment, or until audited by the College, whichever is sooner. The College, its authorized agents, and/or State auditors shall have full access to and the right to examine any of the materials during said period.

## **SECTION 5A.19     CONFLICTS OF INTEREST**

**5A.19.1     Prohibition of Bidding:** The A/E, including any subsidiaries or affiliates or other entities in which the A/E has a pecuniary interest, which design, prepare plans and specifications, or cost estimates for a construction contract is prohibited from providing all or a portion of said construction, or the supplies or equipment used in such construction. (§2.2 - 4374; Code of Virginia).

**5A.19.1.1 Design Services for Sole Source:** In addition, an entity which provides to the A/E any design services specifying a sole source for materials, supplies or equipment to be used in the construction shall be prohibited from bidding on, or otherwise furnishing such materials, supplies or equipment for the construction. This prohibition does not apply to a vendor who provides catalog information, technical data and such on products, material or equipment to the A/E for the A/E's consideration.

## **SECTION 5A.20     RELEASE OF INFORMATION PERTAINING TO PROJECT DESIGN**

**5A.20.1     Construction Budget:** Release in any form by the A/E of information pertaining to the estimated construction cost of a project under design to anyone other than authorized College personnel, and other A/E's or Consultants performing design of related College facilities is prohibited.

**5A.20.2     General Project Information:** The A/E shall not give out information concerning a project to anyone other than authorized College personnel, other A/E's performing design of related

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College facilities without specific approval of the College to release such information.

**5A.20.3 Bid Information:** When the project is ready to be advertised, the A/E may provide the following information to "construction information / plan room" services who serve the construction industry:

- type of project or facility,
- size (area) and number of stories,
- types of materials,
- bidding requirements,
- IFB (document) source, and
- a project cost range (e.g. \$3,000,000 to \$5,000,000).

**5A.20.3 Plan Holder List:** As documents are issued to prospective bidders, a current list of plan holders should be made available to those who request such information, including the plan room services.

**5A.20.3.2 A/E Response to Bidders:** During the bidding period, the A/E shall not respond to requests by prospective bidders to clarify or state the intent of Plans or Specifications unless such requests are in writing. The response must be in the form of an addendum issued to all plan holders. Sources of supply for special equipment may be made available in writing to all bidders/contractors. The A/E should promptly prepare and issue addenda for any necessary corrections or clarifications of the Plans and Specifications.

## **SECTION 5A.21 DEFAULT:**

**5A.21.1 A/E Failure to Perform:** In case of the A/E's failure to deliver the reports, documents or services in accordance with the Contract terms and conditions, the College, after due written notice, may procure same from other sources, and the A/E shall be responsible for any resulting additional procurement and administrative costs. This remedy shall be in addition to any other remedies which the College may have.

## **SECTION 5A.22 TERMINATION OF CONTRACT:**

**5A.22.1 General:** The College may terminate the Contract for cause or for convenience after giving thirty (30) days written notice to the A/E. The written notice shall include a statement of reasons for the termination.

**5A.22.2 Termination for Cause:** If the A/E should substantially breach the Contract or fail to perform the services, or any portion thereof, required by the Contract, the College may terminate the Contract for cause by giving written notice as set forth above or may give the A/E a stated period of time within which to remedy its breach of contract.

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**5A.22.2.1 If the A/E should fail to remedy the breach** within the time allotted by the College, the Contract may be terminated by the College at any time thereafter upon written notice, effective immediately upon receipt.

**5A.22.2.2 College Right to Terminate:** The College's forbearance in not terminating the contract shall not constitute a waiver of the College right to terminate in the future for similar breaches or failures to perform.

**5A.22.2.3 If the Contract is terminated for cause,** the A/E shall be responsible for all damages incurred by the College as a result of the A/E's breach of contract or failure to perform, including but not limited to, all costs and expenses incurred in securing a replacement A/E to fulfill the obligations of the Contract.

**5A.22.2.4 Termination Determined to be for Convenience:** Any termination by the College for default, if determined by a court of competent jurisdiction not to have been justified as a termination for default, shall be deemed a termination for the convenience of the College.

**5A.22.3 Termination for Convenience:** The College may terminate the Contract in whole or in part for convenience by delivering to A/E a written notice of termination as set forth above, specifying the extent to which performance under the contract is terminated and the effective date of the termination. Upon receipt of such notice, the A/E must stop Work, including but not limited to Work performed by subcontractors and consultants, at such time and to the extent specified in the notice.

**5A.22.3.1 A/E Entitlement to Fees:** If the contract is terminated for convenience, the A/E shall be entitled to those fees earned for Work performed in accordance with the Contract prior to the notice of termination. Thereafter, the A/E shall be entitled to any fees earned for work not terminated, but shall not be entitled to lost profits for the portions of the Contract which were terminated.

- The A/E will be compensated for reasonable costs or expenses for delivery to the College of the products of the services for which the A/E has or will receive compensation.

**5A.22.4 Delivery of Materials:** Any termination shall not relieve the A/E of the obligation to deliver to the College all products of the services for which the A/E has been or will be compensated, including, but not limited to, the original drawings and specifications, copies of CADD diskettes or tapes, calculations, and analyses. Unless otherwise agreed to in writing, the A/E shall deliver the materials to the College within thirty (30) days of receipt of the notice of termination. Failure to do so shall result in the withholding of final payment and shall constitute a material or substantial breach of contract.

**5A.22.5 Compensation Due the A/E:** When the A/E is terminated for convenience, the following method shall be utilized in computing amounts due the A/E for services prior to termination:

**5A.22.5.1 If terminated at the completion of a design phase** or the bidding phase, the amount due shall be the cumulative total of the fees for the phases completed according to the Contract.

**5A.22.5.2** If terminated prior to completion of a design phase or the bidding phase, the

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amount due shall be the sum of the previously completed phase fees plus a negotiated amount based on the portion of services provided for the phase not completed.

**5A.22.5.3 If terminated during the construction phase**, the total amount earned shall be the sum of the previously completed design and bidding phase fees plus a negotiated amount based on the portion of the construction period services provided through the notice of termination.

**5A.22.5.4 Payment for the Additional Services** portion of the fee shall be any portion of those services provided up through the notice of termination.

**5A.22.5.5 Payment for the Reimbursable Expenses** shall be based on approved reimbursable expenses incurred up through the notice of termination.

**5A.22.6 Final Invoice:** The A/E shall submit invoices for all such amounts in accordance with the normal billing process, but in no event later than 60 days after the last Work is performed. All amounts invoiced are subject to deductions for amounts previously paid or for amounts due the College.

## **SECTION 5A.23 ASSIGNMENT OF CONTRACT**

**5A.23.1** The A/E shall not assign the Contract between the College and the A/E, in whole or in part, without the written consent of the College.

## **SECTION 5A.24 ANTITRUST**

**5A.24.1** By entering into a contract, the A/E conveys, sells, assigns, and transfers to the College all rights, title and interest in and to all causes of the action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the College under said Contract.

## **SECTION 5A.25 ETHICS IN PUBLIC CONTRACTING (§2.2-4367 et seq., Code of Virginia)**

**5A.25.1** The A/E shall not offer or receive any kickbacks or inducements from any other offeror, supplier, manufacturer or subcontractor in connection with this project. The A/E shall not confer on any public employee having official responsibility for this project any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

## **SECTION 5A.26 ANTI-DISCRIMINATION**

**5A.26.1** By signing the Contract, the A/E certifies to the College that it, as contractor for the services

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described in the RFP and the Contract, will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Act of 1975, as amended, where applicable, and the College Procurement Rules which provide that:

**5A.26.2** In every contract over \$10,000, the provisions in (1) and (2) below apply:

**5A.26.2.1** During the performance of this contract, the contractor (A/E) agrees as follows:

- The A/E will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contracting firm. The A/E agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- The A/E in all solicitation or advertisements for employees placed by or on behalf of the A/E, will state that such contracting firm is an equal opportunity employer.
- Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this Section.

**5A.26.2.2** The A/E will include the provisions of the foregoing paragraphs a, b, and c in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

**5A.26.3** **ADA:** Where applicable, the Virginians with Disabilities Act and the federal Americans with Disabilities Act shall apply to the A/E and all subcontractors.

## **SECTION 5A.27 CONTRACTUAL DISPUTES (College Procurement Rules)**

**5A.27.1** The College of William and Mary Procedure for Resolution of Contractual Claims, attached herein as Appendix Q, constitutes the College's Resolution Procedures and is a part of the contract.

## **SECTION 5A.28 APPLICABLE LAW AND COURTS**

**5A.28.1** The A/E contract shall be governed in all respects by the laws of the Commonwealth of Virginia and any litigation with respect thereto shall be brought in the courts of the Commonwealth, as provided under Virginia law.

**5A.28.2** In performing services under the Contract, the A/E shall comply with applicable federal, state and local laws and regulations.



## **SECTION 5A.29 PROHIBITION OF ALCOHOL AND OTHER DRUG AT WORKPLACE**

- 5A.29.1 Drug & Alcohol Free Work Place:** The College seeks to establish and maintain a work environment free from the adverse effects of alcohol and other drugs. The adverse effects of alcohol and other drugs create a serious threat to the safety and welfare of all personnel at the jobsite, to jobsite safety in general, to worker productivity and quality of workmanship, and to the project schedule.
- 5A.29.2 Prohibited Acts:** In conformance with the College Procurement Rules, the A/E shall prohibit the following acts by the A/E, its employees, subcontractors, consultants and suppliers while performing services under the terms of the Contract.
- 5A.29.2.1 Drugs:** The unlawful or unauthorized manufacture, distribution, dispensation, possession, or use of marijuana or other drugs (except the possession and use of medically prescribed drugs for legitimate medical purposes) in the workplace or at the construction site;
- 5A.29.2.2 Alcohol:** The unlawful or unauthorized manufacture, distribution, dispensation, or use of alcoholic beverages in the workplace or at the construction site during hours of work;
- 5A.29.2.3 Impairment:** The impairment of a person in the workplace, or at the construction site, related to the use of alcohol, marijuana, or other drugs including impairment from prescription drugs.
- 5A.29.3 Posting of Policy:** The A/E shall post a copy of this policy in a conspicuous place at the workplace and assure that all personnel are advised of the policy. A violation of this policy will be recognized as a breach of contract and may result in termination of the Contract.

## **SECTION 5A.30 DESIGN OF SECURITY SYSTEMS**

- 5A.30.1 Licensing Requirements:** Any Bidder/Offeror for the installation, service, maintenance, or design of security equipment or any central station alarm condition monitoring service shall be licensed by the Department of Criminal Justice Services pursuant to §9-183, Code of Virginia. An A/E proposing to provide any of these services with its own staff shall be exempt from the DCJS licensing requirement if properly licensed by the APELSLA Board. (§9-185A.2; Code of Virginia) If the A/E proposes to have the security system designed by a subcontractor/consultant, such entity shall be properly licensed as required by §9-183, Code of Virginia.
- 5A.30.2 Specification Requirements:** Any projects designed by the A/E which have such security systems shall include the licensing requirements of §9-183, Code of Virginia, in the specifications and the requirement that the successful bidder shall provide documentation within five (5) calendar days of bid opening that the entity (contractor or subcontractor)

performing the security system work possesses the proper license.

## **SECTION 5A.31 USE OF STANDARD FORMS AND FORMATS**

**5A.31.1 General Conditions & Bid Form:** The A/E shall incorporate in every construction contract the applicable HECO-7 (General Conditions of the Construction Contract) and HECO-7a (Instructions to Bidders), which may be found in Appendix A of this Manual. These forms shall not be retyped or modified in any way.

**5A.31.1.1** If changes are required to either, the changes shall be made in the form of "Supplemental General Conditions" or "Supplemental Instructions to Bidders".

- Such "Supplements" shall be approved by the Associate Vice President for Facilities Management prior to their incorporation in the construction contract.

**5A.31.2** The A/E shall use the applicable Capital Outlay Forms which are included in Appendix B of this Manual. The wording on the forms shall not be modified or altered without the specific written approval of the Associate Vice President for Facilities Management. Where spaces are provided for insertion of information, the size of the space may be adjusted to accommodate the information being inserted.

**5A.31.3** The A/E shall use the Standard Formats which are included in Appendix C and subsequent Appendices of this Manual for the applications indicated. Formats may be edited to delete portions which are not applicable to the project and to insert necessary information; however, the format and the basic wording shall be retained.

## **SECTION 5A.32 REPORTS ON THE PARTICIPATION OF SMALL BUSINESSES AND BUSINESSES OWNED BY WOMEN AND MINORITIES:**

**5A.32.1 Monthly Reports:** A SWAM Monthly Report is required for professional service contracts with a fee greater than \$100,000. The A/E shall submit a report on the actual dollars paid to small businesses and businesses owned by women and minorities as part of the submission of each monthly invoice and the final invoice for payment. At a minimum, this report shall include for each firm contracted, the Business Class, the total dollars of fee, and the percent of the total estimated contract value.

**5A.32.2 Periodic Progress Reports/Invoices:** The A/E shall include a report on involvement, if any, of small businesses and businesses owned by women and minorities as a part of their periodic invoice. The report will specify the actual amounts of contracts to date with such businesses, and the actual dollars paid to date with such businesses on this contract. This information shall be provided separately for small businesses, women-owned businesses and minority-owned businesses. The A/E shall provide two (2) copies of this information to the College. Failure to submit the required information, will result in invoices being returned without payment. The SWAM Monthly Report is available on the Facilities Planning, Design and Construction website at [www.wm.edu/facman/FPDC](http://www.wm.edu/facman/FPDC).

**5A.32.3 Final Actual Involvement Report:** The A/E shall submit, prior to completion or at completion of the contract and prior to final payment, a report on the actual dollars paid to small businesses and businesses owned by women and minorities during the performance of this contract. At a minimum, this report shall include for each firm contracted, the Business Class, a comparison of the total actual dollars paid on this contract with the planned involvement of the firm, the totals for each business class as specified in the proposal, and the actual percent of the total estimated contract value. A suggested format is as follows:

**BUSINESS CLASS:** (Small Business, Women-Owned Business or Minority-Owned Business)

FIRM NAME, ADDRESS AND PHONE NUMBER	TYPE GOODS/ SERVICES	ACTUAL DOLLARS	PLANNED DOLLARS	% OF TOTAL CONTRACT
BUSINESS CLASS TOTALS =				

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## **CHAPTER 5B DESIGN SERVICES:**

### ***BASIC SERVICES AND RESPONSIBILITIES***

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#### **SECTION 5B.1      RESPONSIBILITIES OF THE COLLEGE TO THE A/E**

**5B.1.1**      **Information Provided by the College:** The following information or data shall be provided by the College, if needed, in the planning of the project. The information so furnished shall not relieve the Architect/Engineer of responsibility for making the studies and checks necessary for the proper planning of the project which the College undertakes. In the event the College is unable to furnish this information, the College shall procure the information in accordance with published procurement procedures. In the event the College desires the information to be furnished by the Architect/Engineer, the requirement to provide such information shall be included in the Request For Proposal for Architectural/Engineering Services.

**5B.1.1.1**    **Reports; Comments and Relevant Information:** Provide the Architect/Engineer a project report as well as any other relevant information and review comments that will clearly inform the Architect/Engineer of the scope of the project to be designed. The project scope shall not be modified or substantially altered without prior written approval of the College of William and Mary Board of Visitors.

**5B.1.1.2**    **Budget “Not to Exceed” Construction Cost:** Provide a budget cost, not to exceed the construction cost on the approved HECO-2, for the project to the A/E which will be the “Design to” cost.

**5B.1.1.3**    **Project Planning Schedule:** Set a schedule for pursuing the planning for the project, at the time of employment of the Architect/Engineer. Such a schedule shall allow reasonable times for review of the various phases by review Agencies such as the College Code Review Team, the State Fire Marshal, the State Art and Architectural Review Board (AARB), The Department of Historic Resources, the College Board of Visitors (BOV), the State Council of Higher Education, the Department of Health, the Division of Soil and Water Conservation, etc. The schedule shall be developed in conjunction with the Architect/Engineer but based on the date determined by the College as to when the project needs to be placed under contract for construction. The schedule, therefore, becomes an integral part of the project planning scope and shall be monitored by all parties concerned for adherence. The College agrees to make every reasonable effort to assist in complying with the schedule.

**5B.1.1.4 Existing Utility Maps:** Provide utility maps showing the location and size of all existing utilities, both public and private, which would interfere with or be connected to the project undertaken, together with a statement as to the characteristics of these utilities and their available capacity to serve the project.

**5B.1.1.5 Record Drawings:** Provide available “record” drawings.

**5B.1.2 Independent Estimator:** On a case by case basis, the College may choose to obtain services of a professional estimator when the College determines an independent detailed quantitative cost estimate is required. This does not relieve the Architect or Engineer of responsibility for providing the cost estimate required by the Architectural or Engineering contract.

**5B.1.3 Programming requirements:** Determine any specific requirements of political subdivisions appropriate and consistent with State policy, opinions of the Attorney General, and existing statutes. (Total request and/or requirements of a political subdivision, preferably over the signature of the chief administrative officer, are to be obtained at the inception of the project and submitted no later than the project criteria and schematics in order that any questions might be reconciled very early in the planning process.)

**5B.1.4 Submittal documents:** Unless negotiated otherwise, pay the invoice cost of all sets of plans and specifications for schematic, preliminary and contract document submittals. The A/E will bear the cost of any required re-submittals resulting from all agency reviews.

**5B.1.5 Additional Approvals:** Unless negotiated otherwise, pay the cost of services in the preparation or presentation of any submittals to secure approvals for environmental or other applicable special requirements including water, air and noise pollution provisions or local, State or Federal Agencies, to include environmental impact statements and environmental impact reports. These extra services are apart from those normally required by the Project Committee, State Fire Marshal, College Code Review Team, State Art and Architectural Review Board (AARB), Department of Historic Resources, Department of Health, State Water Control Board, Division of Soil and Water Conservation, and State Air Pollution Control Board as of the date of this Manual.

## **SECTION 5B.2      QUALITY OF WORK**

**5B.2.1 A/E Responsibility:** The A/E shall be responsible for the professional services, including the technical accuracy and coordination of all designs, drawings, specifications, cost estimates, and other work or materials provided.

**5B.2.1.1 Project documents:** The project documents submitted by the A/E shall represent a reasonable, code compliant, and acceptable architectural and/or

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engineering solution based on the scope of work, “design-not-to-exceed” budget limitations and other constraints of the A/E's contract.

- **Current Standards:** All work must be in accordance with current criteria, guides, and specifications set forth in this Manual, and shall conform to good architectural and engineering practices.
- **Workmanship** shall be neat with all lines and lettering of uniform weight and clarity for complete legibility and satisfactory reproduction.
- All elements of the A/E's submittals shall be checked by professional personnel trained in that specific discipline.
- The A/E's submittal will be reviewed by the College Code Review Team for compliance with VUSBC and this Manual's project requirements and criteria.
- Errors and deficiencies shall be corrected by the A/E at no additional cost to the College.
- See Chapter 9 (Design Services – Coordination and Quality Assurance) for Additional information.

**5B.2.1.2 Design Meeting with CRT:** If the A/E or the College determines that a meeting with the College Code Review Team is necessary or would be beneficial to discuss or review the A/E's approach to designing the project, the A/E shall request such a meeting.

## **SECTION 5B.3 BASIC SERVICES OF THE A/E**

**5B.3.1 General:** The Basic Services normally provided by the A/E consist of the phases described below and are more fully described in Chapter 8B (Design Services – Contract Document Requirements), Chapter 9 (Design Services - Coordination and Quality Assurance) and Chapter 11 (Construction Services - Procurement Procedures).

**5B.3.1.1 Design Policies:** The A/E shall adhere to the design policies outlined in the College's Campus Design Guidelines, Chapter 8A and Chapter 8B and the College Facilities Management Technical Standards (Appendix U) in developing the Project Design.

**5B.3.2 Authorized Scope of work:** The A/E must restrict himself to the authorized scope of work provided him as a basis for negotiation of fee. Deviations from the authorized scope include incorporating embellishments increasing the cost above programmed amounts for the project, increases in area, major changes in construction criteria, the inclusion of unauthorized buildings or areas, selections of specific systems or equipment without economic or technical evaluation, or introduction of special equipment.

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### **Basic Services and Responsibilities**

- 5B.3.3 A/E Contractual Responsibility:** It is the A/E's contractual responsibility to design a facility which can be constructed within the funds available, within the schedule agreed to and which is in conformance with applicable codes and the technical criteria included and/or referenced in this Manual.
- 5B.3.4 Minor Changes:** During the progress of the work, the A/E may expect minor changes in criteria within the general scope of the project and should make necessary adjustments accordingly.
- 5B.3.4.1 Preliminary Submissions:** Generally, the preliminary (35%) design submittal is intended to clarify and establish specified requirements of the project. Incorporation of Value Engineering (V/E) comments of minor consequence or changes justified on payback, and changes in functional layout occurring during review are considered within scope of the Contract Changes or modifications required to conform to Code requirements are also considered to be within the scope of the Contract.
- 5B.3.4.2 Contract Modifications:** Should minor changes in the scope of work be authorized, appropriate modifications to the A/E contract will be negotiated.
- 5B.3.5 Special Consultants:** The College may require the use of consultants with a particular expertise related to special features of the project. The A/E shall engage such a consultant, subject to the College's approval, and incorporate such work in the project.
- 5B.3.6 Non-Reimbursable Expenses:** (unless negotiated otherwise) The costs of electronic transmissions, all mailings, fax transmissions, and long distance phone calls are considered part of the A/E's overhead expenses and are not normally reimbursable.
- 5B.3.7 Reimbursable Expenses:** The College shall reimburse the A/E for the actual costs of blueprinting or other reproductions of drawings, specifications, and other documents required for submittals.
- 5B.3.7** Compensation for travel and living expenses associated with the performance of the project scope of work will be included in the negotiated fee.
- 5B.3.7** Reimbursement for travel and living expenses of technical personnel while traveling in the discharge of duties in connection with extra services may be authorized by the College at the travel rates and per diem rates for lodging and subsistence shown in the State Lodging, Meals and Incidentals Rate Table.
- 5B.3.4 Meeting Agenda & Notes:**
- 5B.3.4.1** Also provide a proposed meeting agenda prior to each meeting. Project meetings include pre-design, design, procurement, preconstruction and construction meetings discussed in this Manual.

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**5B.3.4.1** Provide meeting notes in writing for all meetings, direction, guidance, clarification, site visit observations, field orders, and such documenting significant items of discussion and/or agreement. These meeting notes shall be sent to those parties relevant to the issues, and structured to include all pertinent information.

**5B.3.5 Project Initiation Phase:** (study/scope/schematic)

**5B.3.5.1 Consult with the College** to clarify and define the College’s requirements for the Project; review available data; establish the scope of the project and the services required from the A/E; review the “design to” cost; establish the quality of materials, aesthetics desired and other factors pertinent to the project. Some or all of this information may be contained in the Capital Budget Request.

**5B.3.5.2 Identify and analyze requirements of governmental authorities** having jurisdiction to approve the design of the Project and participate in consultations with such authorities.

**5B.3.5.3 Provide analyses of the College’s needs, planning surveys, site evaluations and comparative studies of prospective sites and solutions.** Provide a survey of the site in the form of topographic maps or maps of areas necessary for the proper location of buildings as to scale and, where necessary, showing bench marks, grades, lines of streets, pavements, utilities, property lines, rights-of-way, restrictions, easements, archaeological features, other improvements and trees.

**5B.3.5.4 Provide a general economic analysis** of the College’s requirements applicable to various alternatives.

**5B.3.5.5 Provide location of existing buildings** and where the interior arrangement, construction or floor level of existing building affects the studies, or plans for the project, the necessary information as to interior arrangement.

**5B.3.5.6 Necessary Tests & Investigations:** The necessary roof scans, structural, chemical, mechanical, and geotechnical investigations, tests and reports, including borings or load tests for soil bearing capacity shall be included in the A/E contract.

- The geotechnical services contract shall include testing, analysis of test results and design recommendations based on preliminary design parameters, and shall be included in the Architect/Engineer contract.
- The cost of the testing, analysis and design recommendations shall be included in the A/E contract.
- The geotechnical services and preliminary design parameters provided by the Architect/Engineer for the College shall be

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considered part of the Architectural/Engineering service contract.

**5B.3.6 Schematic Design Phase:** After written authorization to proceed with the Schematic Design Phase, the A/E shall:

**5B.3.6.1** Prepare and submit schematic design documents.

**5B.3.6.2** Prepare a detailed cost estimate.

**5B.3.6.3** Prepare submittal and make presentation to the Building Committee, the Design Review Board and AARB.

**5B.3.6.4** Prepare and submit to the College written responses to all reviewing Agencies' comments and provide the technical data for the College necessary to substantiate any waiver request required.

**5B.3.7 Preliminary Design Phase:** (35% submission) After written authorization to proceed with the Preliminary Design Phase, A/E shall:

**5B.3.7.1** Prepare and submit preliminary design documents.

**5B.3.7.2** Prepare a detailed cost estimate.

**5B.3.7.3** Prepare submittal and make presentation to the Building Committee, the Design Review Board and AARB.

**5B.3.7.4** Prepare and submit to the College written responses to all reviewing Agencies' comments and provide the technical data for the College necessary to substantiate any waiver request required.

**5B.3.8 Contract Documents Phase:** After written authorization to proceed with the bidding documents, A/E shall:

**5B.3.8.1** On the basis of the accepted Preliminary Design documents and the review comments, prepare final drawings for incorporation in the Contract Documents to show the complete scope, extent and character of the work to be furnished and performed by Contractor(s) and Specifications (which will be prepared in conformance with the format of the Construction Specifications Institute).

**5B.3.8.2** Prepare and submit completed working drawings/contract documents for approval.

**5B.3.8.3** **Prepare a detailed cost estimate** and submit to the College with Contract Document submittal. Provide recommendation on number of days estimated for completion of the construction of the project.

**5B.3.8.4** **Make revisions to plans and specifications** necessary to incorporate review comments and submit a written response to all review comments to the College Code Review Team prior to bidding the project.

**5B.3.9 Bidding Phase:** After written authorization to proceed with the Bidding Phase, A/E shall:

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**5B.3.9.1** Where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, attend pre-bid conferences, and receive and process deposits for Bidding Documents.

**5B.3.9.2** Issue addenda as appropriate.

**5B.3.10**

**Construction Phase:** After award of the construction contract the A/E shall provide the following services. The following services are also described in Chapter 12 of this Manual and in Section 15 (a) - (h) of the General Conditions of the Construction Contract, Form HECO-7. They shall be provided by the A/E of record as part of Basic Services and shall not be delegated to others unless such delegation has been specifically approved in writing by the AVP/FM:

**5B.3.10.1 Submittal Review and Construction Administration Services Required to be Performed by the A/E**

- **Consultations:** A/E shall consult with and advise the College on all technical matters and act as the College's representative in dealing with the Contractor on all such matters. The agency's instructions to Contractor(s) will be issued through the A/E, who has authority to act on behalf of the College to the extent provided in the General Conditions except as otherwise provided in writing.
- **Interpretations and Clarifications:** The A/E shall issue all necessary interpretations and clarifications of the Contract Documents and in connection therewith prepare any necessary field orders and Change Orders.
- **Field and Change Orders:** Issue Field Orders and assist the College in preparing and issuing Change Orders. Where the College has modified the A/E Contract to reduce the A/E's Construction Phase services, the following shall apply:
- **Any matters of a technical nature** which affect the integrity of the exterior architectural, structural or fire safety systems or which affect the integrity or operation of the mechanical, plumbing, or electrical systems shall be reviewed and certified by the A/E before a Field Order or Change Order is issued.
- **Field Orders on non-technical matters** such as landscaping, finishes, colors, and similar items which do not affect the exterior architectural appearance or the structural, fire safety, mechanical, plumbing, or electrical system integrity.
- **Shop Drawings:** The A/E shall review and approve (with or without conditions), reject or take other appropriate action on Shop Drawings and other submittals required of the Contractor. The A/E shall review for conformance with the Project design concept and compliance with the information given in the Contract Documents. Such reviews and approvals

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or other action shall not extend to means, methods, techniques, sequences or construction procedures or safety precautions and programs incident thereto.

- **Equals:** The A/E shall evaluate and determine the acceptability of any equal materials or equipment proposed by Contractor.
- **Structural and Special Inspections:** The A/E shall provide the services described in Chapter 12, Section 12.12 of this Manual relating to proper installation of structural systems on the project, including the review of applicable inspection and test reports by the College's Testing and Inspection entity.
- **Contractor Claims:** The A/E shall act as initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the work hereunder and shall make recommendations to the College on all Contractor claims relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work.

#### **5B.3.10.2 Construction Visits, Inspection and Closeout Services**

- **Visits to Site and Observation of Construction:** An A/E representative who is knowledgeable of the project and competent in each discipline which has trade activities and stages of construction being performed shall visit the site at intervals to observe as an experienced and qualified design professional the progress and quality of the various aspects of the contractor's work. Based on information obtained during such visits and on such observations, the A/E shall endeavor to determine whether such work is proceeding in accordance with the Contract Documents and shall keep the College informed of the general progress of the work in relation to the overall schedule. Document in writing.
- **Inspections of Work in progress by the A/E:** During his periodic visits to the Site to observe the work in progress, the A/E (accompanied by the Project Inspector) shall, as a minimum, spot check the work installed and the work in progress to determine compliance with the requirements of the Contract Documents and the codes and installation/workmanship standards listed therein (e.g. clearances and lap lengths for reinforcing bars per ACI; duct construction and installation conforming to SMACNA; pipe support terminals conforming to Code; wiring installation, anchorage and terminations conforming to NEC; and such). Defective and noncompliant work shall be noted in the A/E's inspection report and pointed out to the Project Inspector and

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Contractor. The A/E shall identify for the project inspector any specific checks or inspections to be made. The results of these inspections shall be made a part of the Project inspector's Daily Report. Document in writing.

- **(10) Supplemental Inspections and Tests:** For Work not in compliance with the Contract Documents, the A/E shall, with the agency's approval, require additional or supplemental inspection or testing. The A/E shall receive and review all certificates of inspections, testing's and approvals required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents and shall determine whether their content complies with the requirements of each. The A/E shall also determine whether the results certified indicate compliance with the Contract Documents. Document in writing.
- **Defective Work.:** During its site visits and based on its observation during such visits, the A/E may disapprove or reject Contractor(s) work, or any portion thereof, while the work is in progress if A/E believes that such work does not conform to the Contract Documents, including the approved shop drawings or other submittals. The A/E may also recommend that the Agency reject any work which it believes will not result in a completed Project that conforms generally to the Contract Documents or that it believes will prejudice the integrity of the design as reflected in the Contract Documents. Document in writing.
- **Contractor Applications for Payment (CO-12 Schedule of Values):** Based on the A/E's on-site observations as an experienced and qualified design professional, information provided by the College's Project Inspector and review of applications for payment and the accompanying data and schedules, the A/E shall consult with the College's Project Manager to determine the amounts due to Contractor(s) and recommend in writing payments to the Contractor(s). Such recommendations will constitute a representation to College, based on such observations and review, that the work has progressed to the point indicated and that to the best of the A/E's present knowledge, information and belief, the quality of such work is generally in accordance with the Contract Documents (subject to an evaluation of such work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents and any other qualifications stated in the recommendation). In the case of unit price work, the A/E's recommendations for payment will include final determinations of quantities and classifications of such work

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subject to any subsequent adjustments allowed by the Contract Documents.

- **Substantial Completion Inspection:** Prior to scheduling a substantial completion inspection, the A/E shall verify that the project is, in fact, ready for such an inspection as described in Chapter 12, Sections 12.15 and 12.17, and advise the College in writing of same. At a minimum, the A/E's licensed professional architect, mechanical engineer, and electrical engineer shall be present at the substantial completion inspection unless absent on an express written waiver by the College. Document in writing.
- **Final Completion Inspection:** The A/E shall conduct a final inspection to determine if the completed work is acceptable. The A/E shall notify the College in time to allow the College representatives to participate in the inspections. If the Final Completion Inspection is successful, the A/E may recommend, in writing, final payment to Contractor(s) and give written notice to the College and the Contractor(s) that the work is acceptable. The A/E may, however, accept some portions of the Work and reject others or may accept some or all of the Work subject to certain conditions. Written notice shall be provided to the College and Contractor of the results of such inspections as described in Chapter 12, Section 12.17.
- **Contractors Completion Documents:** The A/E shall receive and review maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals which are to be assembled by Contractor(s) in accordance with the Contract Documents and shall transmit them to the Agency with written comments. The A/E shall receive the As Built drawing mark-ups required from the Contractor and transfer data to the Record drawings. The A/E shall prepare and submit Record Drawings.
- **Project Closeout:** A/E shall provide project closeout services as outlined in Chapter 12, Section 12.18.
- **Other:** The A/E shall perform all duties described in or reasonably implied by this Manual, the Construction Contract, including the Plans and Specifications and the General Conditions of the Construction Contract.

## SECTION 5B.4 EXTRA SERVICES

**5B.4.1** **Extra Services:** The following, among others, are considered to be Extra Services to the Basic Services provided by the A/E. The A/E and College will normally determine

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the additional services (i.e. services in addition to the “Basic Services” identified in this Manual) required of the A/E at the time of contract negotiation and negotiate the fees for such services at the same time as the basic services fee negotiation. Once the contract is signed, any additional or extra services required shall be agreed upon and added to the A/E Contract by Change Order.

**5B.4.2 Substantial Change:** Where, after approval of any stage of the design, it is found that substantial change in the overall scheme is advisable, and such change is ordered by the College, the fixed fee amount for the additional work shall be agreed upon and added to the A/E contract.

**5B.4.3 Extraordinary Demands Due to Contractor:** Where delinquency, insolvency or necessary change of the Contractor requires extraordinary demands on the time of the Architect or Engineer.

**5B.4.4 Delayed construction Schedule Due to Contractor:** When the Substantial Completion of construction is delayed beyond the Contract Completion Date for more than 30 days by the Contractor or the College and through no fault of the A/E, the A/E may be entitled to additional compensation for authorized additional periodic site visits / inspections necessitated by the delay. Requests for such compensation shall include documentation naming the person(s) making the additional visit, date(s), time(s), etc. as may be required by the Agency.

**5B.4.5 College Requested Changes:** The College’s requested changes to drawings and specifications after work is under construction, which might result in a change order.

**5B.4.6 Unforeseen Site Conditions:** Providing special or continuous on-site services for an approved period when required by unforeseen site conditions.

**5B.4.7 EIR:** Preparation of the environmental impact report.

**5B.4.8 Commissioning Services:** Provide special commissioning services for HVAC equipment design, submittal approval, point by point testing requirements, component testing, and systems testing.

**5B.4.9 VE Studies:** If the A/E is required to participate in the Value Engineering Study as described in Chapter 8B, the A/E’s participation fee should be included as an additional service in the project fee negotiation.

## **SECTION 5B.5 INTERIOR DESIGN SERVICES FOR FURNITURE, FURNISHINGS AND DECORATIONS FOR BUILDING PROJECTS**

**5B.5.1 Basic Services:** The Basic Services of the A/E for a project require the A/E to provide informational floor plans which use basic template outlines to show that the required furniture will fit in the rooms or spaces.

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**5B.5.1.1 Building Materials and Finishes:** The A/E is also required to specify all building materials and finishes and to select the colors for all building components which the building contractor is required to provide and/or install.

**5B.5.2 Additional Services:** Additional services or separate contract for Interior Design services for the selection, specification, and procurement of furniture and furnishings that are not a part of the A/E's Basic Services as defined by this Manual shall be determined and a fee negotiated for the interior design services.

## **SECTION 5B.6 IDENTIFICATION OF DOCUMENTS AND MATERIALS**

**5B.6.1** The College and the A/E shall note the 8-digit project identifier (3-digit agency code & 5-digit project code) and the PIMS (and/or Work Order) number on all project documents, correspondence, memoranda, invoices, submittals and other related material. The A/E shall require that the 8-digit project identifier is shown on all submittals, correspondence, and other documents generated by contractors, subcontractors, suppliers, consultants, testing entities or others associated with the project.

## **SECTION 5B.7 A/E PERFORMANCE EVALUATION**

**5B.7.1 HECO 14a:** Upon completion of the construction contract, an evaluation (HECO-14a) may be completed by the College with emphasis on quality and constructability of the design; timeliness and response with respect to shop drawing review, clarification of drawings/specifications intent and resolution of construction problems and cooperation.

**5B.7.2 Confidential Information:** The completed HECO-8a and CO-14a evaluations (along with attachments and A/E responses, if any) are considered Confidential information equivalent to the A/E's 'personnel records' for the A/E performance of work for the College and shall be subject to the same protections.

**5B.7.2.1** The completed evaluations shall be retained in the A/E's performance file for review and consideration by future A/E selection panels.

**5B.7.2.2** The completed A/E evaluation forms may be shared by the custodian with other state agencies for the purpose of "references" to assist in state agency selection panels in evaluating the A/E during the selection process.

**5B.7.3 Contractor Performance:** Upon completion of the construction contract, the A/E may be required to complete an evaluation of the Contractor's performance during construction, HECO-14b, Opinion of Contractor's Performance, using the current edition posted on the Forms Center.

**5B.7.3.1** An Evaluation may be completed by the Project Manager and Construction Administration Manager.

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- 5B.7.3.2** The evaluation will emphasize the evaluator's opinion of the quality and construction, timeliness of the work and conformance with the project schedule, and timeliness of shop drawing submittals, number and validity of contractor requests for clarification of drawings/specification intent, resolution of construction problems, and cooperation.
- 5B.7.3.3** The A/E and College may also complete HECO-14b evaluations on any individual Subcontractor performing work on the project to note above average or below average or poor performance by a particular subcontractor or supplier.
- 5B.7.3.4** The College shall provide a copy of this evaluation to the Contractor. If the Contractor wishes to comment on either evaluation, dispute any part of the evaluation or offer its side of the issue, the Contractor may submit a response to the College. The Contractor's response shall be attached to and made a part of the College evaluation form for future reference.

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## CHAPTER 6 DESIGN SERVICES:

### *PROCUREMENT PROCEDURES*

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#### SECTION 6.1      GENERAL

The College Procurement Rules set forth the general parameters for the procurement of professional services.

**6.1.1      College Policy:** The sections in this chapter provide further definition of the requirements for procurement of professional services at the College. The policy of the College is to contract with a single entity in acquiring the full range of disciplines necessary to provide the services identified for a project. The entity may be an Architectural & Engineering (A/E) firm with in-house capabilities in all disciplines or it may be an Architectural firm or it may be an Engineering firm or a Land Surveying firm or a Landscape Architectural firm which subcontracts for disciplines not in-house.

**6.1.1.1**    All of the above entities have an equal opportunity to compete for projects. Consideration will be given to the proposer who demonstrates it is best suited and has the ability to meet the required criteria. In any case the proposer will be referred to as the A/E and will be required to provide the complete services indicated in the College's A/E Contract with all disciplines coordinated.

**6.1.2      Project responsibility:** The person having overall responsibility for the project management and coordination of disciplines may be a licensed Architect, a licensed Landscape Architect, a Professional Engineer or a licensed Surveyor.

**6.1.2.1**    A licensed Architect shall be in charge of planning and design of the architectural aspects of the project. A licensed Engineer competent in that particular discipline shall be in charge of each discipline of the Engineering aspects of the project. The licensed Landscape Architect shall be in charge of all major landscape projects and issues but a licensed Land Surveyor shall be in charge of all survey requirements.

**6.1.2.2**    All professional persons shall be registered and licensed by the Virginia Department of Professional and Occupational Regulation (DPOR) in accordance with requirements of the Code of Virginia.

## SECTION 6.2      PROCUREMENT OF RELATED CONSULTANTS

- 6.2.1**      The following types of services are typically required for capital projects and for planning, construction and renovation projects:
- 6.2.1.1** Professional: Land surveyors, geotechnical engineers, soils engineers, or any service requiring the use of a licensed architect, landscape architect, engineer, or surveyor are by state law considered to be and shall be procured as Professional Services as outlined in this Manual.
  - 6.2.1.2** Non-Professional: Cost consultants, interior design services, soil testing, concrete testing, project management, project administration, inspection/clerk of the works, and other services which may be performed by either licensed or non licensed professionals are considered to be “Construction Related”
    - Nonprofessional Services and shall be procured using procedures contained in Section 4.3.b. of the College Procurement Rules (Appendix S).

## SECTION 6.3      PROJECT SCOPE OF WORK

- 6.3.1**      **Scope of work:** Once the College determines the need for professional services, a Scope of Work will be prepared to identify or outline the services required, to identify the criteria, limitations and parameters for the services, and to describe the product(s) expected. The Scope may range from very general to very specific and will usually reference this Manual, the College Campus Design Guidelines, the College Facilities Management Technical Standards, the Budgeting Instructions, the VUSBC and/or other standards for the specific related requirements.
- 6.3.2**      **Project Initiation:** Architectural or Engineering Planning for or construction of, or acquisition of any capital project shall not commence without an approved HECO-2 (Refer Chapter 4).

## SECTION 6.4      ADVERTISEMENTS FOR PROFESSIONAL SERVICES

- 6.4.1**      **VCCO Requirement:** A VCCO shall assure that the requirements of the College Procurement Rules (Appendix S) are met for the procurement of professional services.
- 6.4.2**      **Public Notice:** Public notice of the request for Letters of Interest shall be given at least 21 days prior to the date set for receipt of proposals. When requested and justified by the Project Manager in writing, the Associate Vice President for Facilities Management may approve a reduction in the number of days notice required to a number not less than 10 days.

**6.4.2.1 Methods of Public Notice:** Public notice of any request for Letters of Interest shall be given by the following methods:

- By posting a copy of the notice in a public area normally used by the College for posting such notices; and
- By publication in a daily newspaper of statewide circulation; and
- By publication of a notice on the On-Line Bids page of eVA, Virginia's electronic procurement website. The URL is <http://vbo.dgs.state.va.us>.
- Where practicable, by publication in a newspaper of general circulation in the general area of the project and;
- By posting a copy of the notice on the Office of the Contract Administration's Web page.

**6.4.2.2 Minimum Information:** The public notice will show the name, address, phone and fax number of the issuing office. Provide in the notice/advertisement the following information as a minimum:

- name and address of the Agency;
- title of the project;
- scope of services;
- proposed Design-not-to-exceed construction budget;
- a brief description of the project;
- criteria for evaluation and selection of the A/E ;
- submittal of AE-1 to AE-6, AE Firm Data Forms required; and
- last date for submitting a response (i.e., a date which is not less than 21days from date of advertisement).
- (for Term A/E Contracts), provision to extend the contract for four one year options at the sole discretion of the agency.
- (for Term A/E Contracts), provision to allow use of the contract for service orders by other state agencies at the sole discretion of the issuing agency.

## **SECTION 6.5 REQUESTS FOR PROPOSAL (RFP)**

**6.5.1 The Request for Proposal (RFP):** will be provided to the A/E's short listed from review of the Letters of Interest.

**6.5.1.1 RFP Content:** The RFP will indicate in general terms the nature of the project and the architectural and/or engineering services which are sought, show the factors which will be used in evaluating the responses, incorporate by reference

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the Manual including the contractual terms and conditions contained therein, and set forth specifically any additional contractual terms and conditions. The RFP will state any unique capabilities or qualifications which will be demanded of the A/E. Each respondent to the RFP agrees to provide all the architectural and/or engineering services with respect to the project that are set out in the Manual and the RFP.

**6.5.1.2 RFP Stipulated Negotiations:** The RFP may specify the method to be utilized during negotiations in arriving at the fee amount for services; however, it will not call for Proposers to furnish estimates of man-hours, labor rates, or cost for services with their qualification proposals. If no method is specified, the respondents may propose methods for negotiating the fee amount.

**6.5.1.3 Responses to RFP's:** Each respondent shall submit current AE-1 to AE-6, AE Firm Data Forms, and other requested information in response to the RFP and include the data and qualifications of any A/Es to be associated with it on the Project. Responses which do not include the Forms and/or do not include the requested information and data may be considered as Not Responsive to the RFP.

- All A/E's should also have on file with the College, Forms AE-1 to AE-6, AE Firm Data Forms. URL is:

<http://forms.dgs.state.va.us/>

**6.5.1.4 Proprietary Information:** Proprietary information from respondents will not be disclosed to the public or to the competitors provided such proprietary information is properly identified, as required by the College Procurement Rules, in the RFP response.

## **SECTION 6.6 SMALL BUSINESSES AND BUSINESSES OWNED BY WOMEN AND MINORITIES (SWAM)**

**6.6.1 RFP SWAM Requirement:** On proposals for Contracts with a fee, or accumulation of fees, expected to exceed \$100,000, the A/E shall be required to submit with the RFP response, a report of past efforts to utilize the goods and services of such businesses and plans for involvement on the proposed contract.

**6.6.1.1 Certification of Information:** By submitting such information with their proposal, Proposers certify that all information provided is true and accurate.

**6.6.1.2 Failure to Submit Information:** If a Proposer fails to submit all information requested, the purchasing agency may require prompt submission of missing information after the receipt of A/E proposals. Failure to provide information required by the RFP will ultimately result in rejection of the proposal as non-responsive.

**6.6.2 Required Information:** The following data is required on each small business, women-owned business and minority-owned business: (1) ownership, (2) utilization in the most

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recent twelve (12) months, and (3) planned involvement or services to be performed on the proposed project. (The formats for submission of this data are included at Forms Center website. URL is <http://forms.dgs.virginia.gov>).

- 6.6.3 Monthly Reporting:** On contracts for professional services which exceed \$100,000 in total gross fees, the A/E is required to submit reports with each pay application on the involvement of small businesses and businesses owned by women and minorities in the work or in support of the work on this contract. See the College FPD&C Contract Documents Manager for agency specific requirements.

## **SECTION 6.7 SWAM PROCUREMENT PLAN**

(Small, Women-Owned, and Minority-Owned Businesses)

- 6.7.1 College Plan:** In accord with Executive Order 29 (2002), an annual SWAM Procurement Plan that specifies the College's plans and goals for SWAM procurement is required. Department of Minority Business Enterprises (DMBE) certification of SWAM businesses is required.
- 6.7.2 Audits:** In order to assure compliance with certification requirements of SWAM subcontracting plans, the contracting or certifying agency or institution shall contractually provide for appropriate auditing of vendors and contracts. Such audits shall include the right to make on site audits at any time during the term of the applicable contract or certification.

## **SECTION 6.8 PROCEDURES FOR A/E SELECTION**

- 6.8.1 Emergency Procurement:** In the event of an emergency, selection may be made without regard to use of these procedures, but a determination and findings signed by the AVP/FM explaining the circumstances shall be filed with the FPDC Construction Documents Manager to be placed in project file folder P-100 (Permits).
- 6.8.2 Small Fees:** For a project with a fee less than \$50,000 the Project Manager may use one of the following procedures (Authority: Management Agreement Exhibit J, Attachment 1, Para 35.A.3)
- 6.8.2.1** For capital projects with **expected fees less than \$25,000** the Project Manager will:
- Select a firm or professional from a list of firms/professionals which have expressed an interest in doing work for the College, have filed Forms AE-1 to AE-6, AE Firm Data Forms, and appear to be qualified to render the required services, or use an established Term Contract, (See Section 4.9 below).
  - Conduct a telephone or personal interview with the firm to determine current workload and capability to meet the proposed

schedule, and to determine personnel qualifications, expertise and past performance on similar projects.

- Negotiate a fee for services
- Complete a HECO-2.1a and obtain required approvals. The FPDC Contract Documents Manager will issue a Purchase Order referencing this section of the Manual and the Facilities Management Technical Standards.

**6.8.2.2** For all capital projects with **expected fees between \$25,000 and \$50,000**, the Project Manager will:

- Select 3 firms or professionals from a list of firms/professionals, which have expressed an interest in doing work for the College and have filed Forms AE1-6.
- Conduct telephone or personal interviews with the 3 firms to determine current workload and capability to meet proposed schedule and to determine personal qualifications, expertise and past performance on similar projects.
- Rank the 3 firms and obtain the Director, FPDC written approval.
- Negotiate a fee for service with the number one ranked firm.
- Complete a HECO-2.1b and obtain required approvals. The Contract Documents Manager will issue a HECO-3.2 contract.

**6.8.3** **Capital Projects:** For all “Major Capital Projects” and “capital projects” with anticipated A/E fees over \$50,000, there shall be two evaluation panels:

- **Screening Panel (consisting of the PM, the Deputy Director, FPDC, and user representatives)** to evaluate Letters of Interest submittals and select a short list of qualified firms
- **Interview Panel (the Building Committee)**, to conduct the interviews with short-listed firms and make the final selection.

**6.8.3.1** **The Project Manager shall:**

- **Prepare an advertisement** requesting that interested firms submit a letter of interest and statement of qualifications utilizing the AE-1 to AE-6, AE Firm Data Forms.
- **Publish the advertisement** of the project, at the least, in a daily newspaper which has statewide circulation, in a newspaper of general circulation in the area of the project and in the Virginia Business Opportunities (VBO/eVA) when the expected procurement exceeds Fifty Thousand Dollars (\$50,000), post the advertisement in a public area normally used for posting public notices.

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- **Draft a Request for Proposal (RFP)**, for issuance to only short-listed firms, which indicates in general terms the nature of the project and the architectural and/or engineering services which are sought, specifying:
  - The factors which will be used in evaluating the response
  - Incorporating by reference the appropriate chapters of this Manual, including any supplements thereto, and the contractual terms and conditions contained herein.
  - Setting forth specifically any additional contractual terms and conditions not contained herein.
  - The Request for Proposal shall also state any unique capabilities or qualifications which will be required of the Architect or Engineer.
  - It shall require each respondent to submit an updated Statement of Qualifications, including qualifications of any Architectural or Engineering firm to be associated with it on the Project.
  - It shall also require each respondent to state that it will provide all the architectural and/or engineering services with respect to the project that are set out in this Manual and the RFP.
  - The submission of AE-1 to AE-6, AE Firm Data Forms, is also required at this stage.
  - The RFP may specify the method to be utilized during negotiations in arriving at the fee amount for services; however, it **will not** call for Offerors to furnish estimates of man-hours, labor rates, or the cost for services with their qualification proposals.
  - If no method is specified, the respondents may propose methods for negotiating the fee amount.

**6.8.3.2 The Screening Panel shall:**

- Recommend the top 3 - 5 firms for interviews.
- The AVP/FM will approve the short list of firms.

**6.8.3.3 The Interview Panel shall:**

- **Interview the top-ranked, short-listed firms** (preferably 3-5 firms) who are deemed to be fully qualified, responsible, and suitable on the basis of their initial responses and their response to the detailed RFP.
- **Solicit more detailed information**, where applicable, on the above criteria as well as specific information as to the personnel proposed

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to be assigned to the project and their individual qualifications; the concepts, methods and approaches proposed for the design; and other pertinent information.

- **Evaluate responses** of each interviewed firm and rank order as best suited for the project.
- **Determine, in writing**, the top three firms, and rank them in order of preference.
- **Proprietary information** from respondents shall not be disclosed to the public or to the competitors provided such proprietary information is appropriately noted in the RFP response.

**6.8.3.4 Notification:** Upon completion of the selection, the selected firm and the non selected firms shall be notified concurrently.

**6.8.3.5 The College's Negotiating Team** shall negotiate with the Architectural/Engineering firm ranked first as to overall suitability and qualifications.

- Those negotiations should proceed to establish a fee amount for the Scope of the Project.
- All of this Manual's requirements apply.
- It is anticipated that the fee amount will not be later increased.
- At the time of negotiation, a method of increasing the fee amount for additional services must be set forth in the original agreement.
- The fee amount shall include all work necessary to provide the required basic services and any other services requested by the College.
- If the parties cannot reach agreement on a fee amount, the negotiations shall be formally terminated in writing. The College may then proceed to negotiate with the Architectural/Engineering firm ranked second. If not successful, the third, etc.
- It is understood that at any time during the negotiations, they may be terminated and the project re-advertised.

**6.8.3.6 Once the fee negotiations are complete:**

- The terms of agreement shall be recorded in a written MOU and incorporated in the HECO-3 contract form, which shall be signed by the College, and the A/E.
- The College shall "Post" a Notice of Intent to Award at FPDC prior to contract award.

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## SECTION 6.9 TERM A/E CONTRACTS

### 6.9.1 The following policy governs the use of Term Contracts.

- 6.9.1.1 Definition:** As used herein, the term project shall refer to a related group of like kind architectural, design or engineering services needed by the College. The group of services can be related by geographical area within the College, by architectural or engineering specialty, or by unique architectural or engineering needs, as determined by the College.
- 6.9.1.2 Applicability:** Term Contract Procurement of A/E services may be used for engaging an A/E to provide investigations, cost estimates, designs and related services for specific projects consisting of multiple related work orders over a specified period of time.
- 6.9.1.3 Procurement:** In the case of a Term Contract, the College will procure the services of an A/E for a project defined by the College to include several work orders of a particular type, although not all work services can be identified at the outset of the project. At least one work order will be identified for the A/E's services at the time of procurement. Use of the A/E's services on future service orders is at the discretion of the College.
- 6.9.1.4 Contract Terms:** The ordinary Term Contract will be for A/E Services for a term of one year or services totaling \$500,000, whichever comes first with the option to renew for up to four additional terms, one term at a time. The College may procure Term Contracts for A/E Services up to \$1,000,000, only upon a determination and finding (D & F) approved by the AVP/FM that services in excess of \$500,000 are expected to be needed.
- It is the intention of the College to spread the amount of A/E Services out to as many firms as possible while still maintaining the most economically advantageous strategy possible. Accordingly, the College may determine that it is advantageous to procure Term contracts at service levels ranging from \$100,000 to \$1,000,000, none to exceed the one-year term total contract amount. Contracts may be renewable at the College's discretion up to four additional terms.
- 6.9.1.5 Contractual Limits:** No A/E firm may at any time have in effect more than one (1) Term Contract with the College without approval from the AVP/FM by D&F.
- 6.9.1.6 Multiple A/E Term Contracts:** Contracts may be awarded to separate A/E firms from a single term contract RFP advertisement/selection process. Prepare a D & F clarifying the requirement for multiple term contracts and outline the plan for distributing initial project orders to the selected firms and submit to the AVP/FM for approval.
- 6.9.1.7 Additional Project Orders:** The College may offer additional "project orders" of a similar nature to the firm in accordance with the Contract and, upon successful negotiation of a fee for the services, order the services pursuant to the terms provided in the firm's Contract.

- 6.9.2 Advertisement:** The advertisement shall be prepared and published as outlined in paragraph **6.8.3.1** above for projects with a fee anticipated to exceed \$50,000.
- 6.9.3 RFP Content:** In addition to the RFP requirements outlined in paragraph **6.8.3.1** above, the RFP shall include:
- 6.9.3.1 Project Description:** a description of the nature of the projects, potential service orders to be offered and the services to be required for the project. Any other factors pertinent to the evaluation and selection process shall also be described.
- 6.9.3.2 Wording similar to the following provisions:**
- “The College reserves the right, at its sole discretion to issue RFPs for similar work and other projects as the need may occur. The College also reserves the right to issue project orders to other Term Contractors, based on its sole discretion, in consideration of its evaluation of each Contractor’s qualifications, expertise, capabilities performance records, current workload, location or distance to the project, and other factors as may be pertinent to the particular project.”*
- 6.9.3.3** The RFP must identify at least one work order for which the A/E’s services will be used.
- 6.9.3.4** The RFP should also indicate that although the potential exists for multiple future project orders, the College does not represent or guarantee that the Term Contractor will receive any future additional project orders.
- 6.9.4 Selection, Negotiation and Award:** The selection process described in section 6.8.3 above shall be followed except if more than one firm is to be selected from one advertisement/selection process then two additional firms shall be interviewed for each additional selection.
- 6.9.4.1** The College and the selected firm(s) shall first negotiate and agree upon the labor rates and the terms and conditions which shall apply to work to be performed based on the First Project Order. The fee and rate agreement must be reflected in the Memorandum of Understanding.
- 6.9.4.2** If the negotiations are successful, the College will award a Contract to the selected firm. If negotiations are not successful, the negotiations shall be formally terminated and the project offered to the next firm for negotiation and possible Award of the Contract.
- 6.9.4.3** The College shall have 120 days from the RFP closing date to complete selection, award the Term Contract and issue the first project order. The Term Contract shall not be awarded unless accompanied by the first project order.
- 6.9.5 Project Orders:** Individual project orders or requests for services will be issued in the form of “project orders.” Fee proposals by the firm will be negotiated and awarded on a “fixed fee” amount for each project order. However, project orders may be used to secure services for investigations or similar work where an estimate of time required cannot reasonably be

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determined. In such cases, an exception is allowable to use the scheduled man-hour rates with a Not to Exceed amount as the basis for the “project order” fee. A form HECO-3.1a shall be completed for each project order. The HECO-3.1a shall show the “cumulative total to date” of project orders awarded to the A/E under the Contract.

- 6.9.6 Fees:** The fee for the services on each “project order” shall be negotiated individually considering the Scope of Services required, the man-hours required for each level/discipline and the maximum labor rates agreed upon in the MOU. Should the College and the firm not agree on a fee for an additional “project order”, negotiations shall be formally terminated. The “project order” may then be offered to and negotiated with another firm with a Term A/E Contract for similar services or the A/E services for the service may be procured separately in accordance with the procedures prescribed in this Manual.

## **SECTION 6.10 TERM PROJECT MANAGEMENT CONTRACTS**

- 6.10.1 Non-Professional Services:** The College may also award contracts to service firms for Construction Administration/Project Administration related services. Such services shall be procured using non professional services procedures as provided in the College Procurement Rules. These services may include (but shall not be limited to) claim analysis, constructability reviews, cost estimates and construction management/administration services.

## **SECTION 6.11 CONTRACT FORMS TO BE USED**

- 6.11.1 Standard Forms:** The Standard Forms of Contract for Architect and Engineer Services, HECO-3, 3.1, 3.1a, and 3.2, shall be used for A/E Contracts. Copies of these forms are in Appendix B, and on the website.
- 6.11.2 Form Modification:** Other than filling in the appropriate data and information, these Contract forms shall not be modified without the recommendation of the VCCO and the approval of the Director, FPDC.
- 6.11.3 Memorandum of Understanding (MOU):** Any details of the fee negotiations, the scope of work, the A/E schedule, and other items agreed to in the negotiations shall be detailed in the Memorandum of Understanding (MOU). See Appendix C.

## **SECTION 6.12 GENERAL TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES**

- 6.12.1 General Terms:** The General Terms and Conditions for Professional Services Contracts are contained in Chapter 5A of this Manual. They shall be made a part of all contracts for professional services and shall not be modified without the approval of the VCCO and the AVP/FM.

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## **CHAPTER 7 DESIGN SERVICES:**

### ***CONTRACT ADMINISTRATION, FEES & PAYMENTS***

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#### **SECTION 7.1            ARCHITECTURAL AND ENGINEERING FEES**

**7.1.1            College Policy:** The College’s policy is to compensate Architects and Engineers in a fair and reasonable manner for providing the high quality services required by the Manual. Compensation or fees should be negotiated based on the Scope of Work, the estimated effort (man-hours) necessary to accomplish the work, and hourly rates comparable to those earned by other equally competent architects, engineers, technicians, and support personnel in the Commonwealth. This chapter provides guidance for determining fair and reasonable fees by using a detailed fee proposal describing the services to be provided and showing the estimated man-hours by discipline and skill level and the corresponding hourly rates for each.

#### **SECTION 7.2            A/E FEE PROPOSAL STANDARDS AND GUIDES**

**7.2.1            A/E Familiarity with the Manual:** The A/E is expected to be thoroughly familiar with the Manual procedures, the scope of services, technical criteria and standards, submittal requirements, and standard forms required. These basic requirements, combined with the specific project requirements, are the basis for the fee proposal.

**7.2.2            Competitive negotiations:** for professional services are based on qualifications. All A/E firms selected for interview will be technically qualified to provide the services required for the project. The ranking of the A/E’s is generally influenced by other factors such as selection of subcontractors, recent experience on a similar project, workload status and perceived ability to meet the schedule, or similar factors. Therefore, the top ranked firm is considered, by definition, “fully qualified technically and best suited” for the work. With this in mind the intention is to negotiate hourly rates and fees for services which are fair and reasonable to the College, the A/E, , and the taxpayers of the Commonwealth of Virginia.

**7.2.3            Plans and Specifications:** The A/E should be aware and keep in mind that there are differences between private work and College of William and Mary work as described in Chapter 5B. Particularly, the A/E must conform to Manual requirements for describing and specifying the Work to be performed as part of the construction contract. The A/E must also conform to the requirements of the College Procurement Rules as clarified and expanded upon in the Manual.

**7.2.4            Personnel Classifications and Hourly Rates:** The following shall be used as guidance by the A/E in developing its fee proposal and by the College in evaluating the proposal and negotiating the fees for services:

**7.2.4.1 A/E Project Technical Personnel:**

- Technical personnel shall be constructed to mean the A/E's project manager /coordinator, architects (licensed), engineers (licensed) by discipline, designers including non-licensed architects and engineers, project inspector, surveyor, survey team, interior designer, landscape architect, draftsman, estimator, specifications writer, typist / clerical staff, field inspectors, and CADD computer operators.
- *“Principals”, “Partners”, “Associates”, “CEO” and similar titles are generally considered by the Commonwealth to be administrative and/or management functions whose costs have been included in the overhead markup of the rates for technical categories.* Technical activities which are performed by principals, etc., are categorized for fee negotiations, for change orders, and for hourly rate payment at the rates indicated for the technical activity or function that the Principal, etc., may be performing. See the descriptions of Personnel Classifications below.

**7.2.4.2 Hourly Rates:**

- The hourly rates proposed for the various classifications, categories, disciplines, and skill levels should be comparable to the average actual salary of qualified and competent persons in that skill level as marked up or adjusted for overheads and profit. Overhead markup consists of direct technical salary overhead (or “fringes”) such as payroll taxes and insurances, vacation, holidays, health insurance premiums, and other benefits and of indirect or general office overhead such as administrative salaries, rent, utilities, business and liability insurances, telephone, equipment rental and depreciation, travel, promotion, etc. Hourly rates agreed to shall be the “marked – up” rates including all overheads and profit.
- *Generally review, negotiations, supervision and such by the principals or other senior personnel are usually considered part of the general office overhead expense included in the hourly rates or the activity is part of the “project management” function.*
- The College shall have the right to require the A/E submit documentation to support the proposed hourly rates with mark-up factors proposed for use in the fee negotiations and fee determination when the proposed hourly rates exceed what the College considers the “norm” for the area. The average hourly rates by classification, including markups which are negotiated and accepted in fee negotiations, shall be recorded and listed in the Memorandum of Understanding (MOU) which is appended to the A/E contract.
- When negotiating hourly rates, the College will recognize the higher costs of doing business incurred by firms who are located in high cost cities and areas of the country.
- A/E accounting methods and procedures for determining overhead and “marked-up” hourly rates often vary. For instance, policies on vacation, sick leave, holidays and employer contributions to insurance vary from A/E to A/E.

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Methods of tracking man-hours and expenses vary depending on whether the A/E is determining its overhead rates or the profitability of each project. The procedures presented herein use the “tax return” approach where general materials, supplies, depreciation of computers and software, insurances, and such, are treated as general office overhead expenses.

- The negotiated rates should be comparable to those of similarly experienced and qualified personnel in those classifications in Virginia firms providing similar services.

#### 7.2.4.3 Technical Personnel Classifications

- The following personnel classifications, categories, disciplines and skill levels descriptions are recognized as those directly involved with the management, coordination, planning, delivery and quality control of the A/E services required for the project:
- **A/E project manager / coordinator:** An experienced and licensed architect or engineer who has overall responsibility for the management of planning, design, and construction administration to include the coordination of all disciplines, quality assurance, and delivery of the A/E services to the College.  
*Note: A Principal of the A/E firm may perform this function, especially in a small firm. In larger firms a Principal, Associate or similarly “titled” person of the A/E firm may be assigned this responsibility. Regardless of title, the function is the same and the marked-up rate should be comparable to project managers of other firms in Virginia.*
- **Architect (Professional):** A registered and licensed architect who has the knowledge, skills and experience to perform all architectural services required for the project, and who is qualified to be in “responsible charge” of the architectural aspects of the project.
- **Cost Estimator:** Skills required include a knowledge of building systems and components, the ability to read plans and specifications, the ability to make quantity takeoffs and apply pricing, the ability to obtain pricing information from reliable sources, knowledge of industry trends and conditions which will affect pricing, and the ability to adjust / apply such information to the specific project conditions and present a cost estimate with proper back-up documentation.
- **CADD / Draftsperson:** The skills required of this level position include tracing work already drawn to scale; drafting plans, sections and details to scale from sketches and data; modifying typical sections and details to be project/situation specific; and other miscellaneous duties supporting the preparation of contract documents. Note: Depending on the personnel organization and operation standards of the A/E, Designers (Architects and Engineers), Draftsman, or both may be required to use CADD or have CADD skills.
- **Designer (Architects and Engineers):** Architects and/or engineers who by education, practical experience or a combination of education and experience have the knowledge and skills to perform analyses, calculation, and/or detailing for portions of a project in a particular discipline. This level person usually has

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either a degree and is gaining experience to become certified – licensed – registered or has many years of experience in layouts, detailing and/or calculations and works under the supervision of a licensed professional.

- **Engineers – Structural, Mechanical, Electrical, Civil (Professional):** A licensed professional engineer who has the knowledge, skills and experience to perform the analyses and design, to prepare the documents for the particular discipline and to be “in responsible charge” of that discipline.
- **Landscape Architect:** A certified landscape architect who has the knowledge, skills and experience to provide the design and documents for the site landscaping for the project.
- **Interior Design:** A certified interior designer who has the knowledge, skills and experience to provide the interior design services and documents for the project. Note: The layout of spaces, selection of finishes, and similar functions are Basic Services whether the A/E uses an Architect or an Interior Designer. “Additional Services of an Interior Designer” for Fee calculations / negotiations on state work relate to furnishings and accessories which are not part of the construction contract and are further explained in Section 5.5 of this Manual.
- **Specifications/Report Writer:** A professional level architect or engineer skilled in writing technical specifications for building and site related systems, equipment and components. The Writer shall also be skilled in preparing contract documents and understand the basic legal requirements, applications and ramifications thereof.
- **Typist / Clerical:** Skills required include a knowledge of the terms and procedures of the design and construction process and a proficiency in the use of word processing and spreadsheet applications used in the production of specifications, reports and associated typing and clerical functions.

#### 7.2.4.4 Additional Services:

- Chapter 5B describes the Basic Services required of the A/E as well as the responsibilities of the Agency and typical additional services that the College may request the A/E to perform.
- The A/E and College will normally determine the additional services (i.e. services in addition to the “Basic Services” identified in the Manual) required of the A/E prior to or during contract negotiation and negotiate the fees for such services at the same time as the basic services fee negotiation. The additional services to be provided by the A/E and the compensation for such shall be set out in the Contract or the MOU. Once the contract is signed, any additional or extra services required will be a change in scope and shall be authorized in writing by Change Order using Form HECO-11a/e. Any Change Order authorizing work to be performed which does not stipulate a fixed sum amount for the work shall be subject to audit by the College for a period of three (3) years following conclusion of the Contract.
- Additional services that will be included are:
  - Survey

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- Geotechnical Report
- LEED
  - All College buildings will be designed to achieve LEED certification
  - Building owner will decide if formal certification by the U.S. Green Building Council is desired
- Commissioning
  - By separate agent
  - PM to determine building systems to be commissioned

**7.2.4.5 Additional Services:**

- Computer use is commonplace in the A/E profession for analyses, designs, drafting (plans), word processing (specifications) and estimating. As such, the computer is a “tool” used by the technical person to produce his/her product. These “tools” are purchased and depreciated or leased and are, therefore, considered a part of the A/E’s office overhead expense included in its overhead. Only specialized computer services required by the Owner which must be acquired from an outside vendor are considered for payment in fee negotiations.
- Computerized analyses and designs for building systems, word processing, and data processing utilized by the A/E to provide Basic Services are normally considered by the Commonwealth to be a part of the project design effort and are not an additional service required by the College.
- Specialized outside computer analysis services required by the College for the project may be treated as an additional service. The compensation for such specialized computer analyses may be negotiated lump sum or a reimbursable expense. The allowable reimbursable expense method will normally be the actual charge made by an outside computer service organization plus 10% for A/E overhead and profit.

**7.2.4.6 Special Consultants:**

- Consultants engaged by the A/E to augment the A/E’s staff to provide the required A/E services are considered by the College to be part of the A/E’s staffing for the project.
- The College may require the use of a special consultant with a particular expertise related to some feature of the project. The Architect / Engineer shall engage such a required consultant, subject to the College’s approval, and incorporate such work in the services for the project. The compensation for such consultant shall be negotiated and set out in the MOU and included in the total A/E fee. The A/E will normally be allowed to mark up the College approved direct cost to the A/E of such special consultant by 10% for the A/E’s overhead and profit.
- Special consultants that are required:

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- Building Envelope Moisture Infiltration Analysis By independent consultant

#### **7.2.4.7 Reimbursable Expenses:**

- The costs of telegrams, FAX transmissions, long distance phone calls, postage and similar expense incurred by the A/E in the performance of the Contract are considered by the College to be a part of the A/E's overhead expenses and are not normally reimbursable.
- The College shall reimburse the Architect / Engineer for the reproduction of drawings, specifications, and other documents required for initial schematic, preliminary, working drawing and Bid Set submittals in accordance with the policy in Chapter 8 at the actual costs plus 10% markup for handling. If re-submittals are required to correct deficiencies and/or complete the documents for submittal, the cost of reproduction for these submittals shall be borne by the A/E unless waived by the College.
- Where the A/E is engaged by the College to secure the reproduction of the Bid Documents, the A/E may be reimbursed for the actual direct cost of reproduction plus a markup of 10% to account for the A/E's overhead and handling cost in securing this service for the College. The cost of reproduction and sending addenda to address College review comments, clarify or supplement the Bid Document and/or correct errors or omissions are considered to be an expense of the A/E and shall not be included in the allowable reimbursement costs.
- The College shall reimburse the Architect / Engineer for the actual costs of overnight or second day shipping of submittals and / or shop drawings when such method of shipping is directed by the College. The College should establish a budget amount for such reimbursements and include same in the Contract amount and as a line item in the MOU breakdown of the Fee.
- Compensation for travel and living expenses associated with the performance of the project scope of work will be included in the fee negotiated and set out in the MOU as a lump sum amount for travel and/or subsistence for each particular facet of the work where travel compensation is proposed by the A/E.
- The A/E may be reimbursed for travel and living expenses of technical personnel while traveling in the discharge of duties in connection with extra services authorized by the College. The travel rates and the per diem rates for lodging and subsistence shall not exceed the maximum amounts allowable for such expenses in the College's Travel Regulations. Records supporting such requests for reimbursement shall be subject to audit by the College.
- Each item / account planned for reimbursement should have a "budget" amount established and included in the Contract with the condition that payment for these items will be subject to proper authorization and documentation. Further, the Contract Amount will be adjusted upward and downward by Change Order, as appropriate, based on the actual amounts approved for reimbursement.

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#### 7.2.4.8 Interior Design:

- The A/E's basic architectural services includes sizing of spaces for the intended function, providing diagrammatic furniture layouts to the client to confirm functional layouts, and the selection and specification of building fixtures and finishes which are necessary to provide a complete and useable facility and/or which are included in the construction contract.
- "Interior design" as used in this Manual as an additional service pertains to the design, selection, arrangement and color coordination of furniture, furnishings and accessories. These items include but are not limited to desks, chairs, lamps, tables, screens, planters, artwork, draperies and similar furnishings which are procured separately from the construction contract.
- The "interior designer" shall verify the actual building surface finish colors applied by the Contractor and coordinate the selection of colors, fabrics and textures with the building colors. The "interior design" services also include the coordination with and preparation of procurement materials for the College of William and Mary Procurement Services for the furniture, furnishings and accessories.

### SECTION 7.3 A/E FEE PROPOSAL WORKSHEET (HECO-2.3)

**7.3.1 Fee Proposals:** The Architect/Engineer shall prepare a detailed fee proposal using the G.S. Form E&B CO-2.3 or the G.S. Form E&B HECO-2.3 (spreadsheet workbook format at FPDC website with expanded cost data for breakdown of bidding and construction services and consultant services) as determined by the Project Manager. The hourly rates and the man-hours proposed should relate to the rates and times required for a qualified and competent person in that skill level to perform the work. Supplement information shall be attached as necessary to support the proposed drawings, hourly rates and man-hour estimates. Guides for the use of the form are as follows:

**7.3.1.1 Disciplines / Classifications commonly used:** are indicated on the form. Additional classifications may be listed.

- Hourly rates should be the average for those persons in that skill level/discipline/classification.
  - NOTE: It is generally perceived that a person being compensated at a rate higher than the norm would be more efficient / productive / take less man-hours than a person being compensated at a rate below the norm.
- Indicate the drawing size and proposed / estimated number of sheets for each discipline. Attach a proposed or estimated list of drawings.
- Enter the Estimated (proposed) number of hours for each discipline / skill level and multiply times the Hourly Rate to yield the Estimate Cost.
- CADD line is for drafting hours to produce a CADD basic plan for each level, wing or area to use as a base sheet for the various disciplines. The man-hours to

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produce the individual sheets for each discipline, whether manually or CADD, should be shown for the applicable discipline.

- Spec / Report Writer effort includes the mark up and edit of standard and / or master specification sections and writing any required special sections.
- Typist effort includes typing new specification sections and editing masters on the word processing program.
- Cost Estimate effort includes the takeoff of quantities and the application of prices to produce the Cost Estimate in the required format.
- Bid Assistance service includes the effort of the Professional to conduct the Pre-bid Conference, assist in opening Bids, and evaluate the bids / bidders for responsiveness and responsibility. It also includes the clerical level effort to receive document deposits, issue bid documents, receive/review returned bid documents and return deposits / issue refunds.
- Shop Drawing Review includes the professional/technical level effort to review shop drawings and other submittals to determine compliance and conformance with the requirements of the Contract Documents and the markup / approval of same. It also includes the clerical level effort to log submittals in and out, to copy markups from the reviewer's master review set to the copies being returned to the Contractor and others, and the distribution of same.
- Record Drawing Preparation includes the efforts of a Drafting level person to transfer data from Change Orders and the Contractor's "As Built" set of drawings and specs to the "Record Copy" reproduces. This work also includes the Professional / Technical Level effort to compare the "As Built" set to the "Record Copy" for correctness.
- Construction Observation and Administration includes the Professional / Technical level effort to perform the on -site inspections / observations, job meetings, payment request evaluations and administrative functions required by the contract and the Clerical level effort to type minutes of meetings and similar functions.
- The Additional Services portion of the Worksheet is generally self explanatory for the items listed. If those items are proposed to be provided by outside consultants / subcontractors (excludes architectural, structural, mechanical, & electrical disciplines which are considered the A/E), the subcontract negotiated amount may be marked up 10% by the A/E for A/E overhead and profit. In-house additional services should be computed using the estimated man-hours and marked up hourly rates similar to the Basic Services Fee Proposal.

#### **SECTION 7.4.      PROPORTIONING OF THE A/E FEE AND PAYMENTS:**

**7.4.1      Phases of Work:** Payments to the Architect or Engineer for Design Phase and Construction Phase Services shall be based on the negotiated fee amount as proportioned for each phase of the project. The amount approved for progress

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payments shall be based on the Owner's judgment of the proportion of the work on that phase or facet which has been completed versus the work required / value of that phase or facet. The A/E fee shall be proportioned for each phase or facet of the work and shown in the A/E Contract or in the MOU. The proportioning of the fee should account for and show the negotiated amount for the following phases or facets of work:

- Pre-design services (Additional Services such as studies and similar activities.)
- Design Phase services include
  - Schematic phase
  - Preliminary phase
  - Working drawing phase
- Bidding phases services
- Construction phase services include
  - Shop drawing / submittal reviews and admin.
  - Site visits, inspections and admin.
- Project Closeout
  - Maintenance & Operations Manuals
  - Record Drawings to include
  - Single line drawings
  - F-1 Report
- Budgeted Reimbursable Amounts
- Additional Services (itemize)

**7.4.1.1** In addition to the proportional amount due for Design Phase or Construction Phase Services, the A/E shall be entitled to payment for authorized additional services performed and for authorized reimbursable costs incurred during the period.

**7.4.1.2** Where the Agency contracts with the A/E for less than or more than the basic services indicated for the various phases, the proportioning of the fee may be adjusted accordingly and shown in the Memorandum of Understanding.

**7.4.1.3** Where a detailed breakdown of the A/E fee is not provided in the CO-2.3 Fee Proposal Worksheet used for negotiation, the total negotiated A/E fee (excluding additional services and reimbursables) will be proportioned as follows:

Design Phase Services	=	75% of Total Fee
Construction Phase Services	=	25% of Total Fee

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- 7.4.1.4 Proportioning of A/E Fee:** In consideration of the services required by the Manual, the proportioning of the A/E fee for progress payments during the various parts of the Design Phase and the Construction Phase will be as follows:

#### **DESIGN PHASE SERVICES**

- Schematic Design Phase: Value of the Schematic Phase is 20% of the Design Phase Fee. This phase is complete when outstanding issues are resolved, the schematic documents are approved, and the A/E is authorized to prepare Preliminary Plans and Specifications.
- Preliminary Plans and Specifications: (Design Development Phase) – Value of the Preliminary Phase is 30% of the Design Phase Fee. However, a proportional part may be billed monthly during the development of the documents. This phase is complete when outstanding issues are resolved, the preliminaries are approved as evidenced by completion of the conditions shown on the Form HECO-5, and the A/E is authorized to prepare Working Drawings.
- Working Drawings and Specifications: (Construction Documents Phase) – Value of the Working Drawings Phase is 50% of the Design Phase Fee. However, a proportional part may be billed monthly during the development of these documents. This phase is complete when outstanding issues are resolved, all changes have been made to the documents so that they are ready for bidding, and the working drawings and specifications are approved as evidenced by completion of the conditions shown on the Form HECO-6.
  - **Note:** The College may withhold as retainage an amount not exceeding 5% of the dollar value of progress payments for the Design Phase Fee until the Working Drawings, including all corrections required to resolve review comments, are finally completed and acceptable. See Section 315 of this Manual.

#### **CONSTRUCTION PHASE SERVICES**

- Bidding Phase: Value of this phase is 5% (maximum) of the fee amount for Construction Phase Services and is due upon award of the construction contract or rejection of bids (unless the A/E is obligated to redesign at no additional fee). Reimbursement for reproduction expenses for bidding documents would also be payable.
- A/E Construction Period Services: Value of this phase is 90% of the Construction Phase Services fee amount. This 90% is usually prorated over the total construction period including the 30 days allowed for punch list corrections and billed monthly during the construction phase as construction progresses.
- Project Closeout Phase: The remaining 5% of the fee (or sum as stipulated in the Contract or MOU) for Construction Phase Services is allocated to closeout and Record Drawing preparation. It shall be payable when the A/E's services for the project are fully completed and "Record" drawings and specifications are delivered to College, as set forth in Chapter 10.



**7.4.1.5 Payments to the A/E:** Payments to the A/E shall conform to the requirements in Section 5A.16 of the Manual.

**7.4.1.6 Payments by the A/E:** Payments by the A/E to its consultants, subcontractors and suppliers shall conform to the requirements in Section 5A.17 of the Manual.

## **SECTION 7.5 DETERMINING CHARGES FOR CHANGES IN THE SCOPE OF WORK:**

**7.5.1 Changes to the Scope of Services:** The College shall notify the A/E in writing when a change in scope or “extra services” are required. The College and A/E shall develop a defined scope for the services and the A/E shall prepare a fee proposal for such work. A lump sum fee will normally be negotiated and agreed on and a written change order (HECO-11a/e) issued before the extra work is performed (i.e., changes in the plans or specifications, models, studies, etc.). In such cases, the fee negotiations will be based on the defined scope change or work to be done, the estimated technical personnel time to accomplish the work times the rates listed in the Memorandum of Understanding, and any reimbursable expenses authorized.

- When the scope cannot be defined to allow a reasonable estimate of time required, the College may authorize the additional work at the hourly rates or unit costs listed in the Memorandum of Understanding. In such cases, the College shall establish maximum fee limits, as applicable. Work beyond the maximum fee limit shall require justification and the College’s approval prior to proceeding with further additional work.
- Many of the revisions or requirements included in a Revision to the Manual are made to reflect changes in the Code of Virginia, College Procurement Rules or other requirements which must have immediate compliance. Therefore, a revision to the Manual shall be effective on the date stipulated and shall apply to any and all projects for which an approved HECO-6 has not been issued as of the date printed on the revision.
- Prior to approval of Preliminaries and issuance of the HECO-5, Revisions to the Manual can generally be incorporated in the A/E’s work with little or not additional effort. If the A/E claims that incorporating the Revision into its services requires extra work, the A/E must notify the College of this claim and submit documentation to the College to clearly support such claim within 60 days of the distribution date of the Revision.
- If, after the HECO-5 is issued and before the HECO-6 is issued, the A/E determines that including changes resulting from the revision will require additional work on his part, the A/E shall, within 60 days of the distribution date of the revision, provide the College an itemized list of the additional work required by the revision. The College shall then provide direction to the A/E and, if necessary, issue a change order for the work..

# **Chapter 7**

## **Design Services:**

### **Contract Administration, Fees & Payments**

- A/E's shall assure that the documents submitted for review contain the latest design requirements, the latest editions of forms, and the latest editions of the standard Instructions to Bidders and the General Conditions.

**7.5.2 Hourly Rates for Changes in Work:** The College and the A/E shall at the time of fee negotiations establish and record in the Memorandum of Understanding the nominal hourly rates for all technical personnel categories, disciplines and/or skill levels to be used to calculate A/E fees for extra services or changes in the work. The hourly rates listed shall include all markups and adjustments for taxes, insurances, benefits, overhead, profit, etc. Acceptable categories are indicated in Section 602.2.

**7.5.2.1** Technical activities by principals, such as project manager, Architect, or Engineer, are categorized for payment at the rates indicated for the technical activity or function being performed.

**7.5.3 Overtime for Changes in Work:** No overtime requiring rates higher than regular rates shall be considered for payment for additional services. Consideration of the time for approved personnel when traveling in connection with the project (when such travel is required by the Contract and authorized in writing by the College) shall be construed to be time engaged on the project up to the completion of an 8 hour workday.

**7.5.4 Invoices for Changes in Work:** Invoices or statements of expenses incurred by the A/E for reimbursables and for work authorized to be performed on an hourly rate or unit cost basis shall be rendered to the College monthly. Invoices shall be supported by a certified accounting of the time expended by date, by person, and the skill level of the work being done. (e.g. Drafting would be paid for at the "drafting" rate regardless of who does the work – principal, draftsman or trainee.) Statements shall show the cost during that period and indicate the status of the authorized work. The reporting of these costs shall be in such form and detail as required by the College. The A/E's disbursements and job records shall be subject to audit by the College for work done on a reimbursable and/or hourly or unit cost basis. The College shall notify the A/E of any defect or deficiency in the invoice including supporting data within ten (10) days after receipt of same, and payment of approved invoices, or portions thereof, shall be made within 30 days after receipt of the invoice.

**7.5.5 Audit of A/E's Records:** Any Change Order authorizing work to be performed which does not stipulate a fixed sum amount for the work shall be subject to audit by the College for a period of three (3) years following conclusion of the Contract. Also, any authorization for payment of reimbursable expenses shall be subject to audit by the College for a period of three (3) years following conclusion of the Contract.

## **Chapter 7**

### **Design Services:**

### **Contract Administration, Fees & Payments**

**SECTION 7.6 CHANGES TO A/E CONTRACT:**

**7.6.1** **Changes in the Scope of Work and/or Cost of the A/E Contract** (HECO-3 and HECO-3.2) will be documented through the execution of a HECO-11a/e, A/E Contract Change Order. Any A/E contract change order which increases the original contract amount by more than 25 percent or \$50,000, whichever is greater, must have the prior approval of the Vice President for Administration or his designee. The first Change Order which causes the cumulative total of Change Orders to exceed \$50,000 or 25 percent of the original Contract Price, whichever is greater, and all subsequent A/E Change Orders which increase the Contract Amount must have the prior approval of the Vice President for Administration or his designee.

**Chapter 7**  
**Design Services:**  
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## CHAPTER 8A

### DESIGN SERVICES:

#### *CODES & POLICIES*

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#### SECTION 8A.1      GENERAL

This section contains standards and requirements that clarify the applications of Virginia Uniform Statewide Building Code (VUSBC), and mandatory College technical requirements as they pertain to College facilities.

Chapter 8A prescribes standards and requirements that may be higher than the minimum requirements for the private sector owner but are necessary to meet energy, performance, maintenance, safety, and accessibility standards for public buildings. The Architect/Engineer must design to meet the standards and requirements stated in this manual.

#### SECTION 8A.2      CODES AND POLICIES

**8A.2.1      Code Administration:** The College Building Official (CBO) is the designated building official for College owned facilities, including those facilities owned by Agency 268, Virginia Institute of Marine Science. The CBO is charged with granting modifications, and establishing rules and regulations as may be necessary to carry out its function as building official in accordance with state law, the Restructured Act, and the Management Agreement.

**The College's Code Review Team:** (CRT) is delegated authority by the CBO under the provisions of the Management Agreement to perform reviews of the College's construction project drawings and specifications for conformance with the requirements of the Virginia Uniform Statewide Building Code, the Management Agreement, this Manual, and other College guidance. The College CRT shall perform fire safety reviews for all projects involving new construction, additions, or renovation. The responsible State Fire Marshall Office shall perform fire safety reviews for renovations and conduct fire safety inspections as appropriate.

- **Review Procedures:** the CRT reviews documents for compliance with the Virginia Uniform Statewide Building Code and Appendix U, the College's Facilities Management Technical Standards (FMTS) during its normal review of all projects. Such review does not relieve design consultants from responsibility for designing in accordance with these standards, applicable codes, State and Federal Law.

### 8A.2.2

**Applicable Codes:** The following codes and regulations apply to College projects on state property:

- Virginia Uniform Statewide Building Code, Volume I (except Standards for the Disabled), latest edition, including the referenced model codes and standards adopted.
- Virginia Uniform Statewide Building Code, Volume II including the referenced model codes and standards adopted.
- Americans with Disabilities Act Accessibility Standards (ADAAG), published July 23, 2004 (excluding the Architectural Barriers Act [ABA] Scoping Requirements) and other standards promulgated by the U. S. Dept. of Justice Under ADA-90 and the Department of General Services under the provisions of the Code of Virginia, Sections 2.1-514 thru 2.1-521. Standards of VUSBC Chapter 11 and IPC Section 405 do not apply to College facilities on State property. In addition, Non-Discrimination Under State Grants and Programs promulgated by the Rights of Virginians with Disabilities, effective October 1, 1990, implement §51.5-40, Code of Virginia.
- Virginia Public Building Safety Regulations for pre-1972 buildings.
- Industrialized Building and Mobile Home Safety Regulations
- Liquefied Petroleum Gas Regulations
- Amusement Device Regulations
- Virginia Statewide Fire Prevention Code, including the referenced model codes and standards adopted
- Certification of Tradesmen Standards
- Dept. of Conservation and Recreation - Erosion and Sediment Control Regulations (VR 625-02-00)
- Dept. of Conservation and Recreation - Stormwater Management Regulations (VR 215-02-00)
- Applicable Department of Health Regulations
- Applicable Dept. of Environmental Quality, Water Division, Regulations

### 8A.2.3

**Additional Codes and Regulations:** Certain projects may be required to comply with other codes or regulations, such as federal or special state regulations. Those codes may take precedence over the VUSBC. All such codes and regulations shall be clearly noted in the preplanning documents and displayed on title sheets of preliminaries and working drawings.

- The mixing of code requirements between two editions of the code is not allowed. Code requirements in one section are often dependent upon conformance with requirements in other sections, therefore are not allowed without written authorization from the CBO (using the D&F format in Appendix R).

**8A.2.4 Code Implementation:** Typically, the VUSBC is adopted every three years. Such adoption incorporates specified editions of model codes (such as 2000, 2003 International Building Code, etc.) along with Virginia modifications to these codes. The Department of Housing and Community Development posts notice/announces the effective dates of the VUSBC editions as well as the dates of referenced standards and amendments.

- **Code Implementation as it applies to New Work:** The applicable code shall be the VUSBC edition in effect at the time outstanding issues have been resolved, preliminary drawings are approved (HEC0-5), and authorization is given to proceed with development of the working drawings.
  - If preliminary drawings are approved during the four (4) months prior to the effective date of a new edition of the VUSBC, the applicable code shall be designated by the College CBO (using the Appendix R D&F format)
  - Questions on this issue shall be resolved by the CBO using the D&F format in Appendix R.
- **Reactivated Projects:** Prior to reactivating a project that has been inactive for a period during which the effective code has changed, the CBO shall determine which code applies. The plans and specifications shall be revised as necessary to comply.

**8A.2.5 Modifications or Variances of Code Requirements:** If a modification or variance to the code is believed to be necessary, the A/E shall request such modification or variance in writing at or before the time preliminaries are submitted. The request shall clearly state the nature of the problem and the supporting rationale and justification for the modification or variance. All requests to waive or grant a variance to the requirements of the VUSBC will be addressed to the CBO via the PM, the Director, FPD&C and CRT using the D&F format.

**8A.2.6 Use Group Classifications:** The following guidance shall be used for buildings and structures at the College:

- Buildings for business training and vocational training shall be classified and designed for the Use Group corresponding to the training taught.
- Academic buildings having classroom-type education functions (including associated professor / teacher office spaces) where large groups of students must change classes on a schedule shall include the following:
  - Provide a Fire Protection Signaling System in the building
  - Provide 72" minimum corridor widths in the classroom corridors
  - Calculate the occupant load for each space based on VUSBC Chapter 10 and the type of occupancy (not Group) of the space
- Buildings housing research, testing and science laboratories shall include a Fire Protective Signaling System.
- Residence Halls, Fraternity and Sorority Houses, and similar dwelling units with sleeping accommodations shall be designed to comply with the most stringent requirements of both R-1 (Hotels) and Group R-2 (Residence Hall/Dormitory).

## **Chapter 8A**

### **Design Services: Codes & Policies**

- Grounds buildings with other specific uses, doubtful uses, and mixed occupancy uses shall be classified in accordance with appropriate sections of Chapter 3 of the VUSBC.

**8A.2.7 State Building Construction in Flood Plain:** Executive Memorandum 2-97 prohibits the construction of new state-owned buildings within the 100-year flood plain unless a variance is granted by the CBO for College-owned buildings, and after consultation with the State Coordinator for the National Flood Insurance Program (the Department of Conservation and Recreation (DCR)).

**8A.2.8 Fire Safety Reviews:** Will be conducted by the CRT for all projects.

- **Fire suppression, fire detection, and fire alarm shop drawings:** shall be reviewed and approved prior to the work being installed. Where a complete fire protection system is designed and shown on the construction documents the drawings and/or specifications shall state that deviations in materials, locations, configurations, or sizes proposed by the Contractor are subject to being reviewed under the provisions of Section 26 of the General Conditions as a “substitution”.
  - When the fire suppression, fire detection, and fire alarm systems are not complete on the construction documents, then shop drawings or submittal data shall first be reviewed and approved by the A/E of record. The reviewed documents, with any added notations by the A/E, shall be submitted to the appropriate Fire Safety reviewer (CRT and/or responsible State Fire Marshal’s Office) for final review and approval.
- **Safety equipment not required by code:**, including Fire Detection, Fire Alarm, and Fire Suppression Systems, but are provided at the College’s option in state owned buildings and structures shall be provided in accordance with the code. Work that is planned as a complete system, but requires phased construction to provide a complete system is acceptable. Providing partial systems to certain spaces such as storage spaces that will improve safety without giving a false sense of security to building occupants will be considered on a case-by-case basis.

### **SECTION 8A.3 SEPARATE CONTRACTS FOR MATERIAL AND/OR EQUIPMENT**

**8A.3.1 General:** All procurements must be made in accordance with the College Procurement Rules. All assignment of contracts or materials must be done with the full prior knowledge of all parties to the contract. The use of ‘allowances’ is not competitive and has been deemed not to conform to the College Procurement Rules. Work outside of the general contract, that is Not In Contract (NIC) for bidding but is to be included in the construction, must be coordinated with the contract documents in one of the following ways:

**8A.3.2 Contractor purchased/Contractor Installed (subcontractor designated/price set by College):** Drawings and specifications must be included that describe the work including:

## **Chapter 8A Design Services: Codes & Policies**



scope of work, materials, installation, testing, and quality control. The Bid Form must include a statement that informs the General Contractor to accept the subcontract and coordinate the work as if the General Contractor had selected the subcontractor. The Bid Form shall also include the value/quote/negotiated price of the subcontract to be included in the Bid. An example of this is a pre-selected Building Automation Systems subcontractor.

**8A.3.3 Contractor purchased (materials contract assigned by the Owner)/Contractor Installed:** Drawings and specifications must be included that describe the work including: scope of work, materials, installation, testing and quality control. The Bid Form must include the value/quote/price of the materials contract and a statement that informs the General Contractor of the intent to assign a specific materials contract, and directs the General Contractor to accept and install the materials and coordinate the work as if the General Contractor had purchased the materials. An example of this is laboratory or kitchen equipment.

**8A.3.4 Owner purchased/Contractor Installed:** Drawings and specifications must be included that describe the work including: scope of work, materials, installation, testing, and quality control. The Bid Form must include a statement that informs the General Contractor of the intent to provide specific materials in a specific location, and directs the General Contractor to accept and install the materials and coordinate the work as if the General Contractor had purchased the materials. An example of this is existing or pre-purchased laboratory or kitchen equipment. The College shall pay the supplier directly for the materials.

- A Determinations & Findings Report approved by the Director, Facilities Planning, Design and Construction, is required to use this method of procurement.

**8A.3.5 College purchased/College installed** (or installed by College's separate contractor): The Bid Form must include a statement that informs the General Contractor of the intent to perform specific work in a specific location, and directs the General Contractor to allow the work to proceed, and coordinate the work of the owner and other contractors. An example of this is specialized laboratory equipment.

## **SECTION 8A.4 PROCUREMENT OF FURNISHINGS AND LOOSE EQUIPMENT**

Loose equipment and furnishings are generally items moveable or portable versus permanently installed. It includes such items as residential refrigerators; unattached residential stoves; unattached furniture; and other similar furnishings or loose equipment. The College shall purchase loose equipment in accordance with College Procurement Rules through the College's Department of Procurement.

## **SECTION 8A.5 BUILT-IN EQUIPMENT**

Built-in equipment comprises special purpose equipment or furnishings that are permanently built in or attached to general building construction. It includes such items as laboratory fixtures, kitchen cabinets, commercial laundry equipment, auditorium seating, stage rigging, and so forth. Built-in equipment may be procured in the following ways provided the procurement complies with Chapter 43 Title 2.2 of the *Code of Virginia*:

- Bid as part of the General Construction Contract.
- Bid prior to receipt of bids on the General Contract where the successful bidder agrees to be assigned as a subcontractor to the General Contractor. That price and vendor's name are then listed on the Bid Form using wording as shown on the Sample Bid Form in Appendix C for inclusion in the General Contract bids.
- Bid and installed as a separate contract for both procurement and installation in accordance with the College's Procurement Rules.

## **SECTION 8A.6 CHESAPEAKE BAY PROGRAM**

The College will ensure that their projects are located, designed and constructed to protect the water quality and living resources of the Chesapeake Bay. Adherence to *the Chesapeake Bay Watershed Development Policies and Guidelines* will be required in the development of all project sittings/designs. This publication is available from the Chesapeake Bay Local Assistance Department.

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## **CHAPTER 8B DESIGN SERVICES:**

### ***CONTRACT DOCUMENT REQUIREMENTS***

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#### **SECTION 8B.1      GENERAL**

The A/E should be aware that there are differences between private work and work done for the College of William and Mary. These include:

**8B.1.1      Pre-qualified Bidders:** The Commonwealth cannot limit bidding to a selected list of contractors known to do good work. Unless contractors are pre-qualified for the project in accordance with Section 1103.0, any licensed contractor may bid.

**8B.1.2      Contract Document Detail:** Since the knowledge and experience of the contractors bidding on the project is an unknown, drawings and specification requirements must leave nothing to the imagination. They must be clear, concise, and provide thorough detailing of existing and proposed construction.

**8B.1.2.1    Sections, Details, and Dimensions:** must be in sufficient quantity, clarity and detail to allow the bidder to understand what is expected, to make takeoffs of material types and quantities, and, once hired to prepare shop drawings and execute the construction. This particularly applies to:

- Stairs
- Special connections for framing
- Typical details of system interfaces
- Flashings for roofs and walls, and similar building features
- Details should clearly distinguish between existing and proposed/new construction.
- Drawings must also clearly show and/or describe demolition and/or phasing requirements.

**8B.1.3      Design Responsibility:** Project design is the sole responsibility of the A/E. Specifications that require the contractor to provide engineering design are not acceptable unless the products specified for contractor design are closed engineered systems. Closed engineered systems include: pre-engineered buildings, manufactured mechanical equipment, prefabricated trusses, and precast and common steel structural connections. Other systems can be defined as closed engineered systems if approved by the Associate Vice President for Facilities Management (AVP/FM).

**8B.1.4 Specifications to Encourage Competition:** In order to encourage the competition required in the expenditure of College and public funds, performance specifications that define a desired result or assembly, or reference recognized standards to define a desired result or assembly are strongly preferred. If performance specifications are not practical, and a manufactured product must be used to define a desired result of assembly, then three manufacturers and three products shall be referenced. Do not reference both manufactured products and performance criteria because conflicts in the performance criteria and the product performance create unnecessary conflicts. Sole source and proprietary specifications are not allowed without prior written authorization.

**8B.1.5 Project Aesthetics:** Good architecture can be achieved simply by good design which implies sensitivity to scale, massing, proportion, materials, detail and even color - none of which necessarily cost more should be kept in mind throughout the design. The College and the A/E must work together to achieve an aesthetically acceptable design which meets the functional requirements of the project within the stipulated design-not-to-exceed cost.

**8B.1.6 Project Identification on Documents:** The College and the A/E shall show the 8digit Project Identification Code (PC # = Agency Code + Project Code) and College PIMS number on all plans, specifications, contracts, correspondence, sketches, invoices, memoranda, addenda and other documents related to the project. Where the project has been subdivided, also show the two-digit subproject identification code number. Documents without the required identification are not complete. Each page/sheet/sketch/drawing of any addenda shall show the project code, addendum, and page or sequence number to clearly indicate that the material is a part of the contract documents. The A/E shall require the Contractor to show the Project Identification PC# and College Work Order or PIMS number on all submittals including invoices, schedules, shop drawings, change order proposals, correspondence and other project documentation.

**8B.1.7 Capital Project Initiation:** The College will initiate the design of a Capital construction project upon receipt of an approved HECO-2 Form. Depending on the project documentation previously submitted and the action wording on the HECO-2, one or more of the following design progress phases may be required to be submitted for review by the College Code Review Team.

- Schematic Design/Project Criteria
- Preliminary Design/Design Development
- Working Drawings/Construction Documents/Contract Documents
- Revised Working Drawings
- Yellow-out Documents

Minimum requirements for data, drawings, specifications, and cost estimates to be included in the submittal for the indicated phases are described in this chapter and the referenced Appendices.

## **Chapter 8B**

### **Design Services:**

### **Contract Document Requirements**

**8B.1.8 Capital Outlay Construction Projects:** This Chapter applies to all General funded, Non-general funded, and Maintenance Reserve projects at the College of William and Mary. These projects are subject to:

- Review by the College Building Official for conformance to the Virginia Uniform Statewide Building Code including its referenced standards.
- The technical and procurement requirements of the Manual
- The College of William and Mary Technical standards.

**8B.1.8.1 Changes in Use Group Classification:** When any existing College owned building is used for a new purpose and the “Use Group Classification” is changed, the appropriate building information will be submitted to the College Code Review Team for review and approval, and issuance of a new Certificate of Use and Occupancy.

**8B.1.9 Document Preparation:** Projects/Work shall be designed by and the documents sealed and signed by Virginia licensed Architect(s) and/or Engineer(s).

**8B.1.9.1 Working Drawing Review:** Working drawings ready for bidding and an Application for Building Permit (CO-17a) shall be submitted to the College Building Official (Code Review Team) for review and issuance of a Building Permit.

**8B.1.9.2 Project Permits:** Many interior renovation or modification projects which do not involve a Change in Use Group Classification, or subdivision of rooms, or alteration of exit access requirements, or additional/redistribution of electrical loads, and projects to alter or relocate portions of mechanical systems may be permitted as a project permit under delegated authority authorized by the College Building Official.

- The College shall follow the procedures and keep records of such work as set forth in the College Project Permit procedures.
- See appendix “P” for additional permitting information.

**8B.1.10 Project Inspections:** The Work shall be inspected by a licensed Architect or Engineer, or by other qualified and approved inspector, for conformance with the VUSBC as shown on the approved plans and specifications. The College shall submit the HECO-13.1a, the HECO-13.2a, the Fire Marshal's report and recommendation, and other applicable certificates or reports along with the Form HECO-13.3a, Application for a Certificate of Use and Occupancy, to the College Building Official when requesting that a Certificate of Use and Occupancy be issued.

**8B.1.11 Change of Use:** If the College proposes to change the Use Group Classification of a building or a portion thereof, the VUSBC requires that a new Certificate of Use and Occupancy be obtained.

**8B.1.11.1 Compliance with Current VUSBC:** The project shall be in compliance with the current VUSBC requirements for the new use or, alternatively, shall have the

## **Chapter 8B**

### **Design Services:**

### **Contract Document Requirements**

building evaluated by a licensed Architect or Engineer for conformance with the requirements of Chapter 34 of the VUSBC.

**8B.1.11.2 Required Submissions:**

- A copy of the Chapter 34 evaluation signed by a licensed Architect or Engineer shall be submitted to the Code Review Team along with copies of small-scale floor plans for evaluation prior to construction.
- A copy of the Fire Marshal's report, and a Form HECO-13.3a, Application for a Certificate of Use and Occupancy shall be submitted to the College Building Official requesting issuance of a Certificate of Use and Occupancy.

**SECTION 8B.2 DOCUMENT STANDARDS**

**8B.2.1 Relation of Drawings and Specifications:** Drawings generally indicate the scope of work, locations, relationships, and dimensions while specifications generally indicate quality, performance and installation requirements.

**8B.2.1.1 Drawings and specifications shall supplement each other** and must not conflict. Terminology used in specifications and drawings should be the same.

**8B.2.1.1 Individual Submission Identification:** Each submission, (Schematic, Preliminary, Working, and Final) including resubmissions, shall be clearly identified as to the type of submittal, the revision number, if applicable and the submission date.

**8B.2.1.1 Individual Submission Dates:** Each submission, (Schematic, Preliminary, Working, and Final) including resubmissions, shall have independent submission dates, i.e. no two submissions shall share the same submission date.

**SECTION 8B.3 DRAWING STANDARDS**

**8B.3.1 General Requirements** The following clarifies the requirements, standards, and expectations applicable to drawings prepared for bidding and construction on state projects. See College of William and Mary Technical Standards (Appendix U) for applicable drafting standards.

**8B.3.2 Standard Drawing Sheet Information:** Each drawing to be reproduced shall show:

- The name of the A/E
- The Project Title
- The Project location
- The 8 digit state Project Code
- The 3 digit sub-project code if applicable
- The Drawing / Sheet Title

- The Drawing / Sheet number,
- The seal and signature of the responsible licensed professional,
- The uniform date of the completed documents
- Drawing revisions and associated revision dates

**8B.3.3**      **The Title sheet(s):** In addition to the standard information indicated above, the Title sheet shall clearly indicate the following:

- Activity or function(s) to be performed in the facility
- Version (date) of VUSBC on which the design is based
- Other major code used as a basis for design
- Use Group classification(s)
- Maximum VUSBC occupancy for each level and total for building
- VUSBC classification of construction type
- Area for each floor and entire building; volume of building
- Location and Vicinity Maps;
- The Index of Drawings
- The master listing of all applicable abbreviations and symbols
  - Provide a listing of the discipline specific abbreviations and symbols at the beginning of each discipline
- Facility Capacity
  - Number of beds (dormitory)
  - Number of fixed seats (auditorium)
  - Number of parking spaces (parking deck)
  - Other information relating to capacity of the facility as applicable.
- Seal of the A/E Principal-in-Charge of the project, signed and dated
  - A/E may also require the seal and signature of a principal of its consultants.

**8B.3.4**      **Drawing Orientation:** Building floor plans and drawings for all disciplines shall be oriented the same to avoid confusion and to facilitate overlaying of drawings.

**8B.3.5**      **Arrangement of Drawings:** Drawings shall be arranged in the following order with the discipline identifying character shown:

- T - Title Sheet and Index
- C - Plot and/or Site plans
- C - Sanitary and Civil

**Chapter 8B**  
**Design Services:**  
**Contract Document Requirements**

- B - Boring logs
- L - Landscaping
- D - Demolition
- A - Architectural
- S - Structural
- FP- Fire Protection Information
- SP- Sprinkler Systems, Standpipes, and Accessories
- P - Plumbing
- M - Mechanical (heating, cooling, ventilation, etc.)
- E - Electrical
- R - Asbestos Abatement

**8B.3.6 Drawing Numbers:** Drawings shall be sequenced by discipline letter (as indicated in paragraph 8B.2.5) and number, i.e., A-1, A-2, A-3.1, A-3.2, S-1, S-2, etc.

**8B.3.7 Boring Log Presentation:** Boring logs representing soil conditions encountered in the site investigation including pertinent logs from previous explorations in the project location shall be presented on the drawing(s). Logs shall show the ground elevation, the depths of borings, depths and classifications/descriptions of materials encountered, blow counts per ASTM D-1586, ground water elevation, and other pertinent information. Boring locations relative to the project shall be shown on a small-scale location plan or on the Site Plan. Boring logs may be photocopied to stick-on transparencies and securely and neatly organized on the Boring log sheet if legible and suitable for microfilming.

**8B.3.8 Seals:** See Section 5A.13 for specific requirements regarding the application of seals.

**8B.3.9 Asbestos drawings and specifications** shall have the name, signature and Virginia license number of the asbestos project designer shown on each asbestos drawing sheet and at the beginning of the asbestos specifications section.

**8B.3.7.1** Asbestos drawings and specifications shall be incorporated into the contract documents as an appendix.

**8B.3.10 Uniform Date of Completed Drawings:** All drawings and the specifications shall be dated with the same date which is established by the A/E as the date the documents are (or will be) complete, sealed, signed and dated, and ready for bid. Documents printed for bidding shall bear the date described above with no revision numbers or dates.

**8B.3.11 Limits of the Work:** The drawings shall describe/show the Work to be provided by the Contractor. Existing features, structures, archaeology features, or improvements to remain shall be so noted. Existing features, structures, or improvements to be demolished and/or removed shall be noted or identified. Work, improvements, demolition or construction which the College will perform or have performed by separate contract shall be identified as “Not In Contract” or “NIC” if the abbreviation has been defined.

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## SECTION 8B.4 SPECIFICATION STANDARDS

**8B.4.1** **General** Specifications shall clearly define the quality, performance, and installation standards for the Work and the conditions under which the Work is to be executed. They shall be in sufficient detail to describe without ambiguity, the materials, equipment and supplies, and the methods of installation and construction. Required tests and guarantees shall be indicated in the specifications.

**8B.4.1.1 Standard Government Specifications:** References to Federal Specifications, MILSPECS, Corps of Engineers Specifications and the like shall be avoided unless the requirements are specific, or specific prior written approval of the College is obtained.

**8B.4.2 Editing Requirements:** All specification sections shall be written / edited to apply specifically to the project and shall not include materials, standards, requirements or data not pertaining to the project.

**8B.4.2.1 Project Manual/Specifications Arrangement:** Specifications shall be on 8 1/2" by 11" sheets with bid sets preferably printed on both sides of the sheet. Type print size shall be suitable for microfilming and shall not be smaller than 12-pitch type size. The table of contents pages shall be dated with the same date as the drawings and shall be sealed and signed. **The Project Manual shall include:**

- Notice of Invitation to Bid (Format in Appendix C)
- Instructions to Bidders (HECO-7a) (located in Appendix A)
- Prebid Question Form (located in Appendix J)
- Bid Form (Format in Appendix C)
- The current College of William and Mary Addendum Number One of the General Conditions of the Construction Contract (HECO-7) (located in Appendix A) (See Section 8B.4.3 below.)
- The current revision of the General Conditions for the Construction Contract (DGS-30-054) (CO-7)
- Supplemental General Conditions DGS-30-377 SWAM, and DGS-30-376, if applicable
- Contract Between Owner and Contractor (GS Form E&B CO-9)
- Workers Compensation Insurance Certificate (GS Form E&B CO-9a)
- Standard Performance Bond (GS Form E&B CO-10)
- Standard Labor and Material Payment Bond (GS Form E&B CO-10.1)
- Change Order blank (HECO-11)
- Schedule of Values and Certificate for Payment (GS Form E&B CO-12)

- Affidavit of Payment of Claims (GS Form E&B CO-13)
- Final Report of Structural Special Inspections (HECO-13.1b)
- Certificate of Completion by Contractor (HECO-13.2) and Certificate of Partial or Substantial Completion by Contractor (HECO-13.2a).
- List of Drawings
- Submittal Register Format (Sample in Appendix J)
- Structural and Special Inspections List (Samples in Appendices I and M)
- Division 1 – (CSI Format) General Requirements, Special Conditions, etc. which will include CWM special conditions in Appendix Y.
- Technical Specifications (Applicable Sections)
  - Technical Specification Sections shall be numbered with appropriate section numbers corresponding to the CSI Masterformat numbering system.
  - Technical Sections should, where possible, be subdivided into the Part I - General, Part II - Products, Part III - Execution format.
- Appendices containing Soils Report, Asbestos Report, Lead-based Paint Report and/or other information pertinent to the project but not a part of the Work. Such material should be noted as “INFORMATION ONLY” for use by the Contractor as he/her deems appropriate.

(See Sample Specification Table of Contents in Appendix C) (Note: CSI Masterformat numbering is subject to changes under consideration as may be in use by the A/E at this time.)

**8B.4.2.2 Table of contents for Bid Packages:** The Table of Contents shall include applicable requirements of the above, but should indicate the following documents as “Included by reference”: CO-9, CO-9a, CO-10, CO-10.1, HECO-11, CO-12, HECO-13.2, and HECO-13.2a.

**8B.4.3 General Conditions of the Construction Contract:** Addendum Number One to The General Conditions for the Construction Contract (Form HECO-7) and The General Conditions for the Construction Contract (CO-7) are standard documents required to be incorporated in the documents for all building related construction, renovation, addition, and/or repair projects for which plans and specifications are prepared.

**8B.4.3.1 The General Conditions (CO-7)** have very significant legal implications and, as such, have been reviewed by the Office of the Attorney General. No item of the General Conditions may be amended or deleted or its intent changed without

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prior written approval of the Associate Vice President for Facilities Management (AVP/FM).

**8B.4.3.2** The A/E shall be familiar with the above requirements and provisions and shall coordinate the requirements in the Specifications with those in the above documents.

**8B.4.3.3** “**Supplemental General Conditions**” modify, amend or delete specific portions of the General Conditions. Where it is necessary to modify or amend a section of the General Conditions the changes shall be set forth and labeled “Supplemental General Conditions”, and shall be submitted for review and approval by the Associate Vice President for Facilities Management. (AVP/FM) Excluding those specific modifications provided in Appendix J such as for Section 11 (Contractor’s and Subcontractor’s Insurance, Section 12 (“All-Risk Builder’s Risk Insurance), Section 25 (Fees, Services and Facilities), or Section 43 (Damages for Delay; Extensions of Time) for liquidated damages.

**8B.4.3.4** **Supplemental General Conditions DGS-30-377** shall be incorporated in all documents that require the General Conditions of the Construction Contract form HECO-7. The Supplemental General Conditions provide for the inclusion of Small Businesses and Women–Owned and Minority Owned (SWAM) Business.

**8B.4.4** **Division One Special Conditions:** The “Special Conditions” set forth specific requirements that are peculiar to the specific project. These include such items as hours of work restrictions, Contractor office and storage area restrictions, coordination requirements for utility interruptions, hazardous material data sheet submittals, and so forth. The Special Conditions shall be included in Division 1 of the Technical Specifications.

**8B.4.5** **Instructions to Bidders, HECO-7A:** The Instructions to Bidders, HECO-7A, included in this Manual is a standard document which has been written to conform to the requirements and procedures of the Virginia College Procurement Rules. The Instructions to Bidders shall be reproduced and included in the Documents without modification. They shall not be retyped. The requirements and procedures delineated in the Instructions to Bidders have significant legal implications and shall not be changed without the prior written approval of the AVP/FM.

**8B.4.5.1** The Architect/Engineer for the project shall be familiar with and conform to the requirements of the Instructions to Bidders, Form HECO-7A.

**8B.4.5.2** Information on where Bid Documents can be viewed and shipping charges, if any, be should be placed in the Advertisement and Notice of Invitation for Bids. See Chapter 12.2.

**8B.4.6** **Types of Specifications:** The following three types of specifications are used on College projects. (Agencies 204 and 268)

**8B.4.6.1** **Non-proprietary or Performance Specifications:** This is the preferred method of specifying materials, equipment and systems. A non-proprietary specification shall be written either as (a) a generic performance specification (preferred); or as (b) a specification naming a minimum of three manufacturers with model or series numbers.

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- **A generic performance specification** must be written to describe the required characteristics, performance standards, capacities, quality, size or dimensions, etc. of the item or system. A minimum of three manufacturers must be able to meet all requirements shown in the specification. The specification shall not be contrived to exclude any of the three manufacturers or to benefit any one manufacturer over any of the other manufacturers. The performance specification shall not name manufacturers or brand name products.
- **A manufacturer/model number type specification** must list three manufacturers with their respective model numbers. Each of the listed manufacturers/model numbers must have been determined by the A/E to meet the specifications and be acceptable. If a named manufacturer prepackages or pre-assembles its item or system, the model number shall be specified. If the named manufacturer(s) custom builds the item or system, naming of model numbers is not required.
  - The manufacturer/model specification must describe the required characteristics, performance standards, and capacities which will be used to determine equal products as allowed by Section 26 of the General Conditions.
  - Do not specify extraneous characteristics that do not relate to the products performance or suitability for the project.
  - If only two acceptable manufacturers can be found and documented by model number but other equal products are acceptable if found by the bidder, the A/E may request permission from the Associate Vice President for Facilities Management to list only those two manufacturers but consider equals if proposed by the Contractor.
- Where a particular manufacturer's product is indicated as the basis for design/detail, the following statement shall be placed on the drawing with appropriate noting/references:
  - *"The design/detail/section shown is based on (manufacturer, model) equipment and is intended only to show the general size, configuration, location, connections and/or support for equipment or systems specified with relation to the other building systems. See specification for technical requirements pertaining to the product."*

**8B.4.6.2 Proprietary Specifications:** A specification is proprietary if it fails to meet requirements of a non-proprietary specification. Although a proprietary specification should be avoided because it restricts competition, circumstances such as space limitations, mandatory performance standards, compatibility with an existing system, etc, may leave no other reasonable choice (see below).

- Two typical situations that may require proprietary specifications are:

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- When only two manufacturers or suppliers provide an acceptable product or system, when there are no equals and when no substitutions are allowed
- When there is only one manufacturer but two or more vendors or suppliers can purchase the material and compete to provide the product or system to contractors or bidders.
- Proprietary specifications may be used when the College Project Manager or A/E requests and receives, in writing, authority from the Associate Vice President for Facilities Management (AVP/FM) to use a proprietary specification. The Project Manager or A/E must request authority as soon as the need for the specification is recognized, preferably in the preliminary design stage but definitely prior to submission of Working Drawings/Contract Documents. The request shall explain why the proprietary specification is necessary.
- If proprietary specification authorization is granted, the specification shall state that “the product shall be used to the exclusion of all others and no other product will be considered to be equal.”

**8B.4.6.3 Sole Source Specifications:** A specification is sole source when it names only one manufacturer or product to the exclusion of others, or when it is contrived so that only one manufacturer, product, or supplier can satisfy the specification. Because it eliminates all competition, it can be used only in the most exceptional circumstances and under the strictest conditions. A product or piece of equipment which is available only thru an area franchised vendor is also considered to be a Sole Source item.

- It is the policy of the College of William and Mary that contracts are to be awarded on a competitive basis and that the use of sole source procurement be limited to those instances where only one source is practically available that will meet the specific requirements of the project.
- Sole source specifications may be used when the College Project Manager or A/E requests and receives, in writing, authority from the AVP/FM to use a Sole Source specification. The Project Manager or A/E must request authority as soon as the need for the specification is recognized, preferably in the preliminary design stage but definitely prior to submission of the Contract Documents.
- The justification for a sole source request shall address the following (by number and order) in a direct and concise manner:
  - Explain why this is the only product or service that can meet the needs of the College.
  - Explain why this vendor is the only practicably available source from which to obtain this product or service.
  - Explain why the price is considered reasonable.

- Describe the efforts that were made to conduct a noncompetitive negotiation to get the best possible price.
- Prior to advertising the project for bids, the College shall either procure the sole source item and specify it as Owner furnished/Contractor installed or the College shall negotiate a fixed price for the item or system with the sole source vendor and require that the vendor provide the specified Sole Source Work as a subcontract to the bidder who is awarded the contract. In the latter case, the Bid Form shall show the vendor's name and the subcontract price for the item/system to be included in the Contractor's bid. See Sample Bid Form Format for required wording. The College shall procure the item or system (including installation where applicable) in accordance with the provisions of College Procurement Rules.

**8B.4.7 Virginia Manufactured Products:** Pursuant to House Joint Resolution No. 3 of the 1984 Session of the General Assembly, when brand and/or manufacturers names are specified and one or more of those named are known to be Virginia based vendors and/or contractors, those known Virginia based vendors or contractors shall be listed prior to listing non-Virginia based firms.

To further focus on the Commonwealth's "BUY VIRGINIA" emphasis, the Invitation to Bid (or Project Manual) cover shall be printed on the "BUY VIRGINIA" watermark/graphic available from website <http://www.forms.dgs.state.va.us/>

**8B.4.8 Use of Standard or Guide Specifications:** The use of standardized specifications, or guide specs, as a basis or resource for editing has many advantages for the A/E, the Reviewer and the Contractor. Performance guide specifications prepared by Masterspec, Spectext, and the United Facilities Guide Specifications of the U.S. Military services which use the CSI Masterformat system are acceptable for editing. These guide specifications are available from multiple sources for use with various PCs and word processing programs.

**8B.4.8.1 Editing of guide Specifications:** The A/E shall edit the guide specifications to include only the materials, requirements, and procedures applicable to the project. Specifications that are submitted without editing will be rejected as an incomplete submittal and appropriate notation made on the A/E's performance evaluation.

**8B.4.8.2 Delete Military and Federal Specification References:** Where Navy or CE guide specifications are used on a project, they shall be edited to delete all references to Military specifications and Federal Specifications. References to the Contracting Officer should be changed to the College. Also, requirements for tests, inspections, visits to the manufacturer's plant, etc. which are not normally required for state projects shall be deleted.

**8B.4.9 Restrictive Specifications and Performance Requirements**

**8B.3.9.1 The A/E shall not require samples, shop drawings, or similar materials** to be submitted for approval prior to receipt of bids. The specifications must contain sufficient information to describe to the contractor and bidders the performance and quality standards that will be used to evaluate the submittals.

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**8B.3.9.2 Number of years of experience**, or time in business, shall not be specified as a basis for award of contract. This applies not only to contractors, but also suppliers of equipment.

**8B.4.10 Equal materials, Equipment or Assemblies:** Any brand, make or manufacturer of a product, assembly or equipment which in the opinion of the A/E is the equal of that specified, considering quality, capabilities, workmanship, configuration, economy of operation, useful life, compatibility with design of the work, and suitability for the intended purpose, will be accepted unless rejected by the College as not being equal.

**8B.4.11 Substitute materials, Equipment or Assemblies:** The General Conditions permit the Contractor to propose a substitute or alternate material, product, equipment, or assembly which deviates from the requirements of the Contract Documents but which the Contractor deems will perform the same function and have equal capabilities, service life, economy of operations, and suitability for the intended purpose. Examples of substitutes or alternates include proposing to substitute “precast concrete” for “cast-in-place concrete” floors or to substitute “precast concrete panels” for “masonry” walls. The Contractor’s proposal must include any cost differentials proposed. The College would have the A/E provide an initial evaluation of such proposed substitutes to include a recommendation on acceptability and indicate the A/E’s redesign fee to incorporate the substitution in the design.

**8B.4.11.1** If the proposed substitute is acceptable to the College, a Change Order would be proposed to the Contractor to accept the substitute and to deduct the cost of the A/E redesign fee and the proposed **cost** savings from the Contractor’s Contract amount. The College will have the right to limit or reject substitutions at its sole discretion.

**8B.4.12 Unit Prices:** Certain aspects of construction projects, such as the depth to suitable foundation bearing for footings, piles or caissons, or the locations and amount of rock to be encountered and removed often must be estimated based on limited factual data. In such situations, to ensure fairness for the College, the Bidders and the successful bidding Contractor, estimated quantities are shown for unit pricing and determining the low bidder. A statement is included on the Bid Form stating that actual quantities will be measured for the listed work and that the Contract Price will be adjusted upward or downward by change order to reflect the actual quantities involved times the Contractor’s unit price shown on the Bid Form (unless such prices have been modified by the Contract). See Standard Bid Form Format in Appendix C.

**8B.4.12.1** Where unit prices are used to competitively bid work that may vary depending on actual conditions encountered, the following method shall be used:

- The A/E shall provide on the Bid Form the unit price schedule to include an estimated quantity of each work task or material listed. The estimated quantities should be reasonably accurate based on the best available information and the designers experience and judgment.
- The bidders insert the unit prices for each and extend the estimated quantity times unit price to yield a cost.

- The extended costs will then be added to the base bid for other work to give a total base bid
- A statement shall be included on the Bid Form stating that the payment for work listed in the unit price schedule will be based on actual quantities of listed items required for completion of the work.

**Example of Unit Price Method and Wording:**

*Base Bids for Parts C, D and E shall be based on the estimated quantities indicated to be provided complete and in accordance with the applicable portions of the plans and specifications. Payment amounts for each of these items will be based on the actual quantities authorized, provided and approved times the unit costs indicated by the bidder. The final contract amount shall be adjusted upward or downward based on the actual payment amounts versus the bid amounts for PARTS C, D and E.*

*Part C. - Excavation of Additional Unsuitable Material*

*Excavation of unsuitable material, where authorized or directed, below the levels required for the Work in Parts A and B and backfill with compacted material per specifications. (price per cubic yard) (Final amount shall be adjusted upward or downward based on actual quantity authorized)*

*Estimated quantity of 150 cubic yards @ \$ \_\_\_\_\_ per cubic yard = \_\_\_\_\_  
(A/E fill in estimated quantity to be included in bid)*

*Part C = \_\_\_\_\_ Dollars \$*

*Part D. - Piling (Example for Timber Piling)*

*Timber piling provided complete in place in accordance with the plans and specifications (Priced per each pile at the indicated length):*

*40' Timber Piling 60 ea @ \$ ea = \$  
30' Timber Piling 20 ea @ \$ ea = \$*

*Part D = \_\_\_\_\_ Dollars \$*

*Part E. - Caissons (Sample for Caisson Foundations) Cast-in-place concrete caissons complete in place in accordance with the plans and specifications (Priced per linear foot of caisson complete and accepted for each caisson diameter):*

*36 inch Diameter 250 linear feet @ \$ / linear feet =\$  
48 inch Diameter 175 linear feet @ \$ / linear feet =\$*

*Part E = \_\_\_\_\_ Dollars \$*

**8B.4.13**

**Specifying New Types of Materials Equipment or Systems:** Projects for the College are not testing grounds for new type of materials or equipment; however, the fact that a material is newly developed does not preclude its use if documentation of independent laboratory



tests clearly shows that the material will meet the applicable requirements for the project. The AVP/FM must approve such utilization.

**8B.4.13 Material Evaluation:** Unless the manufacturer of a new material furnishes factual data sufficient to evaluate the material, it should not be considered for use. If a new material is considered for use, a competitive-type specification must be written to assure that a competitive good-quality product will be obtained. The AVP/FM may, where justified, authorize use of a new material, equipment or system for a particular project on a trial basis for observation/evaluation.

**8B.4.14 Phraseology:** Specifications must clearly indicate the requirements for the project. Words or phrases that are vague or may be interpreted more than one way often lead to problems during bidding or construction and result in change order claims/requests. The following instructions are intended to reduce common errors and conflicts evolving from interpretations of the specifications.

- Under “Requirements”, do not say “the Work consists of ...” Drawings should show the entire scope of the Work. If necessary to list certain parts, say “Generally, the Work includes...”
- In lieu of reference to the accompanying drawings, use the words “as shown”, “as indicated”, “as detailed” or “as approved by ....” “as directed by .....,” “as permitted by.....”
- There are two parties to the Construction Contract: (1) the College for whom the Work will be performed and (2) the Contractor who has the responsibility to the College for all Work in the Contract. Do not name which subcontractor will do the work (i.e., the plumbing contractor, the earthwork contractor, etc.). The Contractor is responsible for determining the packages of work for each subcontract. It is acceptable for certain specialty work to be performed by persons qualified, certified or licensed (if appropriate) and experienced in this type of work.
- Do not use “etc.” This term is too indefinite for bidding and inspection purposes.
- Minimize the use of cross-references and in no case use paragraph numbers for this purpose. If necessary to refer to a particular paragraph, do so by its section number and title (e.g. Section 03300, Cast-in-Place Concrete).
- Do not set up a paragraph in the various sections entitled “Work not included.”
- Describe the work that is included under the respective sections.
- Specifications should clearly delineate air conditioning ducts, heating ducts and piping systems that are required to be insulated. The phrase “insulating all ducts except in conditioned spaces” has resulted in differences of opinion and claim situations. All duct systems should be appropriately designated as supply, exhaust,

outside air intake, transfer, relief, or return and further clarified by stating insulating requirements.

- Do not confuse any and all; “Correct any defects” should read “correct all defects”
- Do not confuse either or both; e.g., “Paint sheet metal on either side” should read “Paint sheet metal on both sides”. “Either” implies a choice.
- Do not confuse or and, e.g., “The equipment shall not have defects in workmanship and material.” The use of “and” in this sentence indicates both requirements must be met. e.g. “Additives that decrease strength or durability are not permitted.” The use of “or” implies either condition would disqualify the additive.
- Do not use “and/or”. The courts have considered this phrase to be intentionally ambiguous and, therefore, claims are often rendered in favor of the Contractor.
- Use statements that are definite and contain no ambiguous words and phrases.
- “Remove” implies to take away from its current location. If “remove” is used, the A/E must also indicate whether to dispose of, salvage or re-install the material “removed”.
- “Reinstall” implies put existing back in indicated place. If “reinstall” is used, the A/E must also indicate that the Contractor must carefully remove the item, properly store it, and then “reinstall” the item at the appropriate time.
- “Replace” implies removal of old material and furnish and install new material. The preferred wording would be to “remove”..... and “provide” .....
- “Provide” is defined as “furnish and install”. When material or equipment is “furnished” by the College directly or under other contracts for installation by the Contractor, the term, “install” should be used; however, the Contractor may be required to “provide” foundations, fastenings, etc., for the installation. If the word “install” is used alone, the Bidder or Contractor has a right to assume, on the basis of the definition cited, that the College will “furnish” the materials in question.

**8B.4.15 Specifications on Diskette or CD-ROM:** The College requires the A/E to provide one copy of the final completed specifications including addenda on diskette or CD-ROM in Microsoft Office Word (2003 or later). All specifications shall be written in the current version of Microsoft Word.

**8B.4.16 Hardware Specifications and Schedules:** Hardware specifications and schedules may be written to specify the applicable Builders Hardware Manufacturer's Association (BHMA) / American National Standards Institute (ANSI) standards and designations or the

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specifications and schedules may be written by specifying three manufacturers and model numbers for each item. In either case the specifications must give sufficient information of the type, size, function, finish, etc., for the vendor to know what is required and for the A/E to evaluate the submittals. Sample types of acceptable Hardware Specifications and Schedules are included in Appendix J. See College Technical Standards for proprietary hardware information.

## **SECTION 8B.5 COST ESTIMATE STANDARDS**

**8B.5.1** Detailed descriptions and requirements for cost estimates are provided in Appendix E.

**8B.5.1.1 Format:** The format outlined in appendix E shall be used for all College projects. Requests to use alternative formats must be approved by the College Project Manager in advance

**8B.5.2 Detailed cost estimate:** A detailed cost estimate consistent with the level of design is required from the A/E with each submittal. Backup estimating information, including quotes of estimated cost for major items of equipment or built-in systems, shall accompany the Building Cost Summary form.

**8B.5.2.1 Independent Cost Estimate:** A required independent cost estimate will be provided by the College for the preliminary submittal. Additional independent cost estimates provided at the option of the College will be identified in the A/E contract.

**8B.5.3 Reconciliation of Cost Estimates:** The A/E and independent cost estimator shall reconcile major differences between their respective cost estimates such that total estimated construction cost of the larger estimate is no more than 105% of the lower estimate.

## **SECTION 8B.6 DESIGN INITIATION / PREDESIGN CONFERENCE**

**8B.6.1 Participants:** The College shall arrange for a Pre-design Conference. Participants should include the College's Capital Outlay/Construction Representative, College Project Manager, the College Code Review Team, the Project Committee and the A/E's project manager and responsible designer in each discipline (architect, civil, structural, mechanical, electrical and others if needed). If the College determines that such a conference is not needed for the project, the College shall notify the listed participants in writing, of the decision.

**8B.6.2 Purpose:** The purpose of the Pre-design Conference is to clarify to all parties involved the procedures, needs and requirements for the particular project. Therefore, it may be beneficial to all for an A/E providing services for the first time on state work to have the Pre-design Conference before the fees and terms of the A/E Contract are finalized.

**8B.6.3**

**Sample Topics:** The following is a sample of topics that may be included in the Pre-design Conference agenda:

- Introduction of Attendees
- Role of College Code Review Team
- Authorized Communications
- Design not to exceed Construction Budget
- Proposed Design Schedule
- Requirements of the Manual related to the College Procurement Rules, Chapters 7-10 of the Manual and Fire Safety Reviews
- Clarification / Resolution of Budget Development Comments
- Submittal Contents
- Review Requirements
- Intent of Review Comments
- Waivers and Code Modifications
- Sole Source / Proprietary Specifications
- Use of Standard HECO and CO Forms and Formats
- Value Engineering
- Prequalification of Contractors
- Other Regulatory Reviews
- Design Approach
- Project Scope to include:
  - Functional layout requirements
  - Type of occupancy and activities to be housed
  - Capacity requirements of spaces and/or building
  - Exterior finish or appearance requirements
  - Interior finish requirements
  - Types of construction or materials required
  - Style and character of building desired
  - Special considerations such as expansion
  - Floor and Roof Live Load, Wind Load, and Seismic design Criteria
  - Special HVAC or environmental requirements and existing systems and requirements.
  - Fuel Analyses & Selection

- Special electrical power or lighting requirements and existing systems and requirements.
- Schedule requirements for design and for occupancy
- Geotechnical data requirements
- Site particulars and requirements
- A/E's questions and clarifications

## **SECTION 8B.7 SCHEMATIC DESIGN/PROJECT CRITERIA**

**8B.7.1**      **General Requirements:** Unless waived by the HECO-2 Action Wording, a schematic design/project criteria submittal shall be made to the College Code Review Team for review (usually within 120 days after the effective date of the Acts of Assembly, also referred to as the Appropriations Act, containing the project). The purpose of the schematic submittal is to further develop data, detail and scope including schematic plans, as well as verify the data and program contained in the Capital Project Request. The project scope established by the schematic design, as agreed to by the College and the A/E, shall become a part of the A/E Contract as further definition of the scope described in the Capital Project Request Data.

**8B.7.1.1**    The Schematic submittal shall include an updated/current copy of the DPB Form S-1, or an Assignable Room and Space Listing, which was the basis for development of the Schematic Design.

**8B.7.2**      **On-Board Meetings:** A schematic “On Board” review meeting with the College Code Review Team may be requested by the College, A/E, or College Project Manager to assist in verifying the design and program approach, the systems proposed for the project and/or to resolve issues raised by the review of the Schematic submittal.

**8B.7.3**      **Design Review Board:** A Schematic Design presentation to the State Art and Architectural Review Board and the College Board of Visitors is required. Reviews by the College Building Committee and the State Fire Marshal are also required. See the College Technical standards section GR.3.3. All review issues must be resolved before the A/E is authorized to proceed with the preliminary design.

**8B.7.4**      **Basis of Design Narrative:** The Schematic Design shall include a Basis of Design Narrative which provides the following information:

- Type of submission properly identified (Schematic, Preliminary, Preliminary Re-submittal, etc.)
- Submission date consistent with date of drawings
- Type of occupancy/VUSBC Use Group, clearly indicated
- Estimated occupancy capacity and method or factor used for estimate
- Functions to be housed in the building

- Proposed building location on the site (tie to building monument system)
- Exterior Circulation – How this project will work with other area facilities
- Areas and/or capacity required for various activities proposed for building
- Indicate the type of construction proposed: i.e., fire resistive, protected or unprotected non-combustible, etc. and VUSBC Type #
- Outline description of basic materials
- Future construction or expansion to be accommodated , if any
- Style and character of building desired
- Structural Design Live Loads, Wind Loads, and Seismic Criteria used
- Type of foundation system selected
- A description of the types of HVAC systems being evaluated, estimated heating and cooling loads, fuels evaluated and fuel selected to be used
- A general description of fire alarm system and identify rooms proposed to contain major Fire Alarm System Control and Trouble Signaling Panels.
- A general description of the fire sprinkler system if sprinklers are proposed for the project and indicate if fire pump may be required
- Provide indication of water supply to the proposed building
- If a Clean Agent Fire Suppression System is proposed, provide a general description, including the NFPA standard cited by the VUSBC for minimum requirements
- Where sprayed-on fireproofing is proposed, provide a general description of the locations and ratings.
- Total square foot area per floor and per building
- Total building cubic foot volume
- Number of beds, seats or parking spaces, where applicable
- Total estimated construction cost based on the schematic documents
- Total proposed construction budget.

**8B.7.5 Schematic Drawings:** The following drawings shall be included as a minimum:

- Floor plans consisting of single line drawings of each floor layout showing space names, nominal room sizes, and circulation paths
- Roof plan

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- Longitudinal building section with floor to floor and floor to ceiling dimensions
- Transverse building section
- Exterior elevation views
- Structural plan of a typical supported floor framing scheme and a typical section showing the proposed components of the floor system
- Orientation and approximate location of existing and proposed roads, walks, and parking, and utilities on a the site plan
- Any other information that would be of value to the Agency and the Architect/ Engineer reviewing the project.

**8B.7.6 Verification of Existing Conditions:** The A/E shall visit the site and ascertain pertinent local conditions that must be addressed in the design.

**8B.7.7 Cost Estimate:** See Appendix E for Schematic Cost Estimate requirements.

## **SECTION 8B.8 PRELIMINARY DESIGN (DESIGN DEVELOPMENT PHASE)**

**8B.8.1 General Requirements:** Based on the previous approvals and direction, the A/E shall prepare the Preliminary Design consisting of drawings, Narrative and other documents to fix and describe the size and character of the entire Project as to exterior appearance; foundation, structural, mechanical, and electrical system; materials; and such other essentials as may be appropriate. The A/E shall have visited the site and ascertained pertinent local conditions required to be addressed in the submittal. If any change from the information submitted at the schematic stage relating to the mix or amount of space occurs, submit new information in the format of an updated/current copy of the DPB Form S-1, or an Assignable Room and Space Listing, which was the basis for development of the Preliminary Design.

**8B.8.2 Preliminary Cost Estimate:** The A/E shall submit to the College an estimate of the construction cost of the proposed design without regard to available funds. The estimate shall relate only to the estimated bid amount for the construction shown and shall not include fees or unknown contingencies. The cost estimate summary shall include any built-in equipment, even if such equipment is bid separately. Any proposed additive bid items must be justified and indicated by a separately stated estimate amount. The cost estimate must indicate the derivation of the pricing for the estimate and shall, as a minimum, for an Architectural project, include the data required by Appendix E (Cost Estimate).

**8B.8.2.1 Utilities, sitework, civil and other special projects** such as boiler installation; a utility system; a road system; a water plant; a wastewater plant; a refrigeration or chiller installation; etc., must be estimated on a quantitative basis for the major components and a lump sum estimate for the remainder.

**8B.8.3** Preliminary submissions shall be deemed to be incomplete if the above are not included.

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**8B.8.4** **Review Process:** The A/E shall prepare and submit to the College Code Review Team, in quantities specified, black line or blue line prints of all drawings together with copies of cost estimates, Narrative, reports and other data as set forth below. After the College Code Review Team reviews the submittal, one set of review comments and/or marked copies of the documents will be provided E-Mailed to the A/E by the College Project Manager for response and/or resolution.

**8B.8.4.1** Unless otherwise relieved at the Schematic Design presentations, a Preliminary Design presentation to the State Art and Architectural Review Board and the College Design Review Board is required. Reviews by the Building Committee are also required. See the College Technical Standards section GR.3.5 which includes the following additional reviews:

- Fire Safety Review
- DCR, Erosion and Sediment Control Board
- DCR, Storm Water Management
- Division of Historic Resources
- Department of Health
- State Water Control Board
- DEQ, Department of Air Pollution Control
- DEQ, Department of Waste Management
- City of Williamsburg

**8B.8.4.2 Submittal Approval:** The submittal documents along with the review comments and the agreed upon resolutions of the comments shall be the basis of the approval for the A/E to prepare the working drawings. The A/E shall not proceed with the development of the Contract Documents until all issues in the reviews are agreed upon.

**8B.8.5 Preliminary Submittal Requirements:** The following information and data shall be the minimum acceptable requirements for a Capital Outlay project:

- Basis of Design Narrative describing the project scope, the functional and operational criteria to be met, the justification for the decisions or choices made, and any proposed deviations from the standards required by this Manual. (See Appendix D)
- Cost estimate per 8B.8.2 and 8B.5.
- Soils report to include boring logs, geotechnical analysis and foundation design recommendations.
- Preliminary drawings as described hereafter.

**8B.8.5.1** Preliminary submittals shall include ventilation design criteria and sufficient data to show compliance with code requirements and standards of good practice.

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**8B.8.6**

**General Requirements for Preliminary Drawings:** Preliminary drawings shall show the following information unless such information is not applicable to the project:

**Title Sheet(s)**

- Project Identification: Agency number, Project Code, Appropriation Act number, and College PIMS (or Work Order) number.
- Location and vicinity maps.
- Tabulation of floor areas (new and renovated), total area, volume.
- Tabulation of units: Number of parking spaces, auditorium seats, bedrooms etc.
- Listing of applicable codes with dates.
- Building Purpose/Occupancy.
- Use Group(s) per VUSBC.
- VUSBC Construction Type
- Occupancy Load(s) per VUSBC.
- Index of drawings.

**Site Plans** (site/improvement plan & composite utility plan minimum for new construction and additions; should be based on approved comprehensive Master Plan.)

- Scale and north arrow.
- New and existing contours affected by the new work.
- Floor and contour elevations.
- Applicable boundaries with survey computations.
- Dimensioned relationship Location of major components of the new work to with respect to boundaries and existing structures.
- Location of test borings.
- General parking and handicap parking.
- Handicapped-accessible routes
- Pedestrian traffic routes.
- Demolitions: structures, walks, utilities, trees, etc.
- Proposed landscaping (planting materials)
- Existing and new utilities: storm sewers, sanitary sewers, water supply, gas, steam distribution pipes and tunnels, electric and telephone poles and lines, hydrant locations and data on fire flow test.
- Site improvements such as fencing, lighting, etc.

- Typical paving section for proposed types/thicknesses.
- Identify/show special earthwork recommended and construction considerations noted in soils report.
- Archaeology Features

### **Demolition drawings**

#### **For interior demolition**

- provide information on work to be removed;
- note results of asbestos survey; and
- note results of lead based paint survey

#### **For total building demolition**

- provide a floor plan showing building size;
- describe existing material /construction to be removed;
- show an elevation (drawn or photographic) of building;
- note results of asbestos survey; and
- note results of lead based paint survey.

### **Architectural drawings**

#### **Floor Plans (for each floor)**

- Plans of each floor at 1/8" = 1'-0" preferred (1/16" = 1'-0" must be justified and have written approval of College Code Review Team).
- Overall dimensions.
- Space names and/or numbers assigned by the College Office of Space and Real Estate Management, and number of occupants of all spaces.
- If the work is an addition, show the relationship of new to existing spaces.
- Distinguish new from existing construction.
- Show demolition on the architectural plans or separate plans.
- Indicate asbestos locations regardless of who removes it or how it is removed.
- Indicate all openings, entrances, delivery areas.
- Indicate handicap access and Areas of Rescue Assistance.
- Show scale and north arrow.

### **Roof Plan**

- All proposed and existing drains.
- Roof slope: 1/4" per 1'-0" to drain minimum for all areas (unless waived for reroofing) including auxiliary drains.
- Indicate slope (high to low) with direction arrows
- All new and existing equipment.
- All significant roof penetrations and structures.
- Identification of materials on existing roofs.
- Typical roofing section identifying materials.
- Access to roof.

### **Exterior Elevations:** (Scale 1/16" = 1'-0" minimum).

- All openings: windows (including operable notation), doors, louvers, and vents.
- Percentage of glass vs. gross wall area.
- Floor elevations (above sea level).
- Identification of all major finishes.
- All stairs, ramps, and railings.
- Rooftop equipment and structures.
- Expansion and control joints.
- Grade at the face of the building wall.
- Subsurface construction (dotted in).
- Existing and new work clearly distinguished.

### **Small Scale Sections** (Scale: 1/16" = 1'-0" minimum)

- Envelope; one longitudinal and one transverse section minimum.
- Show all floor levels on sections.
- Indicate ceilings in proper relation to floors.
- Method and extent of insulating exterior.

### **Detail Sections** (Scale: 3/4" = 1'-0" minimum)

- One section for each type of wall construction.
- Identify all major materials and components.
- Identify insulation and note "R" value.

### **Finish Schedule**

- May be included in the Basis of Design narrative or on drawing. Indicate proposed finishes for all spaces. Note those existing finishes to remain.
- Give ceiling heights of interior spaces.

### **Furnishing/Equipment Plans**

- Show all major equipment to approximate scale.
- Show all built-in furnishings to scale.
- Show on these plans or on separate furniture information plans, furniture/furnishings outlines that the space was designed to accommodate.

### **Structural Drawings**

- Show Live Loads, Wind Loads, and Seismic Criteria used for structural design
- Show design bearing / support capacity (soil bearing, pile capacity, caisson capacity) for foundation system geo-tech design criteria for shallow and deep foundations and earth structures.
- Foundation Plan indicating type & tentative sizes
- Foundation details and improved improvements to bearing strata and other special requirements.
- Floor and roof Framing Plans of each level indicating type of system and tentative member sizes/depths and column spacing with defined grid lines.
- Typical Section(s) of framing identifying materials, tentative member sizes,
- thicknesses and, depths proposed.
- Typical Section of floor system.  
Indicate structural construction materials and properties.
- Details of connections to existing buildings, if applicable.
- Identify elements of proposed lateral force resisting system.

**Fire Protection (FP) Information & Sprinkler Plans:** Provide plan of each level showing the following:

- Fire protection information\* including:
- Height and area calculations in accord with VUSBC.
- Total building perimeter (linear feet)

- Location of all 30' wide open perimeter spaces served from a street by a minimum 18' wide posted fire lane (must be shown on a drawing)
- Tabulation of area for each building level, story, or floor indicating number of occupants accommodated by each. If the project is an addition, list new and existing areas and occupancies.
- Water flow test data required by NFiPA 13.
- Required or intended fire protection systems, fire detection and alarm systems, fire pump systems, smoke control systems per Chapter 7
- Define each Use Group area and show its VUSBC Use Group classification (A-1, A-2, etc.).
- \* Asterisked information, except as noted, may be included in Basis of Design Narrative.

### **Plumbing Drawings**

- Plans of each floor noting fixture locations and types. Indicate routing of main distribution lines with tentative sizes.
- Show general or schematic arrangement of all piping systems.
- Show location of water, sanitary sewer, storm sewer and sprinkler services to the building.
- Show tentative fixture schedule.
- Show location, sizes and types of Hot Water Heaters/ Heat Exchangers, Storage Tanks, and flues if required.
- Show gas piping layout and connected load, if applicable

### **Mechanical (HVAC) Drawings**

- Plans of each floor showing single line duct layouts, tentative air (supply, return, exhaust) quantities, equipment locations, and layouts and general routing of heating/cooling piping.
- Show equipment schedules with tentative sizes, capacities, ID #, features, etc.
- Indicate locations and sizes of fans, pumps, compressors, conveyors, etc.
- Schematic layout and elevation of equipment room and/or central system showing configuration, tie-ins, etc. as necessary to describe system.

- Central heating or cooling plants, distribution piping, equipment. - Preliminary control diagrams.

**Electrical Drawings:** (Power and lighting plans may be combined if product clearly conveys required information.) See Appendix D for additional Preliminary Submittal requirements.)

- Lighting plans for each floor showing approximate fixture locations, type, and lighting level required (design level in foot-candles).
- Power distribution plans showing location of incoming service (transformers and primary switches), generators, main switchgear, motor control centers and panel boards.
- Show interface points service entrances, main control panels and backboards for communications, fire alarm, EMCS and other pertinent systems -Plans for each floor showing proposed locations of receptacles, telephone and data outlets, switches, fire alarm and other devices.

## **SECTION 8B.9 WORKING DRAWING PHASE (CONSTRUCTION DOCUMENT PHASE)**

**8B.9.1 General Requirements:** The A/E shall visit the site as necessary to ascertain pertinent local and site conditions. Based on the Preliminary plans (Design Development Documents) submission documents including the review and the value engineering comments and resolution thereof, the A/E shall prepare the working drawings and specifications. The working drawings Contract Documents shall set forth in detail the requirements for the construction of the entire project and include the applicable bidding information. The A/E shall assist in the preparation of the bidding forms, the Special Conditions of the Contract, and the Contract Between Owner and Contractor, CO-9. All drawings shall bear the seal, signature and date of the Architect or Engineer responsible for that discipline. The Specification Cover Sheet shall bear the seal, signature and date of the Architect and all Engineers.

**8B.9.1.1 Built in Equipment:** Specifications and drawings for any type of built-in equipment must be submitted with the working drawings Contract Documents for the building, whether or not such equipment is to be procured under another contract, in order that such work can be coordinated and bid on at the same time.

**8B.9.1.2 Changes from Preliminary:** If any change from the information submitted at the preliminary stage relating to the mix or amount of space for institutions of higher education is made, the College Project Manager and/or A/E shall submit new information in accordance with the format shown on the sample form entitled Project Space Profile. (See Appendix J)

**8B.9.1.3 Fire Rated Assemblies:** The A/E shall include on the working drawings and in the specifications all necessary information to describe the components for the fire-resistive rated construction assemblies and fire protection systems needed to provide the necessary fire integrity of the structure for compliance with all applicable governing Codes.

**8B.9.1.4** Reviews by the Building Committee, and College Code Review Team are required.

**8B.9.2** **Plans, Sections and Details of Equipment or Systems:** The drawings shall have sufficient plans, sections and details to generally indicate the intended equipment or system configuration in the space. Recognizing that it is often necessary to use some piece of equipment as a basis for designing, dimensioning and detailing, the drawings (but not the specifications) may be noted to indicate that the A/E has designed or detailed around a particular brand of equipment. In doing so, the A/E shall ensure that there is adequate space, capacity, etc., available to accommodate the other brands indicated in the specifications. See Section 8.3.5 for requirements concerning the use of brand names and models.

**8B.9.3** **Cost Estimate:** The A/E shall submit a detailed Cost Estimate in conformance with the requirements of Appendix E - Cost Estimate, and advise the College of any adjustments to previous statements of estimated construction cost. The A/E shall submit a signed Building Cost Summary Sheet with the estimated cost of work covered by the working drawings and specifications and square footage of the proposed building data completed. If this data varies significantly from that shown on the Preliminary Cost Estimate, the A/E will attach an explanation to the working drawing Cost Estimate. For large projects, the College may choose to have an independent cost estimate made using copies of the working drawings and specifications. This may be beneficial in determining if the project is likely to be within budget and in determining sufficient clarity and detail of the documents for bidding.

**8B.9.4** **Permits and Utilities:** The A/E shall assist the College in filing the required documents for approval of governmental authorities having jurisdiction over the project. If the Contractor will be required to interface with, coordinate with, or obtain inspection or approvals from any local authority or utility, the requirements and the name and address of such entity shall be shown in the documents.

**8B.9.5** **Calculations:** Calculations must be organized, indexed, numbered and submitted for each discipline involved. Design calculations should indicate assumptions, considerations and factors involved in the design and support the design shown on the plans and specifications. Provide one copy of the completed design calculations of each discipline to the College Code Review Team with the Contract Document submission.

**8B.9.6** **Submittal Documents:** Contract Documents shall be complete, coordinated, checked and ready for approval to bid. Contract Documents shall bear a uniform date as described in this Manual. Architectural and engineering details shall be included on the drawings with cross-references on both the plan and the detail sheets designating specifically the location to which the particular detail applies. Do not include details that do not apply to the particular project.

**8B.9.7** **Working drawings:** Shall show or provide the following information (in addition to items required for preliminary submission):

**Title Sheet(s):**

- Project Identification: Agency number, Appropriation Act number, Project Code, College PIMS (or Work Order) number.

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- Location and vicinity maps noted to show project location.
- Tabulation of floor areas (new and renovated), total area, volume.
- Tabulation of units: Number of parking spaces, auditorium seats, bedrooms etc.
- Listing of applicable codes with dates.
- Building Purpose/Occupancy.
- Use Group(s) per VUSBC.
- Type of construction and VUSBC Type #
- Occupancy Load(s) per VUSBC.
- Design Floor Live Loads.
- Index of drawings.

**Site Plans:** (site/improvement plan & composite utility plan minimum requirements for new construction and additions)

- Based on approved comprehensive Master Plan
- Scale and north arrow
- Existing and new contours affected by the proposed work
- Floor and pavement elevations
- Applicable boundaries with survey computations
- Dimensioned relationship of new work to boundaries and existing structures
- Location of test borings
- General parking and handicap parking
- Handicap accessible routes
- Pedestrian traffic routes
- Demolitions: structures, walks, utilities, trees, etc.
- Proposed landscaping (planting materials)
- Existing and new utilities: storm sewers, sanitary sewers, water supply, gas,
- steam distribution pipes and tunnels, electric and telephone poles and lines
- Hydrant locations with data on fire flow test.
- Profile of all utilities and any roads over 100 feet in length.
- Site improvements such as fencing, lighting, etc.

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- Typical paving section of each type and thickness required.
- Identify/show special earthwork recommended and construction considerations noted in soils report.
- Archaeology Features

### **Demolition drawings**

#### **For total building demolition, provide:**

- plan of building with length & width dimensions,
- elevations (drawn or photographic) and cross section of building to be demolished,
- details of termination of demolition, underpinning, etc.

#### **For interior / selective demolition, provide:**

- floor plans showing existing partition, etc., and showing or describing existing material /construction to be removed
- information or estimates for bidding for work to be removed.

### **Architectural drawings**

#### **Floor Plans (for each floor)**

- Plans of each floor at a minimum 1/8" = 1'-0" preferred (but not less than 1/16" = 1'-0" with approval of College Code Review Team).
- Show room/space numbers assigned by the College Office of Space and Real Estate Management.
- Overall dimensions.
- If the work is an addition, show the relationship of new to existing spaces.
- Distinguish new from existing construction.
- Show demolition on the architectural plans or separate plans.
- Indicate asbestos locations regardless of who removes it or how it is removed.
- Indicate all openings, entrances, delivery areas.
- Indicate handicap access.
- Show scale and north arrow.

#### **Reflected Ceiling Plans**

- Ceiling tile / grid layout

- Light fixture locations
- Sprinkler head locations
- HVAC diffuser and grille locations
- Coffers, drop soffits, changes in height or materials
- Space numbers
- Speakers and smoke detectors

### **Roof Plan**

- Plan(s) of each roof at a minimum 1/8"=1'-0" preferred (but not less than
- 1/16" = 1'-0" with approval of College Code Review Team).
- All proposed and existing drains, including auxiliary drains.
- Roof slope: 1/4" per 1'-0" to drains minimum (unless waived for re-roofing).
- All new and existing equipment.
- All significant roof penetrations and structures.
- Identification of materials on existing roofs.
- Typical roofing section identifying materials.
- Access to roof.
- Indicate direction of slope (high to low) with arrows

### **Exterior Elevations**

- Scale (1/16" = 1'-0" minimum).
- All openings: windows, doors, louvers, vents.
- Percentage of glass vs. gross wall area.
- Floor elevations (above sea level). Coordinated with Site Plan elevations.
- Identification of all major finishes.
- All stairs, ramps, and railings.
- Rooftop equipment and structures.
- Expansion and control joints.
- Grade at the face of the building wall.
- Subsurface construction (dotted in).
- Existing and new work clearly distinguished.

**Building Cross Sections** (Scale: 1/16"=1'-0" minimum)

- One longitudinal and one transverse section minimum.
- Show all floor levels / elevations on sections.
- Indicate ceilings in proper relation to floors.
- Method and extent of insulating exterior envelope.

**Detail Sections** (Scale: 3/4" = 1'-0" minimum)

- One section minimum for each type of wall construction.
- Identify all major materials and components.
- Identify insulation and note 'R' value.
- One section with dimensions and details for each stair configuration.

**Details**

- Typical window, door and special opening details shall be drawn at a minimum 1-1/2" = 1'-0" scale.
- Interior and exterior details, including special doors, windows, woodwork and other decorative work.
- Toilet plans and elevations shall be drawn at a minimum 1'4"=1'-0" scale.

**Finish Schedule**

- Indicate proposed finishes for all spaces. Note those existing finishes to remain.
- Give ceiling heights of interior spaces.
- Show (or specify) all finishes, textures, colors, etc., required to be provided by the Contractor.
- Use College assigned room numbers.

**Door Schedule**

- Doors numbered to College standards, type, size, material, hardware set number and fire rating if required.

**Window Schedule**

- Type, size, material and lintel requirements.
- Elevations of each window type.

**Furnishing/Equipment Plans**

- Show outline of all major equipment to approximate scale.

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- Show outline of all built-in furnishings to scale.
- Provide elevations, sections and details as necessary to describe built-in equipment, casework and furnishings included in the work of this contractor.

### **Structural Drawings**

- Unless indicated otherwise below, the structural drawings shall provide complete details of all structural components so that no additional structural design will be required for the preparation of shop drawings except for standard connection details and fabrication calculations.
- Show design live loads, wind loads, and seismic criteria used for design of structural systems per VUSBC Section 1603.
- Design procurement criteria and typical details for Engineered systems such as Cast-In-Place Post-Tensioned Concrete, Precast Concrete Components, Steel Joists and Joist Girders, Pre-Engineered Metal Structures, and Shop / Prefabricated Wood Components described in Chapter 9 may be required to be provided by the contractor. In this case, the structural drawings shall include complete loading information as well as all other performance or size constraints for the components.
- Structural drawings shall include plans, with defined gridlines, at the same scale as the architectural plans. Details and sections shall be at a scale of not less than 3/4" to 1'.
- The plans, details and specifications shall completely define the structural system and any special conditions for the project.
- Foundation Plan indicating type & sizes.
- Foundation details with improvement criteria for bearing strata and other special requirements.
- Floor Framing Plans of each level indicating type of system, and member sizes/depths and column spacing and all penetrations.
- Roof Framing Plan.
- Typical Section(s) of floor and roof systems identifying materials, thicknesses, depths. Provide appropriate details to define structure.
- Details of connections to existing buildings, if applicable.
- Underpinning and temporary support of existing structures shall be designed to extent possible with available information. Design criteria and load information to be provided for completing the design by the Contractor for review by the A/E.
- Typical details for openings in floors and walls with limitations clearly noted.

**Fire Detection & Alarm System Drawings:** Provide the following minimum to demonstrate compliance with the requirements of the code:

- Locate and identify all Fire Alarm System alarm- initiating and notification appliances.
- Locate and identify where protective covers are utilized with Fire Alarm System alarm-initiating and notification appliances.
- Locate and identify all Fire Alarm control and trouble signaling equipment.
- Locate and identify all Existing Alarm System alarm- initiating and notification appliances.
- Locate and identify all Existing Fire Alarm control and trouble signaling equipment.
- Locate and identify the interface requirements for all Fire Alarm System alarm initiating devices provided by other trades such as HVAC Duct Smoke Detectors, Kitchen Hood Fire Suppression Systems, Fire Sprinkler Flow and Tamper Switches.
- Locate and identify the interface requirements for all devices whose operation is initiated by the Fire Alarm System such as Door Hold Open Devices, Fire Shutters, Elevator Recall, Electronic Door Hardware, and Smoke Control Systems.
- Identify the Primary and Secondary Power Supplies and Connections.
- Identify the Candela output levels for all visual alarm notification appliances. Candela ratings such as “15/75” are not compliant.
- Provide a matrix that defines the interface of the Fire Safety Control Functions.
- Define the action that will initiate an alarm or trouble condition.  
Define the alarm-
  - initiating device activated, the action of the control and trouble signaling equipment,
  - and the resulting alarm notification appliance actions and resulting operation of interfaced equipment.
- Provide Fire Alarm System Riser Diagram showing all system components. Define the “Zones” to be protected. Diagrammatically define the location of the constantly attended location from which the Fire Alarm System will be supervised. Define the interface between the Fire Alarm System and the constantly attended location.

**Fire Suppression Systems- Sprinkler Drawings:** Provide the following minimum to demonstrate compliance with the requirements of the code:

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- Identify the Occupancy Hazard Classification and show the location of sprinklers for each of the spaces on each floor within the buildings. The location of Sprinklers are to be based on the VUSBC, NFPA 13 and the User's Programmatic Requirements with the understanding that the quantity, coverage, location and type of sprinkler are not to be altered by the Contractor, without prior written approval by the A/E and the Building Official. The resulting changes are to be documented by Change Order.
- Show the location of Fire Department Valves and Risers within the building.
- Indicate that the Fire Department Valves are attached to either a Standpipe Riser, Combined Standpipe and Sprinkler Riser, or Wet Pipe Sprinkler System Risers. The locations of Fire Department Valves are to be based on the VUSBC, NFPA 13, NFPA 14 and the User's Programmatic Requirements.
- Show proposed sprinkler piping and standpipe layout including the sprinkler mains (including cross mains) within the building and layout of branch lines for the most
- hydraulically demanding zone(s) on each floor of each Sprinkler System.
- Indicate the size of pipes that are shown.
- Provide a table summarizing the characteristics of each of the Sprinkler Systems.
- Define the type of Sprinkler System(s), Areas of Coverage, Hazard, Minimum rate of
- water coverage (Density) per Area, Water required for each Area of Coverage, Hose
- Stream Allowances for each area, Total Water Requirements for each area of coverage,
- Hydraulically Calculated Pressure requirements at a common reference point at design
- flow for each area of coverage, and Water Supply (Flow & Pressure) available at the
- common reference point. See attached Table 1, Fire Sprinkler System Summary.
- Provide a small scale drawing showing locations of water hydrants, test and flow
- hydrants (for water flow-tests), and routing of underground pipe. Indicate the Water-
- flow Test results, the date and time taken and who conducted the test. Indicate the

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- Water Supply (Flow & Pressure) at a reference point common with the Sprinkler
- /Standpipe System Design.
- Show and identify all existing Sprinkler Systems and Standpipe Systems.
- Show and indicate all new connections to existing systems.
- Provide sprinkler riser diagram with appropriate fittings, accessories, sizes, alarms, valves, etc., noted.
- Show all System Drains
- Show all Inspector's Test Station locations and associated discharge/ drainage piping.
- Show the location of the Fire Department Connection(s) with all interconnecting piping to the Sprinkler and Standpipe Systems.
- Show the location and details of the Fire Pump, Driver, Fire Pump Controller, piping, components and piping specialties.
- Show the location of the Fire Pump Test Header and all interconnecting piping.
- Show Sprinkler head type, K-factor and temperature ratings

**Fire Suppression Systems-Clean Agents Drawings:** Provide the following minimum to demonstrate compliance with the requirements of the code:

- Show and identify rooms/spaces to be protected by the proposed Fire Suppression System.
- Show the enclosure partitions (full and partial height) of the protected area.
- Identify the locations of the major Fire Suppression System Components.
- Show the routing of the Fire Suppression System lines between the stored agent and the dispersion nozzles within each of the protected spaces. Indicate sizes of pipes that are shown.
- Provide a table defining the type of Fire Suppression System(s), Areas of Coverage, Hazard, Minimum required Concentration of Fire Suppression Agent, Volume of Agent required for each Area of Coverage, Total Volume of agent for the areas protected by this system.
- Show and identify all Existing Fire Suppression Systems.
- Show the location of all dispersion nozzles for all spaces/areas protected.

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- Show the locations and components of the Automatic Detection System and Agent Releasing System.
- Show the location of and define the interface requirements to connect to the building's Fire Alarm System.
- Show the location of components for means of manually releasing of agent.
- Location of controlled devices such as dampers and shutters.
- Provide Fire Suppression System riser diagram with appropriate fittings, fire suppression agent storage tanks, accessories, sizes, alarms, valves, etc...
- Show and indicate all new connections to existing systems.
- Show the location of instructional signage.

**Sprayed-On Fireproofing Design and Specification Drawings:** Provide the following minimum to demonstrate compliance with the requirements of the code:

- Provide drawings including typical and special details that clearly define the locations and extents of the application of Sprayed-on Fireproofing.
- Define the UL Design Assemblies specific to the respective locations and application of the Sprayed-on Fireproofing.

**Fire and Smoke Dampers Drawings:** Provide the following minimum to demonstrate compliance with the requirements of the code:

- Locate and identify the Fire Resistance Rating of all fire and smoke dampers
- Locate and identify all ceiling radiation dampers in rated ceilings
- Provide a typical fire damper detail indicating damper, sleeve, method of support, fusible link, duct access door and break-away joint between the sleeve and the connecting duct.
- Provide a note stating that each shall be installed in accordance with the conditions of their listing and the manufacturer's installation instructions.

**Fire Pump Drawings:**

Provide the following minimum to demonstrate compliance with the requirements of the code:

- Show the location of the Fire Pump, Pressure Maintenance Pump, Pump Controllers, piping, components and piping specialties.



- Provide details of the Fire Pump, Pressure Maintenance Pumps, Pump Controllers, suction piping, discharge piping, components and piping specialties.
- Provide a table summarizing the water supply characteristics for the most demanding
- area of each of the Sprinkler Systems supplied by the fire pump. Define the type of
- Sprinkler System(s), Water Flow and Pressure requirements for each Area of Coverage,
- Hose Stream Allowances for each area, resulting Total Water Flow and Pressure Requirements for each area of coverage, Water Supply (Flow & Pressure) available, fire pump, resulting available Water Supply, resulting safety factor in psig for each Sprinkler System.
- Provide a small scale drawing showing locations of water hydrants, test and flow hydrants (for water-flow tests), and routing of underground pipe. Indicate the Water-flow
- Test results, the date and time taken and who conducted the test. Indicate the Water
- Supply (Flow & Pressure) at a reference point common with the Sprinkler /Standpipe System Design.
- Show and identify all existing Sprinkler Systems and Standpipe Systems in the vicinity
- of the fire pump(s).
- Show and indicate all new connections to existing systems.
- Show the location of the Fire Department Connection(s) with all interconnecting piping back to the Fire Pump.
- Show the location of the Fire Pump Test Header and all interconnecting piping.
- Show the location of the electrical components of the Fire Pump, Driver, Fire Pump Controller, and ancillary electrical components.
- Show the location, size and routing of the conduits and conductors serving the Fire
- Pump, Driver, Fire Pump Controller, and ancillary electrical components.
- Provide details of the electrical components serving the Fire Pump, Driver, Fire Pump Controller, piping, components and piping specialties.
- Where multiple fire pumps or multiple sources of power are required, provide a diagram on the drawings that defines all of the applicable components and defines the sequence of operation.

**Chapter 8B**  
**Design Services:**  
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### **Plumbing Drawings**

- For renovation projects, provide (here or on cross-referenced demolition plans) plans showing demolition in sufficient detail that the work may be bid from the drawings. (See Sample Note in Appendix J.)
- Plans of each floor noting fixture (including laboratory and compressed air outlet) locations and types of each.
- Plumbing fixture schedules showing designations, connection sizes, and mounting heights of handicapped fixtures. (Note that flush valve handles shall be located on the wide side of the handicapped enclosure).
- Plans showing layouts and sizes of sanitary DWV piping, cold condensate drainage systems, floor drains, acid waste systems, neutralizing tanks, etc.
- Plans showing roof drains and areas served by each in square feet, piping and sizes. Show downspout boots and connections to foundation drains.
- Plans showing domestic hot and cold water systems, including piping sizes, domestic water heaters with expansion and storage tanks, backflow preventers, water hammer arrestors, water meters, relief devices, and valves including pressure reducing, isolation and balancing.
- Plans showing layouts and sizes of compressed air piping, air compressors, air dryers, drains, etc.
- Plans showing deionized water systems.
- Riser diagrams for sanitary drain, waste and vent; domestic hot and cold water; deionized water; and compressed air where the system is extensive. Risers shall be designated and keyed to the plans. Show room numbers where the outlets/inlets occur, and show drain fixture units at the base of each riser. Show sizes of water hammer arrestors.
- Details of hookups at water heaters, air compressors, etc., and roof drain installation.
- Schedules of water heaters, air compressors, air dryers, and drains.

### **Mechanical (HVAC) Drawings**

- For renovation projects, show demolition in sufficient detail that it may be bid from the drawings.

- Plans of each floor and roof showing double line-duct layouts, mechanical equipment location and layouts. Plans shall show ceiling-mounted lighting fixtures.
- Plans of each floor showing chilled water, heating hot water, steam and condensate piping and piping sizes. Show provisions for expansion. (This may be shown on ductwork plans where congestion is not a problem.)
- Provide layouts of mechanical equipment and fan rooms to a scale not less than twice that of the floor plans. Show equipment, ducts, piping, etc. to coordinate the installation in tight areas. Show access and service space requirements such as that required for tube, coil, and fan removal.
- Provide schedules for all mechanical equipment, steam traps, air devices, etc. showing sizes, capacities, HP, CFM, electrical characteristics, locations, features, etc.
- Provide drawings showing control schematics, automation points, etc.
- Provide schematic diagrams of chilled and heating water, steam, and condensate piping.
- Central heating and cooling plants, distribution piping, equipment, anchors, expansion joints, etc. shall be shown as necessary to clearly describe the work.
- Provide sections as required to clearly show the work in 3 dimensions.
- Show the building loads (in BTU or pounds of steam per hour) to include transmission plus infiltration, outside air, domestic hot water, and kitchen, laundry and hospital hot water and outside air loads that are supplemental to those mentioned where applicable.
- Indicate the sensible and total air conditioning load of the building in tons. Also show the outside air portion of the cooling load in tons.
- Provide details as necessary to show fittings for ducts.

**Electrical Drawings:** (Power and lighting plans may be combined if the combined drawing clearly conveys required information.)

- In renovation work or existing buildings, show existing electrical equipment, devices and lighting fixtures, etc., both to be removed and to remain. Provide sufficient detail so that work may be bid from the drawings.
- Plans shall show all casework, furniture, mechanical equipment and other equipment that impacts the electrical design.
- Plans shall list, in kVA, the total electrical load and the total load on any generators. Indicate the largest motor size, in horsepower.

## **Chapter 8B**

### **Design Services:**

# **Contract Document Requirements**

### **Lighting Plans**

- Lighting plans for each floor showing fixture location, type, and lighting level (calculated, in foot-candles).
- Provide Lighting Fixture schedule on the drawings. Schedule to include the following, at a minimum: fixture type, lamp and ballast information, reflector, lens and louver information, mounting method.

### **Power Plans**

- Power distribution plans showing location of incoming service (transformers and primary switches), generators, main switchgear, motor control centers, and panel boards.
- Service entrances, main control panels, and backboards for communications, fire alarm, EMCS and other pertinent systems.
- Plans for each floor showing locations, and mounting heights, of receptacles, telephone and data outlets, switches, disconnect switches, motor starters and other devices.

### **Fire Alarm**

- On electrical power floor plans, show location of control panel, battery and charger, transmitter, annunciator, fusible safety switch, remote trouble device, alarm devices, and each actuation device including fire extinguishing system switches.
- One electrical site plan, show location of any PIV valves or other devices to be connected to the fire alarm system.
- Show single line fire alarm riser diagram.

### **Site Plan**

- Electrical site plan showing: electrical and telephone/data/CATV services, both new and existing; new and existing site lighting and their associated circuitry; location of transformers, primary switches, generators; circuitry to chillers, cooling towers, etc.
- Details of duct banks, equipment pads, manholes, lighting pole bases

### **Schedules, Risers, etc.**

- Provide control diagrams, panel board schedules, motor control center schedules, distribution panel and main switchgear schedules, and riser diagrams for power, telephone, security and other systems.
- Sizes of all over-current protective devices, relays, CTs, PTs, starters and disconnects

### **Control Systems**

- Provide a written sequence of operation for each mechanical and electrical control system stating explicitly how systems are to function.
- Give all pertinent data regarding safety, alarms, indicators, and control parameters.
- The sequence of operations may be shown on the control diagrams in lieu of in the specification.
- Provide control system diagrams.
- Indicate point(s) of connection of new to existing system.
- Indicate or describe location of operator interface (PC) unit.

**8B.9.8**            **Rock Excavation:** Provide estimated quantities of rock excavation on the Bid Form when applicable.

**8B.9.10**            With this submission, the A/E shall furnish the College with an estimate of the time for constructing the project and include such in the appropriate paragraph of the Bid Form.

### **SECTION 8B.10 BID FORMS AND PROCEDURES**

**8B.10.1**            **Instruction to Bidders:** See Sections 8B.3.4 and 12.2.1.

**8B.10.2**            **Unit Price Bids:** See Section 8B.3.11.

**8B.10.3**            **Bid Form Preparation:** See chapter 12.2.4.

**8B.10.4**            **Prequalification of Contractors or Subcontractors:** Prequalification criteria, procedures, and appeal process requirements are shown in Chapter 11.

**8B.10.5**            **Advertising:** The College shall notify the A/E in writing when final Contract Documents have been approved. See Chapter 12.2.6 for advertising requirements.

### **SECTION 8B.11 ADDITIVE BID ITEMS**

**8B.11.1**            **Design Not to Exceed Budget:** The A/E is responsible for the development and design of the project to meet the scope and to be within the Design Not to Exceed Construction Budget identified in the A/E contract. The Work included in the Total Base Bid shall provide a complete and functional facility meeting all Code, accessibility and safety requirements.

**8B.11.2**            **Additive Bid Items:** When the project cost estimate indicates that the Total Base Bid for the project scope may not be within the available funds, the College and A/E should consider what features would be negotiated out if bids are over budget and include that Work as Additive Bid Items for cost or budget control. After the College and A/E have incorporated

reasonable cost containment measures in the design, Additive Bids Items may, with the approval of the AVP/FM, be used for budget control subject to the following limitations:

- **Additive bids shall not be used to provide essential elements** of the project, such as connection to water supply, required lighting levels, or adequate HVAC capacity, or Work without which the building would not be habitable, functional or safe.
- **AVP/FM Approval:** Additive and Alternate Bid Items as well as options are allowed if approved by the AVP/FM.
- **The Work included in each Additive Bid Item shall produce a complete component** that may be incorporated into the work in the Base Bid.
- **Each Additive Bid Item shall be independent** of other Additive Bid Items.
- **None of the Additive Bid Items shall compromise the work** in the Base Bid and other Additive Bid Items for compliance with Code, accessibility or safety requirements.
- **Additive Bid Items may be listed in any order** but consideration should be given to placing the most essential Additive first, and so on.
- **Low Bid Determination:** When the project bids are received and opened, the low bidder shall be determined based on the lowest cumulative bid for the Total Base Bid plus the total amount of the Additive Bid Items.
- **Out-of-sequence selection of Additive Bid Items is permitted**, but award must be to the low bidder based on 7 above.
- **Negotiations of Additive Bid Item amounts and the Base Bid are allowed** with the low bidder to permit award within funds available.
- **The total cost estimate of the Base Bid plus all Additive Bid Items** should be approximately 110% of the funds available.
- **Structuring of Additive Bid Items:** Bid Items should be structured to minimize additional effort needed to prepare the bid.
- **The Work/Design as described in the Base Bid shall be of the level of quality required for the project.** Additive bids shall not be used as a shopping list to upgrade, substitute for, or delete for credit any part of the Work included in the Base Bid.
- **Intent:** Additive Bid Items are not intended to be a pricing exercise for the bidders.

## **Chapter 8B**

### **Design Services:**

# **Contract Document Requirements**

## SECTION 8B.12 SUBMISSIONS

**8B.12.1 A/E Certification:** Prior to the submission of construction documents, the Architect shall furnish a written statement that will certify that the responsible architects and engineers have reviewed the documents and certify them to have been completely coordinated to industry standards of care.

**8B.12.1.1 Corrections and/or Additions:** Where correction and/or additions are required after review by the College and/or the College Building Official, the responsible State Fire Marshal Office, etc., changes will be marked in yellow and returned to the review agency and the College, upon completion of the corrections. The A/E shall provide adequate copies of plans, specifications, cost estimates, and other applicable data for the College's use and for review by other applicable reviewing agencies. Submissions for building projects are indicated below and shall be adjusted as appropriate for a particular project:

### **8B.12.1.2 Review Agencies:**

- Submit required copies to review agencies in accordance with Table 8B.12.1
- Send one copy of all bid documents and addenda for both new construction and renovation projects to the responsible State Fire Marshal Office.
- Provide additional copies of review documents as requested.
- For planning purposes, average review time for the Division of Soil and Water Conservation, Department of Historic resources and Department of Health is three (3) weeks.
- The Art and Architectural Review Board receives presentations from the College at its normal monthly meeting (usually the first Friday of each month) and makes recommendations to the Governor.

**DESIGN PHASE:  
Submissions and Number of Copies Usually Required  
Table 8B.12.1**

<b>Reviewing Agency</b>	<b>EIR</b>	<b>S</b>	<b>P</b>	<b>CD/ RCD</b>	<b>YO</b>	<b>Bid / Addenda</b>	<b>Change Orders*</b>	
College Code Review Team	1	1 half size set per discipline plus 1 full size**				1	2	2
State Fire Marshal						1		
Art and Architectural Review Board		1***	1***					
DCR (Division of Soil and Water Conservation (Erosion and Sediment Control **) (Stormwater Management **)			1	1	2			
Department of Historic Resources		2***		2***				
Health Department (Food Service, Underground Water Lines 8" and Larger, Pump Stations and Sanitary Forced Mains)			1***	1***				
Department of Environmental Quality (Air division) (Water Division) (Waste Division)		1***	1***	1***				
County or City Manager			1***					
Chesapeake Bay Local Assistance				2***				
VDOT District Engineer			##	##				

**Legend:**

S	Schematics	*	Change Orders for VUSBC regulated work.
P	Preliminaries	**	When mutually agreed and documented between the Director, CRT and Director, FPDC at William and Mary, or Director CRT and Director of Facilities Management at VIMS, the Schematic and/or Preliminary Submissions may be omitted.
CD	Contract Documents		
RCD	Revised or Required re-submittal of Contract Documents		
Y/O	Yellow-out Documents	***	Pertinent parts or sections of documents only
BID	Bid Documents, including Addenda	#	Submit data and dump location request for all asbestos-containing material or other hazardous waste materials resulting from renovation or demolition.
		##	Submit for approval when modifying roads on Campus, including placing utilities within.

**Chapter 8B  
Design Services:  
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**8B.12.1.3 Utility Approvals:** The A/E shall coordinate with and obtain approval of the utility designs from the College Facilities Management Department or, when applicable, local utilities agencies for connection and service, and shall obtain approval of any required turn lanes or transitions from the District Engineer of the Virginia Department of Transportation for entrances to the project site. If asbestos projects are authorized to proceed with working drawings, two copies are required, and an additional two if revision and resubmission is necessary.

## **SECTION 8B.13 COLLEGE CODE REVIEW TEAM REVIEWS AND APPROVALS**

**8B.13.1 General:** Reviews are performed as a service to the College and do not relieve the A/E, or its Consultants from compliance with all codes, laws, rules, regulations, directives and standards applicable to the project whether or not cited in the review. See Section 8B.13, Quality Control/Quality Assurance for A/E requirements before preparing and submitting Contract Documents for review. The College encourages A/E's and their consultants to ensure compliance to facilitate expedient reviews.

**8B.13.2 Project Manager Review:** Prior to the submissions to the College Code Review Team and other College and State Agencies, the College Project Manager shall review the documents to ensure that they meet the functional and operating requirements of the project.

**8B.13.3 Building Permit:** When the College Building Official is satisfied that the documents are in conformance with all requirements, a Building Permit, HECO -17, will be issued by the College Building Official. Final approval of the working drawings / bid documents is based on the understanding that the A/E has complied, or certifies that it will comply, with the foregoing and with all review comments concerning these requirements prior to printing the documents for release to bidders.

**8B.13.4 Project Permit Work:** The College Building Official's Letter of February 14, 2007 provides guidance for review and issue of permits for work not specifically requiring a building permit but for which other codes, directives and standards may apply. See Appendix P for additional information.

**8B.13.5 Review Comments:** The College Code Review Team will transmit its review comments to the College Project Manager in one of the following ways:

**8B.13.5.1 By E-Mail.** Within 1 week after receipt of written comments from all applicable disciplines from the College Project Manager, the A/E shall provide a written response to each College Code Review Team discipline comment electronically by E-Mail.

- The A/E response shall be entered into the Word document in the space allotted immediately below the code review team comment..
- All issues in dispute shall be resolved before proceeding to the next phase.
- The College Code Review Team will forward comments on A/E responses, and, as necessary, clarifications to original comments to the College Project Manager.

- Once all comments have been fully resolved, the CRT will acknowledge to the Project Manager that the review is complete and that there are no further comments.

**8B.13.5.2 By a meeting/conference at the College Code Review Team or A/E office** where the comments are discussed and critical issues resolved. This method may be required by the College where it is expedient to identify the general types or nature of deficiencies, especially if a resubmittal will be required.

- The proposed actions and decisions reached in the meeting will be accurately recorded in writing by the A/E and distributed to all meeting participants within five (5) work days after the meeting.

**8B.13.5.4 “On Board Review Meeting”** The College Code Review Team, College Project Manager and the A/E. will meet to review documents, discuss and resolve issues.

- The A/E will record the minutes of this meeting and submit them to the College within seven (5) working days.
- This method will be used only when approved by the director, CRT on an as-needed basis when expediency is of the essence.
- The “On Board Review” method will usually require that the submission package be received at least three working days before the meeting.

**8B.13.6 Re-submittals:** Submittals which are incomplete, which require extensive revisions, and/or which do not conform to the requirements of the Manual shall be properly completed and resubmitted for a new review. The A/E may be required to make such resubmittals without compensation or reimbursement.

**8B.13.7 Revised Submittals:** All changes, and revisions, and additions shall be highlighted in yellow on at least two revised submittal set of preliminaries or one unbound set of working drawings and specifications. Any new information shall be highlighted in another color.

**8B.13.8 Print and Release of Bid Documents:**

**8B.13.8.1** Bid documents (plans and specifications) shall not be printed or released to bidders until the College Code Review Team reviews revised documents and the College Building Official authorizes them to be printed and released.

**8B.13.8.2** When authorized to advertise for bid on Capital Projects by the approved HEC0-6 the College FPD&C Office shall establish a bid receipt date.

**8B.13.8.3** Complete and coordinated documents, checked and sufficiently detailed to provide bidders and builders with a clear description of the College project requirements will be the key to gaining approval to print/release documents for bidding.

**8B.13.8.4** Clarification and corrective data shall be included in addenda to those documents issued at least 10 days prior to the date set for receipt of bids.

## **Chapter 8B**

### **Design Services:**

### **Contract Document Requirements**

**8B.13.9** **Advance Advertisement/Notice:** In some cases it may be advantageous to the College to advertise a project before bid documents are fully revised. In such case the procedures below shall be followed:

**8B.13.9.** If Advertisements are authorized to be placed in the VBO and newspapers before bid documents are approved for printing and release, the Advertisement shall indicate: "Bid documents will be available to bidders on or about \_\_\_(date)\_\_\_." The bid date shall be set to allow reasonable time to complete revisions, to review and print the documents, to issue the documents, and to give bidders at least three weeks to prepare bids.

**8B.13.10** **Review Times:** The College Code Review Team shall strive to review submissions within the 21 day average review time as outlined within the management agreement. The 21 day average review time shall be exclusive of holidays and additional time required to receive outstanding information as outlined below:

**8B.13.10.1 Incomplete submissions:** Submissions that are incomplete or missing information will be returned to the A/E, or at the discretion of the Code Review Team, held until additional information is received. When projects are held for additional information, the following stipulations shall apply:

- The code Review Team shall notify the College Project Manager and provide a specific list of outstanding information.
- Time will be tracked from the date of notification to the College Project Manager to the date the additional information is received. Time required to receive additional information will be specifically excluded from CRT Review Time

**8B.13.10.2 Submission Priorities:** In order to meet tight time constraints, submission priorities shall be based on need requirements and coordinated with the Director, Facilities Planning, Design and Construction. Date received will be a consideration in the prioritization process, but will not necessarily be the driving factor.

- Due to limited resources, large projects and lower priority projects may on occasion exceed the 21 day average review time.

**8B.13.11** **Approvals:** Approval of the submittal at any stage is dependent on the College and the A/E satisfactorily resolving the issues raised during the reviews by the College Code Review Team and other pertinent review agencies. Approval of Preliminaries on any project for which a Value Engineering Study is required will be dependent on the successful resolution of the Value Engineering recommendations and the College Code Review Team review comments.

## SECTION 8B.14 QUALITY CONTROL / QUALITY ASSURANCE

**8B.14.1 A/E Responsibility:** The A/E shall be responsible for the professional and technical accuracy and coordination of all designs, drawings, specifications, cost estimates, and other work or materials furnished.

**8B.14.2 Quality Assurance Review:** The A/E shall perform a Quality Assurance review of the working drawings Contract Documents prior to submitting the working drawings documents to the College Code Review Team. See Chapter 9 for additional requirements and guidance for QC/QA reviews and coordination of plans and specifications.

**8B.14.3 Quality Statement:** The first sheet of the plans and specifications submitted to the College Code Review Team shall contain the following statement signed by the responsible A/E:

*“A Quality Control/Quality Assurance check has been made on this project’s documents and corrections have been made. The undersigned states that these plans and specifications submitted for review are complete and ready for bidding.”*

Signed: \_\_\_\_\_  
(Type Name & Title)

**This statement shall not appear on the sets of documents issued to bidders.**

## SECTION 8B.15 VALUE ENGINEERING (VE)

**8B.15.1 General:** Capital Projects with an estimated construction cost greater than \$5,000,000 shall have a 40-hour Value Engineering (VE) Study conducted on the design prior to or concurrent with the preliminary (35%) design submission. (See §2.1-1133, Code of Virginia.)

**8B.15.2 Qualifications:** The study shall be conducted by a qualified VE Team consisting of a Certified Value Specialist and experienced, licensed professionals for each of the significant disciplines reviewed.

**8B.15.2.1** VE Team members shall be separate and completely independent from the Project A/E & its consultant firms.

**8B.15.3 Procurement:** The College Code Review Team may perform VE studies with an approved Certified Value Specialist. Alternatively, the College may procure VE services utilizing professional procurement procedures.

**8B.15.3.1** The procurement process should begin at least 90 days prior to the anticipated date the preliminary drawings will be submitted.

**8B.15.3.2 RFP evaluation factors** shall include the experience, qualifications and expertise of each proposed team member.

**8B.15.4 Scope and Procedure:** Each design review shall utilize the five-step job plan as recognized by the Society of American Value Engineers (SAVE).

**8B.15.4.1 CVS Responsibility:** The CVS is responsible for pre-study work, assembling, editing and reproducing the recommendations generated by the Value Engineering Team Study.

**8B.15.4.2 Work Space:** The College, or CVS if so contracted, will provide a suitable room with tables and chairs, with immediate or convenient dedicated use of a copier.

**8B.15.4.3 A presentation** of the study results shall be made to the College.

**8B.15.5 Large Projects:** On large projects, a one or two day VE Study is encouraged at the Schematic Design phase.

**8B.15.6 Reports:** The VE report (15 copies unless shown otherwise in the RFP) shall encompass the recommendations of the VE study group and include detailed cost estimates, life cycle analysis and sketches, as necessary.

**8B.15.4.1** The CVS. must edit and sign the final report.

**8B.15.7 Information Supplied to the VE Team:** Prior to commencing the VE study, the A/E will forward the following information to the VE Team:

- (a) Two sets of 35% drawings (full size)
- (b) Five sets of half size drawings
- (c) Outline Specifications & Systems Checklists (2 copies)
- (d) Detailed Cost Estimate (6 copies)
- (e) Basis of design (6 copies)
- (f) Design Calculations (Structural, Mechanical, Electrical)
- (g) Boring logs and soil reports
- (h) Scope of Project/Program requirements (6 copies)

**8B.15.8 A/E responsibilities** include the following:

- Present an overview of the project criteria and development to the value engineering team.
- Provide comments on the VE study report to the College within 14 days of receipt of the report.
- Participate in joint 35% review/VE resolution meeting at the College.
- Review and submit a final report within 14 calendar days of the resolution meeting to the College.
  - Provide a written comment and/or evaluation of each VE recommendation (see Format VE-1 in Appendix C)
  - Provide written recommendation to accept, to reject, or to accept with modifications each VE recommendation.

## **Chapter 8B**

### **Design Services:**

### **Contract Document Requirements**

- Provide justification for rejection of, or modification to, any VE recommendation.
- Implement all finally accepted VE recommendations into the project design.
- 

**8B.15.9 Action on VE Study:** The College shall review the A/E's evaluation and recommendations on the VE Study and the A/E's responses to the College Code Review Team review comments. The College shall indicate its proposed action (acceptance, rejection, or acceptance as modified) on the Summary sheet.

## **SECTION 8B.16 STRUCTURAL AND SPECIAL INSPECTIONS**

**8B.16.1 Minimum Inspections to be Performed:** The VUSBC in Chapter 1 prescribes the minimum inspections to be performed on a project. The VUSBC also adopts the International Building Code by reference. VUSBC Chapter 17, Structural Tests and Inspections prescribes certain tests and inspections which are required to be performed on the structural systems for the building. These inspections have been, heretofore, provided on state projects by a combination of the Owner's College's Project Inspection, the A/E and the Owner's College's Independent Testing Lab.

**8B.16.2 Procedures for Special Inspections:** The College Building Official for all College-Owned buildings establishes the following procedure for the application of the Structural and Special Inspections for capital outlay projects.

**816.2.1 A/E Basic Services - Design:** The A/E, as part of its Basic Service of preparing bid documents, shall include in the project specification the requirements for the materials, for the submittals, and for the tests and inspections to be performed including but not limited to inspections listed on the HECO-6b form.

- Identify those tests and inspections to be performed by the Owner's College's Independent Testing Service and require all other tests to be performed and paid for by the Contractor.
- The A/E shall include a summary of required Structural and Special Inspections in Division 1 of the Specifications, using the HECO-6b form. See Appendix M for the Concept of the Process.

**8B.16.2.2 A/E Basic Services - Construction:** The A/E, as part of its construction period Basic Services, shall review and approve the shop drawings, material submittals and other data required to assure compliance with the requirements of the bid documents.

**8B.16.2.3 Project Inspector:** Each project shall have an on-site Project Inspector/Clerk of the Works who shall, as part of his responsibilities, check all materials delivered of to the site for conformance with the approved submittals. The Inspector shall also check the installation for proper materials, methods, clearances, etc., as described in the plans and specifications and in the approved submittals.

**8B.16.2.4 College's Independent Test Lab:** The College's Independent Test Lab shall inspect foundations, log and inspect pile and caisson installations, inspect and test concrete, and inspect and test bolted and welded connections as required by the specifications.

**8B.16.2.5 A/E Site Visits:** The A/E in accord with their contract shall visit the site with representatives of each discipline having work in progress to assure conformance with the design shown in the documents. Where the College has determined to exclude this service from the A/E contract, qualified Architects and Engineers of the College shall perform this function.

**8B.16.2.6 Final Report of Structural and Special Inspections:** The A/E's structural engineer, the College's Project Inspector, and the College's Project Manager or responsible person shall complete the Final Report of Structural & Inspections, Form HECO-13.1b, and submit to the College Building Official as soon as completed but prior to the Substantial Completion inspection for the project.

**8B.16.3 Appendix M:** Appendix M, Structural and Special Inspections, contains the list of Structural & Special Inspections required for College -owned Buildings. The A/E shall edit the applicable list as necessary to indicate those materials and inspections that are and are not required for the project.

**8B.16.4** See Chapter 10 and Appendix N for additional information on other Project Inspector functions.

## **SECTION 8B.17 "COMMISSIONING" OF HVAC SYSTEMS**

**8B.17.1** "Commissioning" for HVAC systems, as described in ASHRAE Guideline 1-1989 for Commissioning of HVAC Systems includes:

- Development of the project criteria
- Design of the HVAC systems including preparation of the plans and specifications describing the HVAC system components and requirements
- Review of shop drawings and submittals
- Inspection of the installations of the systems and observation of applicable tests
- Final testing, balancing, start-up, initial operation, and acceptance of the HVAC system including controls.

**8B.17.1.1 Design of Commissioning Process:** The A/E must begin at the project inception to develop an orderly process to document and set forth the various elements of the process so that the commissioning criteria and requirements are integrated with the design and the specification of the HVAC system and so that procedures are defined for the required testing, balancing and operational checks.

**8B.17.1.2 Contractor Requirements:** The A/E shall specify Contractor requirements related to functional performance testing including, but not limited to, pressure tests, flushing, cleaning, testing, balancing, adjusting and start-up of equipment and the calibration and testing of automatic controls. The specifications shall require that every mode of every part or zone of the HVAC system be operated under full and part load and through all normal operational modes. The specifications set forth the procedures and requirements for the performance testing, system acceptance and training of agency personnel if required.

See section 12.12 for "Commissioning" inspection requirements.

## **SECTION 8B.18 FIRE PROTECTION SHOP DRAWINGS**

**8B.18.1** Fire Protection and Sprinkler shop drawings and submittal data shall be reviewed and approved by the A/E of record. When the submittal with any added notations is satisfactory to the A/E, the A/E shall so stamp and send one copy of such documents to the responsible State Fire Marshal Office, as appropriate, for final review before approval to begin installation.

## **SECTION 8B.19 PARTNERING**

**8B.19.1** Projects above \$5,000,000 in construction costs shall have a formal partnering agreement unless waived by the Associate Vice President for Facilities Management. This will entail an initial session facilitated by an outside consultant as part of the preconstruction activities. Representatives of all partners shall attend and sign the Partnering Charter developed in the initial session. This Charter will contain a detailed mission statement including various commitments made to achieve project success. In addition the Charter will define a resolution process, a plan of action for specific project challenges and a plan for follow on partnering progress meetings to assess the performance against the Charter. Participation by the partners is a basic service and this participation requirement shall be included within Division 1 of the specifications. The facilitator will be procured separately by the College of William and Mary.



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## **CHAPTER 9 DESIGN SERVICES:**

### ***COORDINATION & QUALITY ASSURANCE***

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#### **SECTION 9.1 GENERAL**

All firms providing professional services to the College are expected to strive for a standard of excellence in planning, design and construction administrative services. To that end, an active quality assurance program is essential to the process of continual improvement.

The Quality Assurance Process outlined in this chapter provides guidance to assist the A/E in reviewing the documents and represents the minimum information that the College expects to be shown on the drawings to clearly identify the Work to be performed.

The Contract Documents submitted shall represent a reasonable and cost effective architectural and engineering solution for the scope of work and construction budget in the A/E contract.

#### **SECTION 9.2 QUALITY ASSURANCE PROCESS:**

**9.2.1           Reviews:** The A/E shall perform a quality assurance review for both the technical accuracy and discipline coordination. Items such as sections, details, note references, major dimensions and equipment locations shall be checked. Verify that all equipment is consistently identified on all sheets and in the specifications and cost estimate.

**9.2.2           All elements of submittals shall be checked by the A/E:.** Each check should be made by persons other than those preparing the materials and by professional personnel trained in that specific discipline. Fire alarm and sprinkler submittals will be reviewed by the various disciplines in the College Code Review Team for compliance with requirements and standard criteria. Errors and deficiencies shall be corrected by the A/E at no additional cost to the College.

#### **SECTION 9.3 QUALITY PROCESS:**

**9.3.1           Quality Reviews:** When applicable, the following reviews should be considered as components of an overall Quality Assurance Process for each project.

**9.3.1.1 Program:** Develop/validate the program requirements to ensure the project meets the client's needs.

**9.3.1.2 Budget:** Develop/validate a cost model for each discipline to work toward and review at each submission

**9.3.1.3 Schedule:** Develop a reasonable project schedule and continually review and revise as necessary

**9.3.1.4 Individual Discipline Technical Reviews:** Ensure technical adequacy of each discipline

**9.3.1.5 Interdisciplinary Coordination:** Ensure all trades are coordinated with each other.

**9.3.1.6 Code Review:** Ensure minimum standards for health, life safety, energy, etc. are met.

**9.3.1.7 Constructability Review:** Ensure that the building systems can be constructed as indicated and within the allotted space indicated.

**9.3.1.8 Phasing Review:** Ensure that the building can remain occupied (as applicable) during construction and that all means of egress and all required building systems remain functional for safe occupancy.

## SECTION 9.4 PURPOSE

**9.4.1 Quality Assurance:** is a systematic process of applying quality control to the planning, design and execution of a project. With a quality assurance program that is properly administered, a win-win-win occurs for the Owner, Contractor and A/E when the potential for change orders, time extensions and liability claims are all reduced. Specific benefits are identified as follows:

**9.4.1.1 Planning:** Ensuring that the needs of the client can be met within the allotted time and budget.

**9.4.1.2 Design:** Providing a set of quality construction documents will:

- Attract quality contractors and allow the best pricing in a competitive construction market
- Minimize change orders and unanticipated expenses for all parties.
- Allow the best opportunity for an accurate cost estimate
- Minimize unnecessary delays and conflict in the execution of the project

**9.4.1.3 Cost Modeling and Estimating:** Project funds are typically tight and allow little room for error.

- Properly estimating the project and adhering to a cost model will minimize the possibility of unplanned expenses over and above the project budget. Additional time delays and effort necessary to bring a project into budget after the design is complete can be avoided.

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## Design Services:

### Coordination & Quality Assurance

**9.4.1.4 Construction Administration:** Quality Assurance will ensure:

- Document version control, schedules, as-built drawings and all required logs are maintained properly
- Requests for information, proposals, change order proposals, change orders and pay applications are all tracked and processed efficiently
- A proactive process of identifying issues and documenting the resolution
- Ensure that lessons learned are only learned once.

**SECTION 9.5 PRE-DESIGN PHASE:**

**9.5.1 Pre-Design Conference:** See Chapter 8B

**9.5.2 Pre-Design Planning and Program Validation:** Approximately 80% of a project's potential to succeed or fail is determined within the first 20% of the project. It is at this phase of the project that the scope, schedule and budget are established. For this reason, the A/E must take a very active role in the validation and ownership of the plan. Specifically the following should be considered at the beginning of each project:

**9.5.2.1 Scope:** Validate the scope with the client to ensure it meets the program requirements and can fit within the project budget and schedule.

- Identification of codes to be utilized throughout the project
- Determination and proposed resolution of code and/or safety related issues identified in the pre-design site investigation
- Determine if there are any specific or unusual design requirements or design guides required to satisfy owner, requirements
- Identify safety equipment and/or procedures required to operate and maintain the facility as intended, comply with OSHA and any other related safety standards.
- Review and validate the project program with CWM Project Manager and end user.
- Review the project scope against the budget and schedule to validate that the project can be constructed within available funds and within the projected time frame.
- Identify project related expenses and "work by owner" that will need to be identified, coordinated, scheduled and budgeted for. Such work may include, but not be limited to: moving; storage; security; parking coordination; data and telephone; temporary facilities; furnishings; landscaping; etc.

**9.5.2.2 Budget:** Validate the project budget and establish a cost model for each discipline to design to.

- Due to the State budget development process, the approved project budget may not reflect recent developments and cost adjustments within the construction industry.
- Budget discrepancies must be identified as early as possible.
- Delays in the design or permitting of a project can be directly translated to construction cost increases. It is therefore imperative that the design team be able to develop and execute the design in a timely manner.
  - **Example:** An annual 6% construction cost escalation equates to ½% per month in added construction costs. This equates to a \$5,000 dollar increase per month for every million dollars in planned construction.

**9.5.2.3 Schedule:** Validate the project schedule to ensure that it is realistic for both the design and construction phases and that it can be supported by the design team.

- Prepare a Gantt chart indicating detailed pre-design, design and bid activities. Construction activities shall be shown as one or more activities depending on the required project phasing (if applicable)
- Schedule discrepancies must be identified as early as possible.
  - Ensure that sufficient time is programmed for the quality review at each submittal.
  - Ensure that sufficient time is programmed for owner activities such as value engineering, reconciling cost estimates and permitting.
  - Ensure that all phases of the design schedule and major construction milestones are coordinated with the academic calendar and user requirements
  - Obtain buy-in from all stake holders.

**9.5.4 Pre-Design Investigative Site Visits:** A pre-design site visit by representatives of each discipline relative to the project shall be scheduled to occur immediately following the Pre-design kickoff meeting.

**9.5.4.1 Interviews:** As applicable, site visits shall include field investigations and interviews with the College Project Manager and project stakeholders, including, but not limited to representatives from Facilities Maintenance, and landscape services. Specifics to be included in site investigation may include, but are not limited to:

- Code related and/or safety issues in existing facilities that need to be updated and/or installed as a part of the project. Examples may include outdated fire alarm systems, sprinkler systems, egress paths, accessibility, integrity of existing fire rated assemblies, etc.
- Code related issues that may present difficulties throughout the project,

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### **Design Services:**

### **Coordination & Quality Assurance**

examples include: maintaining existing code mandated life safety systems, fire ratings and egress paths in existing buildings intended to remain occupied during construction.

- Identify unknowns and determine if destructive testing will be required in order to reasonably assess existing conditions
- Review of record drawings
- Initial field surveys including topo, wetland and/or utility surveys, hazardous material survey, geotechnical survey as may be appropriate.

## **SECTION 9.6 DESIGN PHASE:**

**9.6.1 Program:** At the kick-off meeting for each phase of the design, the A/E and CWM Project Manager shall review the program with the stake holders and determine if any changes to the program are required.

**9.6.1.1 Potential changes:** could result from;

- Previous review comments
- Change in owner requirements
- Elimination of unauthorized scope creep
- Identification of inflation over and above anticipated escalation
- Proactive changes required to maintain the project cost model
- Changes due to value engineering etc.

**9.6.2 Design Phase Communication Protocols:** At the kick-off meeting for each phase of the design, validate and adjust as necessary the established communication protocols.

- Solicit feedback from all team members and stake holders to ensure that established protocols are effective
- Ensure that all team members as well as all stakeholders are aware of the protocols.

**9.6.3 Design Phase Budget:** At the kick-off meeting for each phase of the design, validate the project budget based on the most recent cost estimate.

- Each phase of the project design shall be designed to a cost model which shall account for escalation to the mid-point of the anticipated construction period.
- Adjust the escalation at each design phase to account for any delay in the design process to date.
- A full 10% of the design not to exceed value identified within the A/E contract shall be held as a design contingency throughout the schematic and preliminary phases of design. This design contingency shall be released only as authorized by the CWM Project Manager during the working document phase of design.

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- An independent cost estimate shall be required for all projects over \$2,000,000 in estimated construction value
  - Requests to waive the requirement for an independent cost estimate shall be submitted to the Director, Facilities Planning Design and Construction for consideration in the form of a “Determination and Findings”.
- For every project utilizing an independent cost estimator, the cost estimate provided by the A/E shall be reconciled with the cost estimate provided by the independent cost estimator.
  - The independent cost estimate shall be considered to be reconciled with the A/E cost estimate when the total project cost, as well as every major division is within 5% of the A/E cost estimate.
  - The cost of reconciling each cost estimate shall be included within the A/E fee as a cost not to exceed, additional service.
- The project shall not proceed to the next design phase until the cost estimate is validated with the cost model and the independent cost estimate.

**9.6.4 Design Phase Schedule:** The schedule shall be coordinated with the College Project Manager and shall include as a minimum the following items as applicable.

- Significant event meetings such as:
  - Pre-design conference
  - Presentations to the Building committee, Design Review Board (DRB), Art and Architectural Review Board (AARB)
- Studies as applicable such as:
  - Environmental Impact Study
  - Geotechnical Report
  - Archaeology Study
  - Value Engineering Study
  - Building Envelope Study
- Individual Design Phases
- College Reviews including:
  - Review and reconciliation of project scope, schedule and budget
  - Client review
  - Code review
- A/E responses and resolution owner comments at each design phase
- Redicheck coordination review

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### **Design Services:**

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**9.6.5 Design Phase Field Investigations:** Shall include:

- Photographic documentation of existing conditions
- Conference Summaries of each meeting held
- Validation of existing field conditions as they relate to the project. Validation to include existing building structure and other elements that may interfere with new or extended utilities

**9.6.6 DESIGN PHASE RUNNING ACTION LIST:**

**9.6.6.1** A running action list tracking outstanding activities, suspense dates and responsible party shall be developed and maintained by the A/E.

- The action list shall be distributed to the College Project Manager for confirmation and feed back
- Updates shall occur on a regularly scheduled basis as directed by the College Project Manager

**9.6.7 DESIGN PHASE TECHNICAL REVIEW:**

**9.6.7.1** Calculations shall be organized by discipline and presented for internal peer review. Refer to chapter 8B and associated appendix for required calculations.

**9.6.8 CONSTRUCTION PHASE**

**9.6.8.1** Maintain a procedure for tracking, processing and logging Requests for Information, Requests for Proposal, clarifications, supplemental instructions and similar documents. Procedure shall assure that processing and responses are timely.

**9.6.8.2** Maintain a procedure for reviewing and processing Applications for Payment in a timely manner, including the scheduling and administration of payment meetings.

**9.6.8.3** Maintain a procedure for monitoring the progress of the work with respect to the project schedule. Maintain a running list of issues and actions required and performed.

**9.6.8.4** Maintain a procedure for logging, processing and tracking shop drawing submittals to assure that submittals are made and reviews are returned in a timely manner so as not to delay the work.

**9.6.8.5** Maintain a procedure for monitoring ongoing construction activities to assure compliance with the Contract Documents and applicable codes, including the timely issuance of reports.

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**CHAPTER 10  
RESERVED**

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**Chapter 10 - CONSTRUCTION SERVICES:**

***BASIC SERVICES & RESPONSIBILITIES***

**(To be written)**

**Chapter 10  
Construction Services:  
Special Project Delivery Services**

**Chapter 10**  
**Construction Services:**  
**Special Project Delivery Services**

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## CHAPTER 11

### CONSTRUCTION SERVICES:

#### *PROCUREMENT PROCEDURES*

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#### SECTION 11.1 GENERAL

- 11.1.1 Sealed Bidding and Competitive Negotiations:** Construction will be procured by competitive sealed bidding in accordance with the procedures of this chapter. However, competitive negotiations may be used on (1) projects using a fixed price design-build or construction management contract or (2) projects for the alteration, repair, renovation or demolition of buildings upon a determination in writing made in advance and approved by the AVP/FM that competitive sealed bidding is either not practicable or not fiscally advantageous to the public. See Chapter 11 for Special Procedures.
- 11.1.2 Contract Documents:** Contract Documents for capital outlay, maintenance reserve and non-capital outlay construction projects including, but not limited to, renovation, remodeling, demolition and repair work on buildings and other structures that require Plans and Specifications prepared by an Architect or Engineer, shall include the General Conditions of the Construction Contract HECO-7, and Supplemental General Conditions - SWAM.
- The Agency, at its discretion, may include a Supplemental General Condition to waive the requirements of Section 12 (b) of the General Conditions of the Contract, HECO-7, as it relates to the requirement for all Builders' Risk insurance for these categories of work if the Agency has, for each project, verified with the Department of Risk Management that its insurance will provide adequate coverage. Use the wording shown in the Sample in Appendix A.

#### SECTION 11.2 CONSTRUCTION BIDS

- 11.2.1 Instructions to Bidders:** See Chapter 8B.3.4. Appendix A contains Instructions to Bidders, HECO 7A.
- 11.2.2 Virginia Construction Contracting Officer:** A Virginia Construction Contracting Officer (VCCO) shall supervise the bidding and awarding HECO construction contracts. Procedures stipulated in this Manual shall be used in all cases.
- 11.2.3 Authorization to Advertise for Bids and Building Permit:** Authorization to advertise for bids is given on completion of technical review(s) of the project documents by the Code Review Team and, approval of the Director Facilities Planning, Design and Construction and

issuance of the Building Permit. The original signature Building Permit will be held on file by the Code Review Team for final completion.

**11.2.4 Preparation:** Bid Forms shall be prepared using the format and wording shown on the Standard Bid Form Format, the Notice of Invitation for Bids Format, the IFB Cover Format and the Invitation for Bids Contents Format in Appendix C. The contractor's Disqualification Statement and the Immigration Reform and Control Act of 1986 statement shall be included on each bid form. In preparing these bid forms A/E's are reminded to keep the number of additives to a minimum and when including more than one, they should be listed in order of importance. See Chapter 8B.10 for further requirements and procedures concerning Additive Bid Items. Including or use of "Allowances" in the Bidding is not permitted.

**11.2.5 Advertising:** Facilities Planning, Design and Construction shall establish a time and place for receiving bids. Bid receipt dates shall be coordinated through the College Contract Documents Manager. The A/E shall use this information in completing the advertisement on the Notice of Invitation for Bids, Appendix C. Bids are generally not received nor opened on Mondays and Fridays. For general preparation of bid documents see Chapter 8B.

- The advertisement should be placed for a period of one or more days, as deemed appropriate, in one newspaper which has daily statewide circulation such as the Richmond Times-Dispatch, the Norfolk Virginian-Pilot, the Roanoke Times & World News or the Washington Post. The project should also be advertised in a newspaper which serves the area where the project is located if different from the above.
- The advertisement for bids should also be posted in a designated public area used for posting of such notices. For optimum exposure, the advertisement should also be filed with all organizations that regularly advertise and report construction bid data. Advertisements in other newspapers may be necessary for large projects.
- The advertisement will be circulated and posted for appropriate maximum exposure by Facilities Planning, Design and Construction and be posted on the VBO/eVA web site when the expected procurement exceeds \$50,000.

**11.2.6 Pre-bid Conference:** If a Prebid Conference or project showing is held (whether optional or mandatory), representatives of the College and the A/E shall attend. The College shall make the Project location or building available to the attendees / prospective bidders for their observation or inspection.

- The FPDC Project Manager shall conduct the Prebid conference. The agenda shall include the following:
  - Introductions of A/E and Agency representatives
  - Synopsis of the Work by citing or reading portions of
    - Notice of Invitation for Bids
    - Instructions to Bidders
    - Prebid Question Form

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- Bid Form
  - Supplemental General Conditions
  - Special Conditions
  - General Requirements
  - Other conditions or requirements included in the Bid Documents that should be called to the attention of the bidders
- Questions from the floor - A/E should answer only those questions where the response is to direct the questioner's attention to a particular portion of the bid documents. ALL OTHER QUESTIONS SHOULD BE RECEIVED IN WRITING OR DOCUMENTED BY THE A/E AND RESPONDED TO IN WRITING IN AN ADDENDUM.
  - The A/E should issue an Addendum to include a copy of the attendees sign-in sheet and the questions posed with the response to each.
  - The Agency and the A/E must be careful not to provide any information, instruction, or clarification to Prebid attendees which is not made available to all potential bidders.

**11.2.7 Addenda to the Bid Documents:** Addenda shall be issued as necessary to clarify or correct information in the Bid Documents, to respond to questions raised by the Bidders, and/or to modify the Bid Receipt Date.

- No oral explanation in regard to the meaning of the drawings and specifications shall be made and no oral instructions shall be given to the Bidders.
- Addenda to clarify or correct information in the Bid Documents should be issued at least 10 days prior to the Bid Receipt Date. Addenda which add work to the project, which provide significant information, which must be considered by subcontractors and suppliers, or which contain many pages of corrections must be issued at least 10 days prior to the date set for receipt of bids or the bid date must be delayed to allow the 10 days. Addenda which serve primarily to provide clarifications or corrections which can be covered in a one page Addendum may be issued up to 6 days prior to bid receipt date. Addenda which only delay or cancel the date for receipt of bids must be issued at least 24 hours prior to the date and time set for bid receipt.
- One copy of all Addenda shall be submitted to the Code Review Team at the same time and by the same means as the Addenda are issued to the Bidders. A copy of all addenda shall also be sent to the responsible State Fire Marshal Office which will have jurisdiction over the project.

**11.2.8 Receipt of Bids:** A Virginia Construction Contracting Officer or a person acting under the supervision of the VCCO will receive the bids when submitted. That person must record the time and the date and initial on the bid envelope. That record shall be retained. All envelopes, papers and data submitted with the bid shall be stapled together and permanently retained, except for bid securities or work papers which shall be retained only until a signed contract is obtained. At that time, bid securities must be returned to the bidder. Until that

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### **Construction Services: Procurement Procedures**

time, bid securities must be retained in a secure place. Work papers will be returned to the bidder unopened, unless needed to resolve a withdrawal of bid due to error claim. The preferred days for bid receipt are Tuesdays and Wednesdays.

**11.2.9 Bid Opening:** Bids shall be publicly opened by a VCCO or his representatives(s) and shall be reviewed for completeness. A tabulation shall be made showing bid price, presence of bid bond or certified check, completion time, work papers, acknowledgement of receipt of addenda, and any other pertinent information. See Appendix F for Procedures for Opening Bids.

- Once the designated bid receipt time has arrived, the Contract Officer will move the sealed bids to a private area. If the low bid is within budget, the bids will be announced immediately. If all bids are over budget the results of the bid opening will not be made public until the contract is awarded. At that time, the list of firms whose bids were received will be made available to the public.

**11.2.10 Provisions for Negotiation with Low Bidder:** When the low bid exceeds available funds and upon approval of the AVP/FM negotiations with the lowest responsive and responsible bidder may occur. A record of the negotiations will become a part of the procurement *file* for the project.

## **SECTION 11.3 AUTHORITY TO AWARD A CAPITAL OUTLAY PROJECT CONTRACT**

**11.3.1 VCCO Approval:** The VCCO approves all requests to award a contract (HECO- 8) to the low responsive and responsible bidder for capital outlay projects. Note the construction line of the budget shall reflect the award amount. Once the award is approved, the College shall "Post" a Notice of Intent To Award at the Office of Contract Administration website prior to contract award.

## **SECTION 11.4 EXECUTION OF CONTRACT**

**11.4.1 AVP/FM Authority:** The AVP/FM has been delegated authority to execute contracts. The AVP/FM will execute a written contract with the Contractor using the CO-9.

**11.4.2 Protest of Award or Decision to Award:** Any bidder who desires to protest the award or decision to award a Contract shall submit such protest in writing to the College, no later than ten days after the award or the announcement of the decision to award, whichever occurs first. No bid protest shall lie for a claim that the selected bidder or offeror is not a responsible bidder. The written protest shall include the basis for the protest and the relief sought. The College shall issue a decision in writing within ten days of receipt of the written protest stating the reasons for the action taken. This decision shall be final unless the bidder or offeror appeals within ten days of the written decision by instituting legal action. (College Procurement Rules)

**11.4.3 Stay of award during protest:** An award need not be delayed for the period allowed a bidder or offeror to protest, but in the event of a timely protest, no further action to award the

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Contract will be taken unless there is a written determination that proceeding without delay is necessary to protect the public interest or unless the bid or offer would expire. (College Procurement Rules)

**11.4.4** **Notices to Proceed:** Will be issued by the VCCO after bonds and insurance certificates have been reviewed by Legal Counsel and the Building Permit has been issued.

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## **CHAPTER 12:**

### **CONSTRUCTION SERVICES:**

#### ***SPECIAL PROJECT DELIVERY PROCEDURES***

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#### **SECTION 12.1 GENERAL**

In accordance with the Restructured Act and the Management Agreement for the College of William and Mary, the following procedures may be utilized for construction projects of a highly specialized, or unique nature, as deemed appropriate by the College and, as approved, in writing by the Associate Vice President for Facilities Management. These Design-Build, Construction Management, Competitive Negotiation, and Pre-Qualification Procedures apply to all capital projects for the College.

§35.3 of the Procurement Rules (Appendix S) exempts design and construction of \$50,000 or less from the rules. Use of this exemption requires approval from the Director, FPDC and the Associate Vice President for Facilities Management.

#### **SECTION 12.2 DESIGN BUILD (D/B) PROCEDURES**

**12.2.1 Procedure For Approval To Use D/B:** The College shall document, in writing (using the D & F format in Appendix R), the decision to use a D/B contract.

- The document shall justify and substantiate that D/B is more advantageous than a competitive sealed bid construction contract with a general contractor and shall indicate how the College will benefit from using D/B.
- The Associate Vice President for Facilities Management (AVP/FM) of the College is the approving authority for requests to use D/B procedures.

**12.2.2 Design-Build (D/B) Selection Procedures:** On projects approved for D/B procurement of the contract shall be a two-step competitive negotiation process. The following procedures shall be used in selecting a Design-Builder and awarding a contract.

- The College shall appoint an Evaluation Committee which shall include a majority of licensed professional engineers or architects as voting members.
- Selection of highly qualified Offerors (STEP I)

- The College shall publish notice of its invitation for Design-Builders to submit Letters of Interest. The notice shall appear in at least two daily newspapers and on the On-Line Bids page of eVA website. The requirement to publish in the eVA website may be waived by the AVP/FM in order to expedite the process.
  - The Committee shall evaluate each responding firm's submittals and any other relevant information and shall recommend no more than seven offerors deemed most suitable for the project.
  - The Committee shall make its recommendation on the 3 to 5 most suitable Design-Builders to the AVP/FM. The AVP/FM shall approve the most suitable Design-Builders to receive a Request for Proposal. Non-short listed firms will be so notified.

➤ Selection of a Design-Build Contractor (STEP II)

- The College shall prepare a Request for Proposal (RFP) containing the Agency's Facility Requirements, building and site criteria, site and survey data, the criteria to be used to evaluate submittals, and other relevant information, and issue it to the short-listed firms.
- Those firms will be requested to submit technical and cost proposals. Technical Proposals will be submitted to the Evaluation Committee. Separately sealed Cost Proposals will be submitted to be held separately from the Technical Proposals. The short-listed firms should also be invited to provide oral presentations in order to provide additional information.
- The Evaluation Committee will evaluate the Technical Proposals and presentation based on the criteria contained in the RFP. It may inform each D/B offeror of any adjustments necessary to make its Technical Proposal fully comply with the requirements of the RFP. In addition, the College may require that offerors make design adjustments necessary to incorporate project improvements and/or additional detail identified by the Committee.

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- The firms may then be requested to submit revised technical and price proposals based on the technical discussions.
  - Price proposals will be opened and disclosed to the committee at the conclusion of the preliminary technical evaluations.
  - Based on the revisions made to the Technical Proposals, the Committee and an offeror may negotiate additive and deductive amendments to any offeror's Cost Proposals. Prices may be negotiated with no more than the three (3) low offerors.
  - The Committee shall make its recommendation on the selection of a Design-Builder to the AVP/FM based on its evaluation and negotiations. The AVP/FM shall select the Design-Builder.
  - Upon receipt of the AVP/FM's selection, the College will notify all offerors who submitted proposals which offeror was selected for the project.
  - Proprietary information from competing firms will not be disclosed to the public or other firms provided the firm has so identified the information. his procedure shall result in a fixed price contract with the selected firm.
- These procedures may be changed with the written consent of the Associate Vice President for Facilities Management (using the D & F format in Appendix R).

**12.2.3 Required Design/Build (D/B) Contract Terms:** D/B contracts shall not proceed past the preliminary phase without a notice to proceed from the AVP/FM. No construction work shall proceed without such notice.

## **SECTION 12.3 CONSTRUCTION MANAGEMENT (CM) PROCEDURES**

The following procedures shall be used for the procurement of construction management contracts

**12.3.1 Procedure For Approval To Use Cm Contracts:** The College shall document, in writing (using the D & F format in Appendix R), the decision to use a CM contract.

- The documentation shall justify and substantiate that the use of CM is more advantageous than a competitive sealed bid construction contract with a general contractor.

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## **Construction Services: Special Project Delivery Procedures**

- The Associate Vice President for Facilities Management (AVP/FM) is the approving authority for requests to use CM.

### 12.3.2

**Construction Management (Cm) Procedures:** On projects approved for CM, the College shall proceed as follows to determine from those offerors who may submit proposals the most suitable offers

- Issuance of a Request for Letters of Interest (LOI) which describes in general terms, the proposed construction project and requests names and qualifications of interested contractors. Public notice of the LOI shall be made in such manner to allow for maximum exposure of the requirements to potential offers that can be reasonably anticipated to submit proposals in response to the particular request. LOI's may also be solicited directly from potential contractors. The LOI notice shall appear in at least two daily newspapers and on the On-Line Bids page of eVA website. The requirement to publish in the eVA website may be waived by the AVP/FM in order to expedite the process.
- The Committee shall evaluate each responding firm's submittals and any other relevant information and shall recommend no more than seven offerors deemed most suitable for the project. The Committee shall make its recommendation on the 3 to 5 most suitable CMs to the AVP/FM. The AVP/FM shall approve the most suitable CMs to receive a Request for Proposal. Non-short listed firms shall be so notified.
- A Request for Proposal shall be prepared and issued only to the above listed (short listed) CM firms. The request will be for both technical and cost proposals.
- The RFP contains the current stage of construction documents and will generally also include a description of the factors and values that will be used to evaluate the proposals. Firms will be encouraged to elaborate on their qualifications and performance data or staff expertise pertinent to the proposed project. The RFP will describe the factors that will be used to evaluate the technical proposals and explain how the technical and cost proposals will be rated and weighted to select the successful offeror.
  - Offerors will be required to submit complete, detailed technical proposals describing how they intend to carry the project including:
    - Means and methods
    - Names and credentials of key personnel
    - Names and credentials of sub-contractors and key personnel

- Proposed schedules and work plans
  - Detailed description of procedures for particularly sensitive parts of the project
  - Other information important to understanding the project and completing it successfully
- Offerors will be required to submit a fixed price cost proposal for the entire project as described in the RFP and detailed in their technical proposals.
- Technical Proposals will be distributed to the Evaluation Committee. Separately sealed Price Proposals will be submitted to be held separately from the Technical Proposals. The short-listed firms should also be invited to provide oral presentations in order to provide additional information. The price proposals will be opened after the initial technical evaluations.
  - The Committee will evaluate and rank the proposals and conduct interviews and negotiations with - the offeror(s) submitting the best proposals and approved by the AVP/FM. Should the College determine in writing and at its sole discretion that only one offeror is fully qualified, or that one offeror is more highly qualified than the others under consideration, then, with the consent of the AVP/FM, a contract may be negotiated with and awarded to that offeror.
  - The Committee shall make its final evaluation and forward its recommendation on the selection of a Construction Manager to the AVP/FM. The AVP/FM shall select the Construction Manager.
  - Upon receipt of the AVP/FM's approval, the College will notify all offerors who submitted proposals which offeror was selected for the project.

**12.3.3 Objective of Competitive Negotiation:** The objective of this Competitive Negotiation procedure is to ensure clear and open communication of expectations of both the contractors and the College staff and then to make an award to the CM who provides the best combination of technical and price proposals.

- This procedure shall result in a fixed price contract with the selected firm.
- This procedure may be modified with the written approval of the AVP/FM (using the D & F format in Appendix R).

**12.3.4 Required Fixed Price Construction Management Contract Terms:** All fixed priced construction phase at risk construction management contracts entered into by the College shall contain provisions requiring that (1) not more than 10% of the construction work (measured by cost of the work) will be performed by the

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CM with its own forces and (2) that the remaining 90% of the construction work will be performed by subcontractors of the CM which the CM must procure by publicly advertised, competitive proposals or sealed bidding.

(3) Final construction at risk pricing will use a CM open book process to capture all trade contracts results.

- 12.3.5 Procedure Modification:** This procedure may be modified with the written consent of the AVP/FM (using the D & F format in Appendix R).

## **SECTION 12.4 COMPETITIVE NEGOTIATION PROCEDURES**

- 12.4.1 Procedure For Approval To Use Competitive Negotiation Procedures:** The College shall document in writing (using the D & F format in Appendix R) the decision to use competitive negotiation procedures. .

- The documentation shall justify and substantiate that competitive negotiation is more advantageous than a competitive sealed bid construction contract with a general contractor and shall indicate how the College will benefit from using competitive negotiation.
- The AVP/FM must approve the D&F

- 12.4.2 Competitive Negotiation Procedures:** Competitive Negotiation shall include the procedures of 11.3 above. However in all cases the stage of design shall be 100% construction documents.

## **SECTION 12.5 PREQUALIFICATION PROCEDURES**

- 12.5.1 Procedure For Approval To Use Prequalification Procedures:** The College shall document in writing (using the D & F format in Appendix R) the decision to use pre-qualification procedures.

- The documentation shall justify and substantiate that prequalification is advantageous to the College and shall indicate how the College will benefit from using pre-qualification.
- The AVP/FM must approve the D&F.

- 12.5.2 Prequalification Procedures:** The following Prequalification procedures shall be followed. In all cases the stage of design shall be 100% construction documents.

- The College may pre-qualify contractors for a particular construction project and limit consideration of bids or proposals to pre-qualified contractors. The procedures contained in this Section shall be used for prequalification of contractors for a particular construction project. The College may pre-qualify both general contractors and

selected subcontractors. Any prequalification of contractors shall be conducted in accordance with the procedures stipulated in this Section and the College Procurement Rules, and sufficiently in advance of the bid receipt date to allow potential contractors a fair opportunity to complete the process.

- The objective of prequalification shall be to qualify as many contractors as possible to bid on the proposed work. Pre-qualification is most frequently used for projects with sophisticated building systems, a unique site or constructability issue or where project scheduling or sequencing is critical.
- The College shall advertise for the pre-qualification in at least two (2) newspapers, one of which has daily statewide circulation; on the On-Line Bids page of eVA web site; and shall post the advertisement in the public area where Invitations to Bid are generally posted. The date set for receipt of the Standard Form for Contractor's Statement of Qualifications shall be at least thirty (30) calendar days from the date of the initial newspaper advertisement.
- The Standard Form for Contractor's Statement of Qualifications, G.S. Form E&B CO-16 (CO-16) shall be the application form submitted by contractors when applying to be pre-qualified for a particular construction project. The CO-16, when provided to interested contractors, shall be accompanied by the minimum qualification criteria for the proposed construction contract. The experience section may be expanded to include further project specific information.
- The Associate Vice President for Facilities Management shall establish a committee of at least five (5) members to review the CO-16 forms submitted by interested contractors and determine which, if any, of the contractors shall be pre-qualified. Of the five (5) persons one shall be a certified Virginia Construction Contracting Officer, one shall be a registered architect or engineer and one shall be the project manager for the proposed project. The remaining persons should be familiar with the design and construction industry. The A/E for the project may, at the discretion of the Committee, serve as an advisor to the Committee.
- College Procurement Rules permit the College to deny prequalification to any contractor only if the College finds at least one of the following:
  - The contractor does not have sufficient financial ability to perform the contract. Evidence that the contractor can acquire a surety bond from a corporation included on the United States Treasury list of acceptable surety

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corporations in the amount and type required for the project shall be sufficient to establish financial ability;

- The contractor does not have appropriate experience to perform the construction project in question;
  - The contractor or any officer, director or owner thereof has had judgments entered against him within the past ten years for the breach of contracts for governmental or non-governmental construction;
  - The contractor has been in substantial noncompliance with the terms and conditions of prior construction contracts with a public body, without good cause. The College may not utilize this provision to deny prequalification unless the facts underlying such substantial noncompliance were documented in writing in the prior construction project file and such information relating thereto was given to the contractor at that time, with the opportunity to respond;
  - The contractor or any officer, director, owner, project manager, procurement manager or chief financial official thereof has been convicted within the past ten years of a crime related to governmental or non-governmental construction or contracting;
  - The contractor or any officer, director or owner thereof is currently debarred pursuant to an established debarment procedure from bidding or contracting by any public body, agency of another state or agency of the federal government; and
  - The contractor failed to provide to the agency, in a timely manner, any information requested by the agency relevant to (a) through (f) above.
  - The contractor does not have the requisite Virginia license issued by The Virginia Board of Contractors to perform work in Virginia pursuant to Virginia Procurement Rules.
- The College shall notify, in writing, each contractor that submitted the CO-16 whether that contractor has been pre-qualified. If a contractor is denied prequalification, the written notice to that contractor shall state the reason(s) for denial of prequalification and the factual basis of such reasons(s). The written notice to each contractor shall be delivered by U. S. mail. A contractor denied prequalification shall have ten (10) calendar days from the postmark

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date of the written notice from the agency in which to appeal the denial of prequalification. The contractor shall submit the written appeal with any additional information which may support the appeal to the AVP/FM, the College's designated appeal officer (Appeal Officer).

- The decision of the AVP/FM shall be the final College decision. There is no further administrative appeal procedure pursuant to College Procurement Rules; however, the contractor may initiate legal action pursuant to College Procurement Rules.
- Verification of References supplied by the contractor in Sections VI: 1, 2, 3 & 5 of the CO-16 shall be accomplished.
- Qualification criteria I, III, V and VI in the standard qualification criteria package in the CO-16 shall not be changed without the prior written approval of the AVP/FM. Qualification criteria for Experience (II) shall be customized to fit the particular project for which prequalification is intended.
- The Notice of Invitation for Bids for the project shall be published as required by Chapters 8 and 10 of the Manual, and on the On-Line Bids page of eVA web site. The advertisement shall appear no less than 30 days prior to the date of bid receipt, unless otherwise approved by the AVP/FM. The advertisement shall state that bids will be accepted only from those contractors prequalified to bid on the project and a registered vendor with the eVA electronic procurement system.

## SECTION 12.6 DEMOLITIONS

**12.6.1 Capital Project Demolition:** When a building is to be demolished as part of a capital project, the capital project write-up will include the demolition. Unless demolition is approved by the Board of Visitors (BOV) as part of a capital project approval, separate BOV approval of demolition is required. (See Management Agreement, exhibit G, section X.)

**12.6.2 If a building is identified for demolition the project manager will:**

- Confirm with the Associate Vice President for Facilities Management that the demolition is valid and that BOV approval has been obtained.
- Working with the Director, Environment, Health, and Safety, ensure a hazardous material assessment is made.
- Ensure identified hazardous material is abated.
- Working with the FM Director, Maintenance and Operations, ensure building utilities are disconnected prior to demolition.

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- Write a letter to the Department of Historic Resources (DHR) seeking demolition approval. the letter must include an attachment with the following information:
  - a. FAACS building number
  - b. Date of construction
  - c. Size in gross square feet
  - d. Type of construction
  - e. Structural and life safety condition
  - f. Assessed or estimated condition
  - g. Original use
  - h. Present or most recent use
  - i. Architect's name (if known)
  - j. Reason for demolition including future use of site
  - k. Photographs of exterior and interior (exterior of all sides and representative interior
  - l. Cost estimate of demolition and site clean-up
  - m. Analysis of alternative programs to demolition
  - n. Analysis of relationship of demolished space to new programs
  - o. Conformity of demolition with master plan
  - p. Hazardous materials inspection, mitigation information
- On favorable determination by DHR, which will normally require 60 days, a copy of the demolition application request and approval by DHR will be sent to the AARB with request that it be placed on the consent agenda; this will normally take another 30 days.
- After approval by DHR and the AARB, prepare a demolition permit for review by the Director of environment, Health and Safety (for hazardous materials concerns); Director of Maintenance and Operations (utilities); the Director of Facilities Planning, Design and Construction; and the Associate Vice President for Facilities Management; and approval by the Building Official whose signature will confirm that the BOV has approved demolition.
- After all approvals are received, initiate demolition action.
- After demolition is accomplished, notify:
  - Administration senior planner, who will notify the State Council of Higher Education for Virginia and the State

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Bureau of Real Property Management of the Department of General Services.

- Risk management
- Property control
- The signatories of the demolition permit

## **SECTION 12.7 EMERGENCY PROCEDURES**

**12.7.1** Consult with the AVP/FM and the Director, FPDC.

**12.7.2** In an emergency, selection of a contractor and agreement on the scope and price of the contracted work may be made using any procedure approved by the AVP/FM in a D&F. Generally the following will be considered emergencies:

- Protect life and/or property.
- Prevent substantial economic loss.
- Prevent interruption of necessary services.

**12.7.3** An Emergency Conditional Notice to Proceed (ECNTP) shall be used to get the work started quickly and shall include the following elements:

- **Mandatory notification** – The Contractor shall provide written notification to the Project Manager on expending and/or obligating 50% of a not-to-exceed dollar amount indicated in the ECNTP. **Time constraint** – A contract specifying scope, time and fixed cost must be agreed to by the Contractor and the College as soon as practicable, but in no case longer than 30 days (or other time specified in the ECNTP) after issuance of the ECNTP and prior to obligating and/or expending 50% of the not-to-exceed amount specified in the ECNTP.
- **Insurance Submittals** – Insurance Certificates in the types and amounts required by the HECO-7 are required before work may begin.
- **Signatures Required** – The ECNTP must be signed by the College and the Contractor before work may begin.

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## CHAPTER 13

### CONSTRUCTION SERVICES:

#### *CONTRACT ADMINISTRATION, FEES & PAYMENTS*

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#### SECTION 13.1: GENERAL

The General Conditions of the Construction Contract, HECO-7, describe the contract administration procedures. (Appendix A)

#### SECTION 13.2 CONSTRUCTION CONTRACT ADMINISTRATION

**13.2.1 A/E Construction Period Services:** Generally, the A/E's Basic Services requires the A/E to assist in the solicitation of bids, review and approve submittals, visit the site periodically and inspect the Work, complete Structural and Special inspections, review and certify Contractor payment requests, participate in on site preconstruction, progress and pre-installation meetings, issue clarifications of the Documents, issue Field Orders, process change orders, provide substantial and final completion inspections and certifications and other functions associated with contract administration. See Chapter 5B Section 5B.3.5 and Chapter 12 of this Manual for typical A/E services during construction. These services should also be referenced or described in the A/E Contract or its Memorandum of Understanding. These services and/or other services may also be provided by special consultants.

**13.2.2 Construction Administration Management:** The College may assign a College Construction Manager to assist the Project Manager as the College's on-site representative for the construction phase; to manage any other construction phase consultants; to coordinate other consultant, A/E and Contractor communications; to expedite resolution of all conflicts; to perform additional quality assurance oversight (such as inspection, verification, acceptance, rejection) and to perform other administrative oversight. The College Construction Manager shall be included in all written decisions and notices to the Contractor and information and notices from the Contractor. All activities not specifically required to be performed by the A/E may be performed by the College Construction Manager or by the College's selected consultant.

**13.2.3 Delegated Inspections:** The College may also delegate from the Architect/Engineer to any selected consultants certain inspection, verification, acceptance, rejection, and administrative duties and authority. The College shall provide the Contractor and the A/E information in writing defining the limits of the selected consultants' authority.

## **SECTION 13.3 CONSTRUCTION MEETINGS**

- 13.3.1 Preconstruction Meeting:** Prior to the start of construction a Preconstruction meeting shall be held. Attendees should include the Project Manager, Construction Administration Manager and Project Inspector, the building user, the A/E's Representative including selected representatives of each design discipline involved in the project, special consultants, the Contractor's Project Manager and Superintendent (and Scheduler, if Contractor desires), and representatives of the Contractor's major Subcontractors. See Preconstruction Conference Format in Appendix H and the General Conditions of the Construction Contract (HECO-7) section 50.
- 13.3.2 Monthly Pay Meetings:** The intention is that the Contractor, the College Construction Manager, the A/E and other consultants have timely exchange of information and cooperate to accomplish the Work as required by the Contract Documents. See the General Conditions of the Construction Contract (HECO-7) Section 50. The monthly pay meeting is normally the best opportunity to exchange information and should include the following topics:
- Observations of status, quality and workmanship of work in progress
  - Validation of the Schedule of Values and Certificate for payment
  - Conformance with proposed construction schedule
  - Outstanding Requests for Information Requests for Clarification and Requests for Proposal
  - Submittals with action pending
  - Status of pending Change Orders
  - Status of Running Punch List items
  - Work proposed for coming pay period
  - Discussions of any problems or potential problems which need attention
- 13.3.3 OTHER MEETINGS:** Other meetings, such as progress meetings, coordination meetings, pre-installation meetings and/or partnering meetings may also be appropriate. See the General Conditions of the Construction Contract (HECO-7) section 50. Pre-installation meetings are required for all HVAC systems and components. Such meetings should include the A/E, the project engineer for the mechanical discipline, the College Construction Manager, the Inspector, any commissioning consultant, the Contractor's project manager and superintendent, the mechanical subcontractor's project manager and superintendent, and a representative of the major supplier/manufacturer.

## **SECTION 13.4 SCHEDULE OF VALUES AND CERTIFICATE FOR PAYMENT**

**13.4.1** The General Conditions of the Construction Contract, HECO-7, describe in Sections 20 and 36 the requirements for completing the Schedule of Values and Certificate for Payment, CO-12, and for providing documentation of Work performed and for properly stored materials. The A/E, as part of Basic Services, is required to:

- Review and approve the format and breakdown of the initial Schedule of Values
- Based on a monthly “plan in hand” review of the construction progress, review, evaluate, verify, and approve the Contractor’s monthly submittal of the CO-12 documentation requesting payment.

## **SECTION 13.5 INSPECTION OF WORK**

**13.5.1** **General:** The General Conditions of the Construction Contract, HECO-7, describes in Section 16 the requirements, responsibilities and authorities for inspection of the construction Work and for correction of deficiencies and/or defects found. Also Section 21 describes access to the work site.

**13.5.2** **Site Inspections:** The A/E's inspection services generally require at least twice a month on site inspections and availability to answer questions from the Project Inspector.

- The College will designate a specific individual to serve as Project Inspector.
  - The Project Inspector will report to the College Construction Manager.
  - The duties and functions of the Project Inspector include those listed in Section 16 of the General Conditions of the Construction Contract, HECO-7.
  - A detailed list of duties along with sample formats for recording required information are included in Appendix N.

**13.5.3** **Project Coordination and Communication:** It is essential that the A/E, the College Construction Manager, the Project Inspector and any Project consultants work together, to observe and inspect the Work, and to regularly communicate to assure that work being performed conforms to the Contract Documents.

**13.5.4 “Commissioning” Inspection of HVAC Systems:** See section 8B.16 for design phase commissioning requirements.

- Prior to any submittals and/or installation a pre-installation meeting will be held. See section 13.3.3 above.
- The A/E field representative or Commissioning Agent will observe the Contractor’s functional performance testing and report his observations to the A/E of record. Observations shall include, but not limited to:
  - pressure tests
  - Flushing/cleaning
  - Testing, balancing, adjusting and start-up of equipment
  - The testing of automatic controls
- The A/E shall schedule periodic inspections of the HVAC systems and be present for such testing as specified in section BSRV.1.9.3 of the College of William and Mary Technical Standards.

**13.5.5 Sophisticated HVAC Systems:** Some sophisticated HVAC systems for facilities such as laboratories, medical science facilities, and archival storage facilities have minimal tolerances for deviations in temperature, humidity and/or air changes and, therefore, may require special commissioning or test/inspection services to assure the precise conditions required. The College may secure these services from the A/E as additional services or as extra services or the services may be procured from an independent testing / commissioning agent depending on the services required and the capabilities of the possible vendors / consultants.

**13.5.6 Start up/Acceptance of MECHANICAL AND ELECTRICAL Systems:** Notwithstanding any "commissioning" inspections it shall remain the A/E’s responsibility to verify that the Contractor has all systems functioning properly per the sequence of operations and the design intent has been achieved; that equipment has been received is in accordance with the Submittal previously approved by the A/E; that all system components have been adjusted and a record made of final settings; and that manual and automatic operating modes have been established for full load ranges prior to notifying the College that the system is ready for final start-up and acceptance testing. It is the intent that when the startup inspection team is called together to conduct final inspections and acceptance test that the work be started as scheduled and completed without exceptional delay. Major or time consuming adjustments or modifications during final inspection shall be avoided. Final inspections requested when the systems are obviously not ready for such testing and inspections may result in a backcharge to the A/E or Contractor for the costs of inspection team visits and related costs. Applicable portions of the above requirements shall be included in the project specifications.



- 13.5.7 Structural Inspections:** See section 8B.15 of this Manual and Appendix M for this requirement.
- 13.5.8 Other Inspections:** The College may procure the services of independent laboratories or firms to provide other inspection and testing services for such areas as systems commissioning, foundations, steel frame connections, concrete testing, fireproofing and standard compaction control.
- 13.5.9 Fire Marshal Inspections:** The Tidewater Regional Office of the State Fire Marshal Office will normally be responsible for the Fire Marshal inspection.

## **SECTION 13.6 CONSTRUCTION CHANGE ORDERS**

- 13.6.1 General Conditions:** Generally Change Orders will be administered in accordance with section 38 of the General Conditions of the Construction Contract (HECO-7).
- 13.6.2 Written Change Orders:** College may at any time, by written order utilizing the change order forms (HECO-11a and HECO-11) and without notice to the sureties, make changes in the drawings and specifications of this Contract which are within the general scope of this Contract, except that no change will be made which will increase the total contract price to an amount more than twenty percent (20%) in excess of the original Contract price without notice to sureties.
- For fixed price contracts, when a single change order or when the cumulative total of change orders exceeds the original contract amount by more than 25% or \$50,000 whichever is greater, that change order and any subsequent change order that increases the contract amount shall have the prior approval of the College's Vice President for Administration.
    - See Appendix K for standard change order procedures.
  - No change order shall be issued, regardless of cost, that increases the approved scope of the project as shown on the approved HECO-2 or as set forth in the Capital Project Request or Preplanning Study without prior approval of the College of William and Mary Vice President for Administration.
    - Additionally, the total cumulative amount for all change orders for a single contract shall not exceed the construction contingency available in the current budget.
    - A request to infuse additional funds or to transfer funds to the Total Project Budget shall be submitted to the Vice President for Administration on a revised HECO-2 with appropriate written justification for an increase in authority.

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### **Contract Administration, Fees & Payments**

## **SECTION 13.7 DOCUMENTATION OF “AS BUILT” CONDITIONS**

- 13.7.1 Contractor Requirements:** The Contractor shall be required at all times to maintain one record set of drawings and specifications in the Superintendent’s office at the project site. This set of documents shall be designated the “As Built” documents and shall be used to record any changes or deviations from the original documents. The A/E shall review this set when he visits the site, and prior to approving the monthly pay request, to assure that the Contractor is making the notations as required. The “As Built” set of documents shall be furnished to the A/E at the completion of the project as a reference for preparing the final “Record” documents.

## **SECTION 13.8 INSPECTION FOR SUBSTANTIAL COMPLETION**

- 13.8.1 General Conditions:** When the project is sufficiently complete in accordance with the Contract Documents and it can be used for the intended purpose, the Project Manager and/or the College Construction Manager will insure the requirements, procedures, inspections and approvals below and in section 44 of the General Conditions of the Construction Contract (HECO-7) are completed.
- 13.8.2 Contractor HECO Form 13.2a:** When the Contractor determines that the work, or a designated phase or portion thereof, will be substantially complete and ready for testing and inspection, he shall complete and send Form HECO-13.2a with a list of the Work he knows to be unfinished or defective to the A/E at least ten (10) days prior to the date he has set for substantial completion. The A/E will forward the HECO-13.2a to the College and attach a written endorsement, based on his periodic inspections, as to whether or not he concurs that the project, or phase, should be substantially complete on the date set by the Contractor. The A/E will then coordinate and arrange a date on or shortly after the date set by the Contractor for the Substantial Completion inspection to be conducted. See definition of Substantial Completion.
- 13.8.3 Inspection:** Participants in the substantial completion inspection shall include the Project Manager and/or the College Construction Manager, the Project Inspector, College user representatives, representatives of the General Contractor, including those of the mechanical, electrical, and major equipment subcontractors, the A/E, the College Code Review Team, and the responsible State Fire Marshal Office. The A/E shall conduct and document the inspection and compile a written list of the Work or deficiencies noted (punch list) which need to be completed or corrected.

**13.8.4**      **A/E HECO Form 13.1a:** If the A/E, the Fire Marshal’s representative and the Code Review Team agree that this project, or this portion of the project being inspected, is substantially complete in accordance with the contract documents and safe to occupy, the A/E shall execute the appropriate Certificate of Partial or Substantial Completion (HECO-13.1a), and submit them to the College. Attach copies of the punch list, the Contractor’s HECO-13.2a, the Application for Certificate of Use and Occupancy HECO-13.3 and other documents as appropriate.

- For Projects that do not require a Certificate of Use and Occupancy, a HECO form 13.3.C shall be submitted to request formal acknowledgement of substantial completion.

**13.8.5**      **Certificate of Use and Occupancy:** The College may submit this material to the College Building Official and request that a Certificate of Use and Occupancy be issued, or the College may wait to request the Certificate of Use and Occupancy when final completion is achieved. If one or more re-inspections of the Work that the Contractor declared to be Substantially Complete are required because the Work was not substantially complete as stated, the Contractor shall reimburse the College for the costs of the re-inspections. Do not accept as Substantially Complete unless it (the part or whole) is ready for occupancy.

## **SECTION 13.9      BENEFICIAL OCCUPANCY & FINAL COMPLETION**

**13.9.1**      **Required Submissions:** Once the College, the A/E, the Contractor and the State Fire Marshal’s representative agree in writing that the facility, or a usable portion thereof, is substantially complete and ready for occupancy, the College may submit a HECO-13.3, Application for Certificate of Occupancy, and a HECO-13.3b, Checklist for Beneficial Occupancy, along with copies of the HECO-13.1a, HECO-13.1b (if applicable), HECO-13.2a, Fire Marshal’s acceptance report and other required operations permits to the College Building Official.

- The College Building Official, when satisfied that the project and/or portion of the project is in fact substantially complete in accordance with the contract documents, may issue written authorization (HECO-13.3), to occupy the project, or applicable portion thereof, subject to any conditions or stipulations stated.

**13.9.2**      **Unlawful Occupancy:** The College shall not occupy facilities requiring a Certificate of Use and Occupancy until the certification from the State Fire Marshal that the project complies with the fire safety requirements and applicable codes and the Certificate of Use and Occupancy (HECO-13.3) are received. Occupancy of the facility without approval is unlawful and is a misdemeanor under § 36-106, *Code of Virginia*, as amended.

- 13.9.3 Temporary or Partial Certificate of Use and Occupancy:** The following material is required for consideration of a request for a Temporary or Partial Certificate of Use and Occupancy:
1. Floor plans (small scale) that show areas requested for occupancy and the exits/egress routes;
  2. Type of Occupancy requested - e.g. move furniture in for staff, set up/prepare for students, etc.;
  3. HECO-13.1a with punch-list from A/E;
  4. HECO-13.2a with any attachment from Contractor;
  5. HECO-13.3b Checklist for Beneficial Occupancy;
  6. Fire Marshal's report and recommendation;
  7. Document stating that the Asbestos Abatement, if any, is complete;
  8. HECO-13.3 Application For Certificate of Occupancy with data on entire project and separate sheet showing data on area requested to be occupied;
- The College may take Beneficial Occupancy of a portion or unit of the project before completion of the entire project only with the prior written approval of the College Building Official.

**13.9.4 Final Completion Inspection:** When the items listed in the "punch list" have been completed and all Work is complete and ready for final testing and inspection, the College Construction Manager will insure the requirements of section 44 of the General Conditions of the Construction Contract (HECO-7) are complete. Upon completion of all Certificates of Completion, HECO-13.1 and 13.2, and with the Certificate of Use and Occupancy issued, HECO-13.3, the Project Manager shall sign and close the HECO-17 Building Permit on file with the Code Review Team.

## **SECTION 13.10 PROJECT CLOSE OUT**

**13.10.1 A/E HECO Form 13.1:** The A/E shall file with the College the Certificate of Completion HECO-13.1. By filing the HECO-13.1, the A/E is certifying that in his professional opinion all construction requirements have been met. After receipt of a Certificate of Use and Occupancy (HECO-13.3) the Project Manager shall sign the HECO- 17 and file a HECO-14.

**13.10.2 Record Drawings and Specifications:** The A/E shall prepare "Record Drawings" showing the "As Built" conditions, locations and dimensions based on the Contractor's As Built set of drawings and specifications, and other data furnished by the Contractor to the Architect / Engineer. The Record Drawings shall include actual location of piping and utilities as well as all other changes

specifically known to the Architect / Engineer. These Record Drawings shall also include the depths of pilings or caissons if pilings or caissons were in the construction. Record drawings and specifications shall be prepared and provided to the College.

### 13.10.3

**Maintenance And Operating Manuals:** Four sets of operating and maintenance (O&M) instructions written for the specific project shall be provided to the College at the final inspection. (The General Conditions of the Construction Contract (HECO-7) Section 49 apply. Note that four copies of O&M manuals are generally required which should be listed in the specifications.) This shall consist of a compiled document prepared by the A/E team for the project and generally include the operation and control sequencing narrative, the control diagrams, an equipment chart indicating periodic maintenance requirements, and the operation and maintenance manuals for the equipment.

- All systems needing regular maintenance and/or requiring adjustments must be covered.
- The schedule for required minor and major maintenance must be included.
- Relevant design criteria and assumptions needed to understand the operation of the systems will be furnished in narrative form including the control systems settings and concept of operation manuals which provide the data by reference to drawings and specifications and manufacturers are not acceptable.
- The document, along with the Record drawings and specifications, shall be provided to the College at the time of final acceptance of the project.

### 13.10.4

**Ownership of Documents:** Ownership of all materials and documentation including the drawings and specifications and copies of the calculations and analyses originated and prepared pursuant to the Contract between the College and the Architect/Engineer, shall belong exclusively to the College. The drawings, specifications, analyses and calculations as prepared by the Architect/Engineer for the project, whether completed or not, shall be the property of the College of William and Mary, whether the work for which they are made is executed or not.

- The Architect/Engineer shall not use these materials on any other work or release any information about these materials without the express written consent of the College.
- Such material may be subject to public inspection in accordance with the Virginia Freedom of Information Act. Security related documents and information are excluded from the Act unless a specific need to know can be shown.

- Trade secrets or proprietary information submitted by a bidder, offeror, or contractor in connection with a procurement transaction shall not be subject to disclosure under the Virginia Freedom of Information Act provided the bidder, offeror, or contractor invokes the protections of the College Procurement Rules prior to or upon submission of the data or other materials. Identify the data or materials to be protected and state the reason why protection is necessary.
- The Architect/Engineer shall provide the following documents to the College at the completion of the A/E's work:
  - Original sealed and signed drawing tracings
  - Original copy of the specifications
  - Copy of analyses made for the project
  - Indexed copy of the calculations made by each discipline for the project
  - Copy of all shop drawings, submittals, cut sheets, and sequence of operation.
  - Maintenance instructions, parts lists and other material related to the project.
  - As built set of drawings (on Mylar) and specifications
    - Four CD's containing as-built drawings in AutoCAD format (latest edition) as well as specifications in word format shall be submitted as part of the as-built submission package.

## **SECTION 13.11 CONTRACTUAL DISPUTES (College Procurement Rules)**

The College's Procedure for Resolution of Contractual Claims, Directive 800 (Appendix Q), is to be followed for construction claims submitted in accordance with the General Conditions of the Construction Contract, Section 47.

# **Chapter 13**

## **Construction Services:**

### **Contract Administration, Fees & Payments**

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## CHAPTER 14 CONSTRUCTION SERVICES:

### *PROJECT CLOSE-OUT*

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#### SECTION 14.1 GENERAL

**14.1.1** This chapter describes project close-out requirements for all projects.

**14.1.1.1 Goal:** The goal for all projects will be completion of all project closeout documentation within 90 days after final completion..The project budget, however, will not be closed until the project warranty expires which is one year after occupancy or final completion whichever is later and all warranty items are resolved.

**14.1.1.2 Warranty Inspection:** A ten month inspection will be conducted as part of warranty enforcement to ensure all warranty issues are identified and corrected.

**14.1.1.3 Sequence of Events:** The sequence of events to achieve project completion and close-out include the following milestones which are described in the succeeding sections. It should be noted that occupancy can occur after substantial or final completion depending on the College requirements.

- Substantial completion
- Occupancy
- Final completion
- Project close-out documentation
- Ten-month warranty inspection
- Warranty item completion
- Project budget close-out

#### SECTION 14.2 SUBSTANTIAL COMPLETION

**14.2.1 Definition:** Substantial completion is the date on which the project (or a specific part thereof) is sufficiently complete, in accordance with the Contract Documents, that the project (or the specific part thereof) can be utilized by the College for the purpose for which it is intended. The College, at its sole discretion, may take Beneficial Occupancy at this time or may choose to wait until final completion to occupy.

**14.2.2 Procedure:** When the CM considers the work to be substantially complete:

**14.2.2.1 Contractor Certificate of Substantial Completion:** The CM or Contractor, through the Project Manager, shall submit to the Director of Planning, Design and Construction a Certificate of Partial or Substantial Completion.

**14.2.2.2 A/E Certificate of Substantial Completion:** A/E shall submit certificate HECO 13.1a (Certificate of Partial or Substantial Completion by A/E)

CM shall submit certificate HECO 13.2a (Certificate of Partial or Substantial Completion by Contractor)

The CM shall arrange for preparatory inspections by the A/E and College.

The A/E will prepare a list of the incomplete or unsatisfactory items.

The CM shall schedule, monitor and coordinate the correction of the items listed.

When all code compliance items are corrected and the A/E has prepared a punch list of remaining deficiencies, the CM shall arrange for the inspection by the CWM Code Review Team. Inspections may be on a floor-by-floor or phased basis.

### **SECTION 14.3 OCCUPANCY**

Occupancy occurs when the owner moves into and/or initiates use of the facility for its intended functional purpose. This may occur after the substantial or final completion inspections subject to Building Code Official approval.

14.3.1 Following issuance of the Substantial Completion Certificate, the PM will coordinate with the CWM Building Code Official, the CWM Code Review Team, and the State Fire Marshalls' Office (SFMO), for fire safety and code compliance inspections (VUSBC and ADAAG), respectively. The CM will coordinate a preparatory occupancy inspection, as required, with the PM and A/E to ensure readiness for occupancy inspections.

14.3.2 Upon successful completion of the inspection, the PM will prepare a HECO-13.3a (Application for Certificate of Use and Occupancy) for CRT review and Building Code Official approval. The following documentation will accompany the 13.3a:

- HECO 13.1a (or 13.1 if delayed until after final completion)
- HECO 13.2a (or 13.2 if delayed until after final completion)
- SFMO Letter of Acceptance
- Checklist for Occupancy
- Structural & Special Inspection Report
- Elevator Inspection Report (if applicable)
- Potable Water Report



- Project Deficiency Punchlist
- Sprinkler Head Database Update confirmation

## **SECTION 14.4 FINAL COMPLETION**

Final completion is the date of the College's acceptance of the Project from the contractor based on A/E and contractor certification that the Project is totally complete in accordance with the Contract Documents. Procedures for determining Final Completion are set forth in Section 44 of the General Conditions of the Construction Contract (HECO-7).

14.4.1 When the CM considers the work to be finally complete:

- The CM, through the Project Manager, shall submit to the Director of Planning, Design and Construction a Certificate of Partial or Substantial Completion.
  - A/E shall submit certificate HECO 13.1 (Certificate of Final Completion by A/E)
  - CM shall submit certificate HECO 13.2 (Certificate of Final Completion by Contractor)
- The CM shall arrange for preparatory inspections by the A/E and College.
- The A/E will prepare a list of the incomplete or unsatisfactory items.
- The CM shall schedule, monitor and coordinate the correction of the items listed.
- When all code compliance items are corrected and the A/E has prepared a punch list of remaining deficiencies, the CM shall arrange for the inspection by the CWM Code Review Team. Inspections may be on a floor-by-floor or phased basis.

14.42 Following issuance of the Final Completion Certificate, the PM will coordinate with the CWM Building Code Official, the CWM Code Review Team, and the State Fire Marshalls' Office (SFMO), for fire safety and code compliance inspections (VUSBC and ADAAG), respectively, if these inspections have not been completed for occupancy following substantial completion. The CM will coordinate a preparatory occupancy inspection, as required, with the PM and A/E to ensure readiness for occupancy inspections.

14.4.3 At the time of Final Completion all warranties under the Project contract(s) and all warranty related documentation, operating manuals and other record drawings, instructions, etc. shall be submitted to the College as described in this manual.

# **Chapter 14**

## **CONSTRUCTION SERVICES: PROJECT CLOSE-OUT**

## **SECTION 14.5 PROJECT CLOSE-OUT DOCUMENTATION**

Project close-out check lists for capital projects ( Major Capital Projects and capital projects to include maintenance reserve projects) and project permit projects are attached at Figures 14-1 and 14-2. These checklists are to be submitted to the Director, FPDC, together with all required documentation not later 90 days after occupancy or final completion as noted above.

- 14.5.1 Close-out documentation includes the following:
- Record drawings to include approved single line drawings
    - Mylar - 1 Full size set
    - CDs – 4 each
  - Warranty documentation
    - For all major equipment
    - Roofing
  - Operations and maintenance manuals
  - F-1 Report
- 14.5.2 Project managers will schedule a close-out briefing to the Director, FPDC to present all close-out documentation. Compliance with the checklists at Figures 14-1 and 14-2 will be standard for successful close-out to include a HECO-14 form prepared for submission by the Finance and Accounting Manager at warranty completion and budget close-out.
- 14.5.3 At this meeting, Project managers will schedule the ten month warranty inspection described below.
- 14.5.4 A sufficient amount of contract retainage to cover document preparation will be held by the College until all close-out documentation is provided.

## **SECTION 14.6 TEN MONTH WARRANTY INSPECTION**

PMs will coordinate and conduct a ten month inspection to ensure that unresolved warranty issues are corrected within the warranty period. The PM will ensure the A/E, CM, and user conduct a joint inspection to review remaining warranty items. The PM is responsible to ensure that warranty responsibilities within the contract scope of work, not College maintenance and repair responsibilities or out of scope items, are inspected.

## **SECTION 14.7 WARRANTY ITEM COMPLETION**

Upon expiration of the warranty period, the PM will provide a formal letter to the contractor identifying unresolved warranty items. The letter will provide a period of time commensurate with the nature of the unresolved items for repair. If the items are not repaired within the period allocated without reasonable cause, the letter will note that the College reserves the right to affect repair by alternate means at the contractors' expense. Upon final completion of all items, the PM will notify the Finance and Accounting Manager that the CO-14 previously prepared as part of contract close-out documentation may be submitted.

## **SECTION 14.8 PROJECT BUDGET CLOSE-OUT**

Following receipt of PM confirmation that all warranty items are complete, the Finance and Accounting Manager will submit the completed CO-14 for approval and signature. An information copy will be provided to BCOM in accordance with the distribution shown at Chapter 4, Fig 4-3 (Project Authorization Documents). The PM will then assist the Finance and Accounting Manager with any required information and/or coordination to close out any open purchase orders/contracts in order to close the project budget.

Figure 14-1  
Capital & MR Project – Project Close-Out Checklist



Department of Facilities Planning, Design and Construction  
P.O. Box 8795  
Williamsburg, Virginia 23187  
757-221-2245, Fax - 757-221-2473

**CAPITAL & MR PROJECT CLOSE OUT CHECK LIST FOR ARCHIVE FILES**

- # 1: The following documents are included in the final close out archive file maintained in the FPDC department.
- #2: These documents may be copied and archived with the Master Files.
- #3: The **original** documents listed are to remain in the close out files.

**Project Name:** \_\_\_\_\_ **Project #:** \_\_\_\_\_

**Project Manager:** \_\_\_\_\_

**Banner Index:** \_\_\_\_\_ **Banner Org:** \_\_\_\_\_

Retain a copy of this check list in the close-out file folder for the project.

DESCRIPTION		DOCUMENT DATE
CO/HECO - 12	Final Payment by Contractor	
Invoice	Final Invoice for A/E	
CO/HECO - 13	Affidavit of Payment of Claims	
CO/HECO - 13.1	Certificate of Completion by A/E or Project Manager	
CO/HECO - 13.1a	Certificate of Substantial Completion by A/E	
CO/HECO - 13.2	Contractor Certificate of Completion	
CO/HECO - 13.2a	Certificate of Partial or Substantial Completion by Contractor	
CO-13.3	Certificate of Use and Occupancy	
CO-14	Close Out Document	
Close out Finanical	1 Year After Occupancy or after final completion, whichever later	
Internally generated	FOAPAL Request Form- Banner Project Set Up	
Internally generated	Final budget for entire project	
Building Permit	Building Permit	
Record Drawings	Includes 4 CD's	
F-1 Report	SCHEV	
Single Line Drawng		
Warrenties/O&M		
Date:10 Mon. Inspect.		

Completed by: \_\_\_\_\_ File Completion Date: \_\_\_\_\_

Figure 14-2  
Project Permit – Project Close-Out Checklist



Department of Facilities Planning, Design and Construction  
P.O. Box 8795  
Williamsburg, Virginia 23187  
757-221-2245, Fax - 757-221-2473

**PROJECT PERMIT PROJECT CLOSE OUT CHECKLIST FOR ARCHIVE**

# 1: The following documents are included in the final close out archive file maintained in the FPDC department.

#2: These documents may be copied and archived with the Master Files.

#3: The **original** documents listed are to remain in the close out files.

**Project Name** \_\_\_\_\_ **Project #:** \_\_\_\_\_

**Banner Index:** \_\_\_\_\_ **Banner Org:** \_\_\_\_\_

**Project Manager:** \_\_\_\_\_

Retain a copy of this check list in the close-out file folder for the project.

DESCRIPTION		DOCUMENT DATE
CO - 12 AE Invoice	Final Payment by Contractor/AE (if applicable)	
CO-13.3	Certificate of Use and Occupancy (if applicable)	
Internally generated	FOAPAL Request Form- Banner Project Set Up	
Internally generated	Final budget for entire project	
Project Req. Form Annual Permit	Project Permit Form (original request); with inspections for construction; and final close out signature by Director, FPDC	
Project Permit Form Annual Permit	Project Permit Form (original request); with inspections for construction; and final close out signature by Director, FPDC	
Building Permit	Project Permit Form (original request); with inspections for construction; and final close out signature by Director, CRT	
Record Drawings	Includes 4 CD's	
F-1 Report	SCHEV (if applicable)	
Single Line Drawing		

Completed by: \_\_\_\_\_ File Completion Date: \_\_\_\_\_

**Chapter 14**  
**CONSTRUCTION SERVICES:**  
**PROJECT CLOSE-OUT**

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**CHAPTER 15**  
**COLLEGE PERFORMANCE REPORTS:**  
*REPORTS*

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**SECTION 15.1 MAJOR CAPITAL PROJECT REPORTING**

**15.1.1** In accordance with the Restructured Act Section 23-38.109.C.3. any capital project funded totally with non-general funds but operating on real property that was originally acquired with general funds and costing more than \$2 Million will be reported to the Governor and the Chairs of the Senate Committee on Finance and the House Committee on Appropriations 60 days prior to the start of construction or issue of bonds.

**SECTION 15.2 MEASUREMENTS REPORTS**

**15.2.1** **Performance measures** of the benefits derived from restructuring will be reported on annually for each fiscal year. This annual report will be shared with all “Covered”(level 3) institutions and will address the following.

**15.2.1.1 General Accountability Measures**

- No material audit findings
- Compliance with Board of Visitors ("BOV") approved restructuring policy
- Regular reports to the BOV by the designated building official related to his/her duties as the official responsible for project compliance with the building code. The building official has direct access to the BOV.
- Compliance with the Restructured Act's reporting requirements for all BOV project authorizations.
- All Certificates of Occupancy issued subsequent to inspection by the State Fire Marshal or his designee.

**15.2.2 Specific Performance Measures**

Measure	Benchmark	Results
Number of days on average for institution to process change orders locally	Before decentralization, number of days on average for Bureau of Capital Outlay Management ("BCOM") to process change orders (UVA data to be used as proxy benchmark for all Institutions – 25 calendar days)	

Measure	Benchmark	Results
Number of days on average for institution to complete code review, including fire and life safety	Number of days on average for construction document review by BCOM before decentralization (VTECH data to be used: 71 calendar days for new construction; 42 days for renovations and infrastructure).	

Number of days saved by BOV approval of NGF projects compared to state Approval	Number of days that would have been required from BOV approval to (a) Appropriation Act effective date, OR (b) Governor emergency approval.	
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Average number of days for institution to approve a lease	Average number of days for Real Estate Services to approve a lease (UVA proxy data – 187 calendar days by BRPM before decentralization).	
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**15.2.3** This report is due 1 September.



### **SECTION 15.3 TRANSACTION COPIES**

**15.3.1** The following transactions require document copies be forwarded to DGS (BCOM) for projects exceeding \$2 million (Management Agreement, Exhibit G, Section XIV) on an as occurs basis:

- HECO-2
- HECO-8
- HECO-14

### **SECTION 15.4 CAPITAL APPROPRIATIONS REPORT**

**15.4.1** In accordance with the Appropriation Act Section 4-8.01 GOVERNOR. “Capital Appropriations Reports” the status of all capital projects authorized under §4-4.01, as well as the progress of all capital projects shall be reported to the Department of General Services.

**Chapter 15**  
**College Performance Reports**  
**Reports**

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**APPENDIX A**

**GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT,  
SUPPLEMENTAL GENERAL CONDITIONS AND STANDARD  
INSTRUCTIONS TO BIDDERS**

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Standard HECO forms are available at <http://www.wm.edu/facman/FPDC/FPDC-Home.php>  
Standard DGS forms and formats are available for download from the DGS Form Center  
(<http://forms.dgs.virginia.gov>).

**GENERAL CONDITIONS (HECO-7)**

To view/download the latest version of HECO-7 contract document visit the FPDC website listed above.

To view/download the latest version of CO-7 contract document (referred to in HECO-7 above) visit the website listed above and enter “DGS-30-054” on the Forms Center.

**SUPPLEMENTAL GENERAL CONDITIONS - FOR SMALL WOMAN OWNED AND MINORITY OWNED (SWAM) BUSINESS PROCUREMENT PLAN**

To view/download the latest version of The Supplemental General Conditions-SWAM, visit the FPDC website listed above.

**SUPPLEMENTAL GENERAL CONDITIONS for Renovation Projects and for Liquidated Damages:**

To view/download the latest version of these sample formats, visit the FPDC website listed above.

**INSTRUCTIONS TO BIDDERS:**

To view/download the latest version of the required contract document, visit the FPDC website listed above.

**GENERAL CONDITIONS DESIGN BUILD (HECO-7DB)**

To view/download the latest version of the HECO-7DB visit the FPDC website listed above. To view/download the latest version of the CO-7DB contract document referred to in the HECO-7DB visit the DGS website listed above and enter “DGS-30-056”.

## **HECO-7**

**October 1, 2007**

**HIGHER EDUCATION  
COMMONWEALTH OF VIRGINIA  
General Conditions of the Construction Contract**

### **Addendum Number One**

1. This addendum, HECO-7, modifies the Commonwealth of Virginia's General Conditions of the Construction Contract G. S. Form E&B CO-7 (10/05), attached, for use on all College of William and Mary Capital Outlay Projects.
2. For all forms referenced in the attachment by "CO-", replace "CO-" with "HECO-", except CO-9, CO-10, CO-10.1, CO-12 and CO-13.
3. In Section 2(a), replace the words "Commonwealth of Virginia in its Construction and Professional Services Manual" with "College of William and Mary in its Design and Construction Manual."
4. In Section 12(a) delete the words "and the Director, Division of Engineering and Buildings."

## SUPPLEMENTAL GENERAL CONDITIONS

### HECO-7 Supplementary - SWAM

The College of William and Mary General Conditions of the Construction Contract, HECO-7, are modified and supplemented as hereinafter described.

1. Add the following Section 51 to the General Conditions of the Construction Contract:

#### **“51. Small Businesses and Women-Owned and Minority-Owned (SWAM) Business Procurement Plan**

The Owner has developed a “SWAM” plan for increasing procurement from small, women-owned, and minority-owned (SWAM) businesses in its construction program. The Owner’s SWAM aspirational goals and plan are included in the contract documents for use by the Contractor in developing its plan for involving small, women-owned, and minority-owned (SWAM) businesses through subcontracting, and through the purchasing of goods, materials, supplies and services in the Contractor’s construction program. The Owner’s plan provides criteria and goals for the Contractor in developing a plan, for submitting its plan and for reporting its achievements in meeting the goals established for the Contract.

The Contractor shall, as soon as practicable after the posting of the Notice of Intent to Award but not later than 30 days after the effective date of the contract, provide a list of Subcontractors that are proposed to perform the work, including SWAM subcontractors, vendors and suppliers showing their DMBE certification numbers where applicable. Upon receipt of the list, the Owner may, based on the Agency SWAM Procurement Plan require the Contractor to provide additional information on work that has been bid by SWAM contractors, and areas in which the scope of work may be reduced in size to increase the pool of potential SWAM contractors. Selection of particular Subcontractors for a certain part of the work shall be made in accord with Section 9, Subcontracts of the General Conditions.

**SUPPLEMENTAL GENERAL CONDITIONS  
FORMATS & SAMPLES**

**FORMAT & SAMPLE FOR RENOVATION PROJECTS**

NOTE: Use the following standard format and wording/language when preparing the project-specific document. *[Sample and/or explanatory language are in italics and should be edited/replaced with project-specific information.]*

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**SUPPLEMENTAL GENERAL CONDITIONS**

The College of William and Mary General Conditions of the Construction Contract, HECO-7, are modified and supplemented as hereinafter described.

1. Section 12 - INSURANCE FOR OWNER AND CONTRACTOR

Delete Paragraphs (a), (b) and (c) as written and in its place add the following:

“(a) The requirements of this section of the General Conditions for "all-risk" builders risk insurance on the full value of the entire building are waived for this project. The Owner maintains insurance on the existing building (including fire, vandalism and extended coverage). **However, the Contractor shall provide “all risk” builders risk insurance for the Work in an amount equal to one hundred percent (100%) of the Contract Price for the Work.** The loss, if any, is to be made adjustable with and payable to the Owner, in accordance with its interests, as they may appear. The Owner, its officers, employees and its agents, shall be named as an additional insured in any policy of insurance issued. Written evidence of the insurance shall be filed with the Owner no later than thirty (30) days following the award of the Contract. In the event of cancellation of this insurance, not less than thirty (30) days prior written notice must be sent to the Owner. A copy of the policy of insurance shall be given to the Owner upon demand.

(b) Not used

(c) The Contractor is responsible for providing any desired coverage for Contractor's or Subcontractors' buildings, equipment, materials, tools or supplies that are on-site.

[No change to paragraph (d) as written in the General Conditions.]

**SUPPLEMENTAL GENERAL CONDITIONS  
FORMATS & SAMPLES**

**FORMAT & SAMPLE FOR LIQUIDATED DAMAGES**

NOTE: Use the following standard format and wording/language when preparing the project-specific document. [*Sample and/or explanatory language are in italics and should be edited/replaced with project-specific information.*]

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**SUPPLEMENTAL GENERAL CONDITIONS**

The College of William and Mary General Conditions of the Construction Contract, HECO-7, are modified and supplemented as hereinafter described.

1. Section 43, DAMAGES FOR DELAY, EXTENSION OF TIME, shall be supplemented by adding the following paragraphs:

- "(l) It is imperative that the Work in this contract be substantially completed no later than \_\_\_\_\_ to give time for the Owner to furnish and equip the facility and meet other contractual obligations. The Contractor represents and agrees that he has taken into account in his bid the requirements of the bid documents, the location, the time allowed for the Work, local conditions, availability of materials, equipment, and labor, and any other factors which may affect performance of the Work. The Contractor agrees and warrants that he will achieve substantial completion of the Work not later than \_\_\_\_\_.
  - (1) Assuming timely execution of the Contract with applicable Bonds, Notice to Proceed will be given to the Contractor no later than \_\_\_\_\_.
  
- (m) Subject to the provisions of the General Conditions allowing for extension of time allowed for completion of the Work, if the work is not substantially completed by the specified date, the Contractor shall owe to the Owner, not as a penalty but as liquidated damages, the sum of \_\_\_\_\_ dollars (\$ ) per day for each and every calendar day of delay in substantial completion of the Work beyond \_\_\_\_\_. Likewise, if the Work is not finally completed by the specified date, the Contractor shall owe to the Owner, not as a penalty but as liquidated damages, the sum of \_\_\_\_ hundred dollars (\$ ) per day for each and every calendar day of delay in final completion of the Work."

## INSTRUCTIONS TO BIDDERS

**The Invitation For Bids (IFB)** consists of the Notice, this Instructions To Bidders, the Bid Form, the Pre-Bid Question Form, the General Conditions of the Construction Contract, the Supplemental General Conditions (if any), the Special Conditions (if any), the Forms to be used, and the Scope of Work as described by the Plans and Specifications, other documents listed in the Specifications, and any addenda which may be issued, all of which request qualified bidders to submit competitive prices or bids for providing the described work on the project.

**eVA BUSINESS-TO-GOVERNMENT VENDOR REGISTRATION:** The eVA Internet electronic procurement solution, web site portal <http://www.eva.virginia.gov>, streamlines and automates government purchasing activities in the Commonwealth. The portal is the gateway for vendors to conduct business with state agencies and public bodies. The bidder or offeror must be a registered vendor in eVA prior to making the first Application for Payment. Bidder or offeror must include the cost of the eVA transaction fee in its bid. The eVA transaction fee will be assessed approximately 30 days after each purchase order is issued. Any adjustments (increases/decreases) will be handled through eVA change orders.

**1. CONDITIONS AT SITE OR STRUCTURE:** Bidders shall visit the site and shall be responsible for ascertaining pertinent local conditions such as location, accessibility, general character of the site or building, and the character and extent of existing work within or adjacent to the site. Claims, as a result of failure to have done so, will not be considered by the Owner. See Section 7 of the General Conditions entitled "Conditions at Site."

**2. EXPLANATIONS TO BIDDERS:** No oral explanation in regard to the meaning of drawings and specifications will be made and no oral instructions will be given before the award of the contract. Discrepancies, omissions or doubts as to the meaning of drawings and specifications shall be communicated in writing to the Architect / Engineer for interpretation. Bidders **must** use the "Pre-bid Question Form" provided in the bid documents. Bidders must so act to assure that questions reach the Architect/Engineer at least six (6) days prior to the time set for the receipt of bids to allow a sufficient time for an addendum to reach **all bidders** before the submission of their bids. If, however, there are two (2) weeks or less between the first bid advertisement and the time set for receipt of bids, then bidders must submit questions so that they reach the A/E no later than three (3) days prior to the time set for receipt of bids. Any interpretation made will be in the form of an addendum to the specifications which will be forwarded to all bidders, and its receipt shall be acknowledged by the bidder on Bid Forms.

### **3. TIME FOR COMPLETION:**

- (a) "Time for Completion" shall be designated by the Owner on the Invitation for Bids or other pre-bid documents and shall mean the number of consecutive calendar days following the issuance of the Notice to Proceed which the Contractor has to substantially complete all Work required by the Contract. In some instances, the Time for Completion may be stated in the form of a Contract Completion Date based on a stipulated date of Notice to Proceed.

Unless otherwise specified, the Contractor shall achieve Final Completion within thirty (30) days after the date of Substantial Completion.



- (b) When the Notice to Proceed is issued, it will state a Contract Completion Date, which has been set by the Owner based on date of the Notice to Proceed and the Time for Completion.
- (c) The Contractor, in preparing and submitting his bid, is required to take into consideration normal weather conditions. Normal weather does not mean statistically average weather, but rather means a range of weather conditions which might be anticipated, (i.e., conditions which are not extremely unusual). Normal weather conditions shall be determined from the public historical records of the National Weather Service, Norfolk, Virginia. The data sheets to be used shall be for the locality or localities closest to the site of the work. No additional compensation will be paid to the Contractor because of adverse weather conditions; however, an extension of time for abnormal weather will be considered by the Owner as indicated in the General Conditions.
- (d) If the Owner designates the public historical climatological records to be used, the bidder shall use those records in computing bids. If the Owner requests each bidder to indicate the records used, each bidder may select the public historical climatological records upon which he will rely in computing his bid. In the latter situation, each bidder shall designate in the space provided which of such climatological data records he used when formulating his bid. A bidder's failure to designate climatological records when submitting a bid shall not disqualify his bid, but shall constitute a waiver of the right to claim any extension of time as the result of abnormal weather. In either case, the bid submitted and the time of completion shall be presumed to have been based upon normal weather derived from the climatological records used.

#### **4. PREPARATION AND SUBMISSION OF BIDS:**

- (a) Bids shall be submitted on the forms furnished, or copies thereof, and shall be signed in ink. Erasures or other changes in a bid must be explained or noted over the signature of the bidder. Bids containing any conditions, omissions, unexplained erasures, alterations or items not called for in the proposal, or irregularities of any kind, may be rejected by the Owner as being incomplete or non-responsive.
- (b) Each bid must give the complete legal name and full business address of the bidder and be signed by the bidder, or the bidder's authorized representative, with his usual signature. Bids by partnerships must be signed in the partnership name by one of the general partners of the partnership or an authorized representative, followed by the designation/title of the person signing, and a list of the partners. Bids by joint ventures must be signed in the joint venture name by one of the joint venturer's or an authorized representative of one of the joint venturer's, followed by the designation/title of the person signing, and a list of the joint venturer's. Bids by corporations must be signed with the legal name of the corporation followed by the name of the state in which it is incorporated and by the signature and title of the person authorized to bind it in this matter. The name of each person signing shall be typed or printed below the signature. A signature on a bid by a person who identifies his title as "President," "Secretary," "Agent" or other designation without disclosing the principal firm, shall be held to be the bid of the individual signing. When requested by the Owner, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished. Trade or fictitious names may be referenced by using "t/a \_ \_ \_," but bids shall be in the legal name of the person or entity submitting the bid.
- (c) Bids with the bid guarantee shall be enclosed in a sealed envelope which shall be marked and addressed as indicated by the advertisement. If a contract is for one hundred twenty thousand dollars (\$120,000) or more, or if the total value of all construction, removal, repair or improvements undertaken by the bidder within any twelve-month period is seven hundred fifty thousand dollars (\$750,000) or more, the bidder is required under Title 54.1, Chapter 11, Section 1100, Code of

Virginia, as amended, to be licensed in Virginia as a "Class A Contractor." If a contract is for seven thousand five hundred dollars (\$7,500) or more, but less than one hundred twenty thousand dollars (\$120,000), the bidder is required to be licensed in Virginia as a "Class B Contractor." The bidder shall place on the outside of the envelope containing the bid and shall place in the bid over his signature whichever of the following notations is appropriate and insert his Contractor license/registration number:

Licensed Class A Virginia Contractor No. \_\_\_\_\_  
or  
Licensed Class B Virginia Contractor No. \_\_\_\_\_

If the bidder is not properly licensed in Virginia at the time the bid is submitted, or if the bidder fails to provide this information on his bid or on the envelope containing the bid and fails to promptly provide said Contractor license number to the Owner in writing when requested to do so before or after the opening of bids, he shall be deemed to be in violation of Section 54.1-1112 of the Code of Virginia, as amended, and his bid will not be considered.

- (d) The Board for Contractors has interpreted its regulations to mean "a licensed Contractor can bid on a contract which contains work outside his license classification(s) as long as he subcontracts those items for which he is not qualified to perform to licensed contractors with the appropriate License Classification and the work of the second party is incidental to the contract." Therefore, the Owner may, as a part of determining whether the bidder is "responsible," require the apparent low bidder to submit a listing of his subcontractors along with the license number and classification or specialty of each.
- (e) The bidder must also place its Employer Identification Number (SSN or FEIN) in the space provided on the Bid Form.

## 5. BID GUARANTEE:

- (a) Any bid (including the Total Base Bid plus all Additive Bid Items) which exceeds one hundred thousand dollars (\$100,000) shall be accompanied by a **Commonwealth of Virginia Standard Bid Bond, Form CO-10.2**, payable to the Owner as obligee in an amount equal to five percent (5%) of the amount of the bid. A Bid Bond may be required for projects having bids of less than one hundred thousand dollars (\$100,000) if such requirement is stated in the Notice of Invitation for Bids. The Bid Bond must be issued by a surety company which is legally authorized by the Virginia State Corporation Commission to do fidelity and surety business in the Commonwealth of Virginia. Such Bid Bond shall guarantee that the bidder will not withdraw his bid during the period of thirty (30) days following the opening of bids; that if his bid is accepted, he will enter into a formal contract with the Owner in accordance with the Contract Between Owner and Contractor, Form CO-9, included as a part of the IFB Documents; that he will submit a properly executed and authorized Standard Performance Bond and Standard Labor and Material Payment Bond on the forms included in the IFB documents; and that in the event of the withdrawal of said bid within said period, or failure to enter into said contract and give said bonds within ten (10) days after he has received notice of acceptance of his bid, the bidder shall be liable to the Owner for the difference between the amount specified in said bid and such larger amount for which the Owner may contract with another party to perform the work covered by said bid, up to the amount of the bid guarantee. This amount represents the damage to the Owner on account of the default of the bidder in any particular hereof. See **§2.2-4336** of the Code of Virginia, as amended.

- (b) See **§2.2-4338** of the Code of Virginia for provisions allowing alternative forms of bid security in lieu of a Bid Bond. Forms of Security listed in **§2.2-4338.B** must be approved prior to submission of a Bid on the Bid Receipt date and time to be acceptable as Bid Security.
- (c) The Bid Bonds or other bid security will be returned to all except the three lowest bidders after the formal opening of bids. The remaining Bid Bonds or bid security will be returned to the bidders after the Owner and the accepted bidder have executed the Contract and the Performance Bond and the Payment Bond have been approved by the Owner.
- (d) If the required Contract and bonds have not been executed within thirty (30) days after the date of the opening of the bids, then the bond or other bid security of any bidder will be returned upon his request, provided he has not been notified of the acceptance of his bid prior to the date of such request.

**6. WITHDRAWAL OR MODIFICATION OF BIDS:** Bids may be withdrawn or modified by written or telefaxed notice received at the designated location from bidders prior to the deadline fixed for bid receipt. E-mail modifications are not acceptable. The withdrawal or modification may be made by the person signing the bid or by an individual(s) who is authorized by him on the face of the bid. Written modifications may be made on the bid form itself, on the envelope in which the bid is enclosed, or on a separate document. Written modifications, whether the original is delivered or telefaxed, must be signed by the person making the modification or withdrawal. The modification must state specifically what is to be modified and by what amount or it must state the item to be modified and what the corrected amount should be. (e.g. “Deduct \$25,000 from Part A U and U from the Total Base Bid Amount”; or “Add \$23,456 to the Total Base Bid Amount”; or “Deduct \$15,650 from the Additive # 2 amount”. A modification to “Deduct \$25,000 from Part A” will only be applied to Part A and not to the Total Base Bid Amount) unless **otherwise specified by the Bidder in the modification, the modification will be applied to the TOTAL BASE BID AMOUNT shown on the Bid Form.** (e.g. a modification stating only “Deduct \$25,000” which is properly signed will be deducted from the Total Base Bid Amount shown on the Bid Form)

**7. RECEIPT OF BIDS:**

- (a) **Bids will be received at or before the date and the hour and at the place stipulated in the Invitation for Bids as may be modified by subsequent Addenda.**
- (b) **It is the responsibility of the bidder to assure that his bid and any bid modifications are delivered to the place designated for receipt of bids by the date and hour (deadline) set for receipt of bids. Therefore, it is the bidder’s responsibility to take into account all factors which may impact on its bid deliverer / courier’s ability to deliver the bid and to implement whatever actions are necessary to have the bid delivered to the proper bid receipt location prior to the bid receipt deadline.** No bids or bid modifications submitted or offered after the date and hour designated for receipt of bids will be accepted or considered.
- (c) The Bid Officer is the Owner's representative designated to receive bids at the time and place noted in the IFB and to open the bids received at the appointed time.
- (d) **The official time used for the receipt of responses is determined by reference to the clock designated by the Bid Officer.** The Bid Officer shall determine when the Bid Receipt Deadline has arrived and shall announce that the Deadline has arrived and that no further bids or bid modifications will be accepted. All bids and bid modifications in the possession of the Bid Officer and his

assistants at the time the announcement is completed are deemed to be timely, whether or not the bid envelope has been physically date/time stamped or otherwise marked by the time the Bid Officer makes the deadline announcement.

## **8. OPENING OF BIDS:**

- (a) Bids will be opened at the time and place stated in the Invitation for Bids or as modified by subsequent Addenda, and their contents publicly announced. The Bid Officer shall decide when the specified time for bid opening has arrived. No responsibility will be attached to any officer or agent for the premature opening of a bid not properly addressed and identified. Bid opening shall be no sooner than 24 hours after the time set for receipt of bids.
- (b) The provisions of **§2.2-4342** of the Code of Virginia, as amended, shall be applicable to the inspections of bids received.

## **9. ERRORS IN BIDS:** A bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn.

In accordance with **§2.2-4330.A.(ii)** of the Code of Virginia, the bidder must submit to the Owner his original work papers, documents and materials used in the preparation of the bid within one day after the date fixed for submission of bids. Such work papers must be submitted in an envelope or package separate and apart from the envelope containing the bid and marked clearly as to the contents and shall be delivered to the Owner by the bidder in person or by registered mail prior to the time fixed for the opening of bids and may not be withdrawn until after the two-hour period (referred to later) has elapsed. The bids shall be opened at the time designated in the IFB, as amended by addendum. Bid opening is usually one day following the time fixed by the Owner for the submission of bids, but no sooner. Once the bids have been opened, the bidder shall have two (2) hours after the opening of bids within which to claim in writing any mistake as defined herein and withdraw his bid. The Contract shall not be awarded by the Owner until such two-hour period has elapsed. Such mistake shall be proved only from the original work papers, documents and materials delivered to the Owner prior to bid opening. This procedure (ii) shall not apply to when the entire bid is required to be submitted on a unit price basis.

Failure of a bidder to submit his original work papers, documents and materials used in the preparation of his bid on or before the time, date and place required shall constitute a waiver by that bidder of his right to withdraw his bid due to a mistake.

No bid may be withdrawn under this section when the result would be the awarding of the Contract on another bid of the same bidder or of another bidder in which the ownership of the withdrawing bidder is more than five (5%) percent.

No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the Contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted. The person or firm to whom the Contract was awarded and the

withdrawing bidder are jointly liable to the Owner in an amount equal to any compensation paid to or for the benefit of the withdrawing bidder without such approval.

If a bid is withdrawn under authority of this section, the lowest remaining bid shall be deemed to be the low bidder on the project.

**10. REJECTION OF BIDS:** The Owner reserves the right to cancel the Invitation for Bids, to reject any and all bids at its sole discretion when such rejection is in the interest of the Owner, or to reject the bid of any bidder who is determined to be not responsive or not responsible. See **§2.2-4319**, Code of Virginia, as amended.

## **11. DETERMINATION OF RESPONSIBILITY**

Each bidder shall be prepared, if so requested by the Owner, to present evidence of his experience, qualifications and financial ability to carry out the terms of the Contract.

Prior to award of the Contract, an evaluation will be made to determine if the low bidder has the capability, in all respects, to perform fully the contract requirements and the moral and business integrity and reliability which will assure good faith performance, and who has been prequalified, if required.

Factors to be evaluated include, but are not limited to:

- (a) sufficient financial ability to perform the contract as evidenced by the bidder's ability to obtain payment and performance bonds from an acceptable surety;
- (b) appropriate experience to perform the Work described in the bid documents;
- (c) any judgments entered against the bidder, or any officers, directors, partners or owners for breach of a contract for construction;
  
- (d) any substantial noncompliance with the terms and conditions of prior construction contracts with a public body without good cause where the substantial noncompliance is documented;
- (e) a conviction of the bidder or any officer, director, partner, project manager, procurement manager, chief financial officer, or owner in the last five years of a crime relating to governmental or nongovernmental construction or contracting;
- (f) any current debarment of the contractor, any officer, director or owner, from bidding or contracting by any public body of any state, any state agency, or any agency of the federal government.

The Owner reserves the right to disqualify or refuse to accept the bid of any bidder who has been convicted, or entered a plea of guilty or nolo contendere, in any federal or state court to any charge involving any unlawful, corrupt or collusive practice involving a public contract whether federal, state, or local, or who has been determined in any judicial proceeding to have violated any antitrust, bid-rigging or collusive practice statute in connection with any public contract, or against whom such formal criminal prosecution or other judicial proceeding has been initiated.

A bidder who, despite being the apparent low bidder, is determined not to be a responsible bidder shall be notified in writing in conformance with the procedures in **§2.2-4359** of the Code of Virginia, as amended.

## 12. AWARD OF CONTRACT

(a) **Basis for Contract Award:** The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder, if any, provided his bid is reasonable and it is in the best interest of the Owner to accept it and subject to the Owner's right to reject any and all bids and to waive informality in the bids and in the bidding. The Bid Form contains a multi-part Base Bid and may contain Additive Bid Items. Determination of the lowest responsible bidder, if any, will be based on the Total Base Bid Amount **entered on the Bid Form** including any properly submitted bid modifications plus all Additive Bid Items. **Where the sum of the values entered in the multiple parts do not agree with the Total Base Bid amount, the Total Base Bid amount entered on the bid form, including any properly submitted bid modifications, shall take precedence.**

In the event that the Total Base Bid from the lowest responsible bidder exceeds available funds, the Owner may negotiate the Total Base Bid amount with the apparent low bidder to obtain a contract price within available funds, pursuant to §2.2-4318 of the Code of Virginia, as amended, and Section 12(c) herein.

(b) **Informalities:** The Owner reserves the right to waive any informality in the bids when such waiver is in the interest of the Owner.

(c) **Negotiation With Lowest Responsible Bidder:** If award of a contract to the lowest responsive and responsible bidder is precluded because of limitations on available funds, under the provisions of §2.2-4318 of the Code of Virginia (the Public Procurement Act), the Owner reserves the right to negotiate the Total Base Bid amount with the lowest responsive, responsible bidder to obtain a contract price within the available funds. This may involve changes in either the features or scope of the work include in the Base Bid. Such negotiations with the apparent low bidder may include reducing the quantity, quality, or other cost saving mechanisms involving items in the Total Base Bid. The Owner shall notify the lowest responsive and responsible bidder that such a situation exists and the Owner and bidder shall then conduct their negotiations in person, by mail, by telephone or by any means they find convenient. If an acceptable contract can be negotiated, the changes to the Invitation for Bid documents agreed upon in the negotiations shall be summarized in a "Post Bid Modification" and included in the contract. If an acceptable contract cannot be negotiated, the Owner shall terminate negotiations and reject all bids.

(d) **Notice of Intent to Award or Notice of Award:** The Notice of Award, the Notice of Intent to Award, or the Notice of Decision to Award will be posted at the Agency's standard location for posting notices **as shown on the "Notice of Invitation to Bid"**. In addition the Agency may also post such notice on the Agency's Website and/or the DGS central electronic procurement Website.

**13. CONTRACT SECURITY:** For contracts of more than \$100,000, the Standard Performance Bond (Form CO-10) and the Standard Labor and Material Payment Bond (Form CO-10.1) shall be required, as specified in the Invitation for Bids documents. See the General Conditions and §2.2-4337 and §2.2-4338 of the Code of Virginia, as amended. The Owner reserves the right to require such bonds for contracts less than \$100,000. If the Owner so elects, the requirement shall be set forth in the Invitation for Bids.

**14. CERTIFICATION:** The bidder, by his signature on the Bid Form, certifies that neither his organization nor any of its officers, directors, partners or owners is currently barred from bidding on contracts by any Agency of the Commonwealth of Virginia, or any public body or agency of another state, or any agency of the federal government. See the statement "Disqualification of Contractors" in the Bid Form.

- 15. ETHICS IN PUBLIC CONTRACTING:** The provisions, requirements and prohibitions as contained in **Title 2.2, Chapter 43, Article 6, §2.2-4367** et seq, Code of Virginia, as amended, pertaining to bidders, offerers, contractors, and subcontractors are applicable to this project.
- 16. BUILDING PERMITS:** Because this is a Project of the Commonwealth of Virginia, codes or zoning ordinances of local political subdivisions do not apply. However, the Virginia Uniform Statewide Building Code shall apply to the Work and shall be administered by the Building Official for the College of William and Mary. The Building Permit will be obtained and paid for by the Owner. All other permits, local license fees, business fees, taxes, or similar assessments imposed by the appropriate political subdivision shall be obtained and paid for by the Contractor. See Section 25 of the General Conditions for utility connection fees and services.
- 17. MINORITY UTILIZATION:** It is the policy of the Commonwealth of Virginia to contribute to the establishment, preservation, and strengthening of minority business enterprises and to encourage the participation of minority businesses in State procurement activities. Towards that end, the Owner encourages firms to provide for the participation of minority owned businesses through partnerships, joint ventures, subcontracts, and other contractual opportunities.
- 18. BID DOCUMENTS:** Bid Documents are the property of the Owner and a deposit in an amount as stated in the Invitation for Bids is required for each set as a guarantee of the safe return of the documents within ten (10) days of bid opening. This deposit will be refunded in full on not more than two sets to each bidder who submits a prime contract bid and who returns the documents in good condition. Refund will be made on sets to non-bidders and subcontractors in the amount of half of the deposit when the sets are returned in good condition within 10 days. A non-refundable shipping charge may be required if stated in the Notice or the Invitation for Bids.
- 19. GENERAL CONDITIONS:** The General Conditions of the Construction Contract, HECO-7 Revised September 14, 2007, are incorporated in the bid documents. If the General Conditions are incorporated by reference, the bidder may obtain a copy of the current edition of the General Conditions of the Construction Contract, HECO-7 at no cost by written request to the A/E and/or the Agency where the bid documents are obtained.
- 20. PREBID CONFERENCE:** See the Invitation for Bids for requirements for a pre-bid conference and whether such conference is mandatory or optional.
- 21. INSPECTION OF BID DOCUMENTS:** Copies of the Invitation for Bids documents including Plans and Specifications and the General Conditions of the Construction Contract, HECO-7, current edition, will be available for inspection at the Agency, at the A/E's office, and at the locations listed in the Notice of the Invitation for Bids.
- 22. DRUG-FREE WORKPLACE REQUIRED:** Bidders are reminded that **Section 2.2-4312** of the Code of Virginia requires that the during the performance of the contract resulting from this solicitation, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this solicitation, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.



**HECO-7DB**  
Revised (July 1, 2006)

**HIGHER EDUCATION COMMONWEALTH OF VIRGINIA**  
**General Conditions for the Design Build Construction Contract**  
**For**  
**All Capital Outlay Projects**

**Addendum Number One**

The Commonwealth of Virginia General Conditions of the Design Build Contract Form DGS-30-056, CO-7DB (2004 Edition) are modified and supplemented as hereinafter described in this Addendum Number One.

1. Sections 2 (Contract Documents)

Delete Paragraph (a) and in its Place Add the Following:

“a. The Contract Between the College and the Design Build Contractor (CO-9DB), the Worker’s Compensation Certificate of Coverage (CO-9a), the Standard Performance Bond (HECO-10), the Standard Labor and Material Payment Bond (HECO-10.1), the Schedule of Values and Certificate for Payment (CO-12), the Affidavit of Payments of Claims (HECO-13), the Contractor’s Certificate of Substantial completion (HECO-13.2a), and the Contractor’s Certificate of Completion (HECO-13.2) issued by the College of William and Mary in its Design and Construction Manual (DCM) are forms incorporated in these Design Build General Conditions by reference and are made a part hereof to the same extent as though fully set forth herein. They must be used by the Contractor for their respective purpose.”

Delete Paragraph (d) and in its place add the following:

“(d) The College of William and Mary Facilities Management Technical Standards, current edition is included by reference herein and shall be used by the Contractor’s A/E as guidelines for the design.”

Delete Paragraph (e) and in its place add the following:

“(e) Chapters 8A, Design Codes and Policies and 8B, Project Design Standards and Requirements of the College of William and Mary Design and Construction Manual, current edition, is included by reference and shall be used by the Contractor’s A/E as the referenced standards for design.”

2. Section 7 Conditions at Site

In Paragraph (a) delete the word “Bidding” and replace with “Submitting a Proposal”

3. Section 9 Subcontracts

4. Section 10 Separate Contracts

In Paragraph (b) delete the Phrase “Invitation for Bids” and replace with “Request for Proposal”. Delete the Phrase “Bid Form” and replace with “Cost Proposal Form”

In Paragraph (a) delete “Invitation to Bid” in two places with “Request for Proposal”

5. Section 12(a) delete the words “and the Director, Division of Engineering and Buildings”

6. Section 15 Architects/Engineers Status

Delete Paragraph (c) Delete Paragraph (e) and in its place add the following:

“(e) Chapters 8B, Design Codes and Policies and 8B, Project Design Standards and Requirements of the College of William and Mary Design and Construction Manual, current edition, is included by reference herein and shall be used by the Contractor’s A/E as the referenced standards for Design”

7. For all forms referenced in the G.S. Form E&B CO-7DB (12/2002 Edition) by “CO-,” replace “CO-“with “HECO-” except CO-9DB, CO-12.

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## **APPENDIX B**

### **STANDARD HIGHER EDUCATION CAPITAL OUTLAY FORMS**

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CO Forms are available directly from BCOM at the following Web Site:

[http://www.forms.dgs.state.va.us/eo51/dgs\\_viewforms.asp?page=1&bu=BCOM](http://www.forms.dgs.state.va.us/eo51/dgs_viewforms.asp?page=1&bu=BCOM)

The below listed HECO Forms and D&F Forms are available directly from the College of William and Mary at the following Web Site:

<http://www.wm.edu/facman/FPDC/FPDC-Home.php>

#### **DETERMINATION AND FINDINGS (D&F) FORMS**

D&F Form for Code/Design Issues (use drop box in title line for other D&F Forms listed below)

D&F Form for Procurement Issues

D&F Form for Real Estate Issues

D&F Form for Storm Water Issues

D&F for Emergency Procurement

#### **AUTHORIZATION FORMS**

HECO-2 - Authority to Initiate Non-General Fund Capital Outlay Project

HECO-4 - Approval of Schematic Design

HECO-5 - Approval of Preliminary Drawings and Specifications

HECO-6 - Approval of Working Drawings & Specifications

HECO-17 - Building Permit

HECO-8 - Authorization to Award Contract

HECO-14 - Project Completion Report

#### **DESIGN CONTRACT MANAGEMENT FORMS**

HECO-2.1a - A/E Selection Small Fee

HECO-2.1b - A/E Selection 3 Phone

HECO-3 - Contract Between Owner and A/E

HECO-3.1 - Term Contract Form for A/E

HECO-3.1a - Service Order Term Contract for A/E

HECO-3.2 - Contract Between Owner and A/E (Non-Capital)

HECO-3.3 - Term Contract for Cost Consultant

HECO-3.3a - Service Order for Cost Consultant

HECO-3.4a - Service Order for Construction Administration Manager

CO-8b - A/E Performance

HECO-11a/e - Architect/Engineer Contract Change Order

HECO-12ae - A/E Payment Invoice

#### **CONSTRUCTION CONTRACT MANAGEMENT FORMS**

HECO-6a - Statement of Structural and Special Inspections;

HECO-6b - 2003 VUSBC Special Inspections;

HECO-7 - General Conditions Capital Outlay Projects(see DCM Appendix A)

HECO-7DB - General Conditions Design Build Capital Outlay Projects (see DCM Appendix A)

HECO-7sup-SWAM – Supplemental General Conditions/SWAM(see DCM Appendix A)

HECO-7sup-INS/HECO-7sup-LD – Supplemental General Conditions – Renovations and Liquidated Damages(see DCM Appendix A)

HECO-7a - Instruction to Bidders(see DCM Appendix A)  
CO-9 - Commonwealth of Virginia Contract between Owner and Contractor;  
CO-9DB – Commonwealth of Virginia Contract Between Owner and Design Builder;  
CO-10 - Commonwealth of Virginia Performance Bond.  
CO-10.1 - Commonwealth of Virginia Payment Bond  
HECO-11 - Contract Change Order  
HECO-11a - Change Order JustificationCO-12 - Commonwealth of Virginia Schedule of Values and Certificate  
for Payment  
HECO-13 – Affidavit of Payment of Claims  
HECO-13.1 - Certificate of Completion by A/E  
HECO-13.1a - Certificate of Partial Completion by A/E  
HECO-13.1b - Final Report of Structural and Special Instructions  
HECO-13.1c – Certificate of Partial or Substantial Completion by Inspector, Project Manager or Construction  
Administrator  
HECO-13.2 - Certificate of Completion by Contractor  
HECO-13.2a - Certification of Partial Completion by Contractor  
HECO-13.3a - Certificate of Use and Occupancy (drop box for College of William and Mary or VIMS)  
HECO-13.3b – Checklist for Occupancy  
HECO-13.3c – Acknowledgement of Substantial Completion (drop box for HECO-13.3d)  
HECO-13.3d – Acknowledgement of Final Completion (drop box for HECO 13.3c)  
HECO-14 – Project Completion Report  
CO-14a – A/E Performance Rating (Bid/Construction Phase) (See CPSM)  
CO-14b – Contractor Performance Rating (See CPSM)  
HECO-17A – Application for Building Permit (drop box for HECO-17)  
HECO-17 – Building Permit for all Capital Projects (drop box for HECO 17A)  
HECO-17.1A – Application for Demolition Permit (drop box for HECO 17.1)  
HECO-17.1 – Demolition Permit (drop box for HECO 17.1A)

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## **APPENDIX C**

### **STANDARD HIGHER EDUCATION FORMATS**

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RFP for A/E Professional Services - Single Project

RFP for A/E Professional Services - Term Contract

RFP for VE Professional Services

MOU for A/E Professional Services - Single Project

MOU for A/E Professional Services - Term Contract

RFP for Competitive Negotiation (all types available)

RFP for Design/Build

Notice (IFB) of Invitation For Bids Format

Standard Bid Form Format

IFB (Specifications) Cover Format

Invitation For Bids Contents Format

**(See the FPD&C Contract Administration Office Personnel for information and examples of the latest templates)**



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# **APPENDIX D**

## **BASIS OF DESIGN NARRATIVE AND SYSTEMS CHECKLIST**

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### **1. INTRODUCTION**

The basis of design is a narrative description of the project and should be a bound presentation of facts sufficiently complete in accordance with the following format to expedite review of the Schematic and the Preliminary submittals. The Schematic Basis of Design narrative presents the basic information, criteria, logic, evaluations and considerations developed in each category to prepare the Schematic submittal. The Preliminary Basis of Design narrative expands upon the Schematic submittal to reflect the further analyses, evaluations and selections/decisions made to arrive at the Preliminary level of design.

Design computations, sizing of members or conductors, details of connections, etc., are not required to be submitted with the Schematic Basis of Design, but general computations supporting system selection, member depths, floor to floor heights, mechanical and electrical loads should have been made.

### **2. SCHEMATIC BASIS OF DESIGN INFORMATION**

The Schematic submittal shall include a Basis of Design Narrative which as a minimum provides the following information in narrative or tabular format:

- Type of occupancy/VUSBC Use Group
- Estimated occupancy capacity and method or factor used for estimate
- Functions to be housed in the building
- Proposed building location on the site
- Exterior Circulation (i.e. how this project may interface with other area facilities)
- Areas and/or capacity required for various activities proposed for building
- Type of Construction proposed: i.e. fire resistive, protected or unprotected noncombustible, etc. and VUSBC Type #
- Outline description of basic materials
- Future construction or expansion to be accommodated, if any
- Style and character of building desired
- Structural Design Live Loads, Wind and Seismic Design Criteria
- Types of structural framing evaluated and recommendation
- Description of the types of HVAC systems being evaluated, estimated heating and cooling loads, fuels evaluated and fuel selected to be used
- Description of all energy conservation and peak energy reduction methods being evaluated
- Description of types of electrical systems evaluated, voltages, possible transformer locations and need for generator
- Total square foot area per floor and per building
- Number of beds, seats or parking spaces, where applicable
- Total estimated construction cost based on the schematic documents
- Total proposed project budget
- Geotechnical report criteria

- Describe Site Work issues such as site survey, utilities, parking, roads, sidewalks and grading

### 3. PRELIMINARY BASIS OF DESIGN INFORMATION

The following format is for a new building type construction project but is applicable to renovation and addition projects by addressing those portions relevant to that particular project. When a project consists primarily of mechanical, electrical, structural, or another discipline, the basis of design shall provide more detailed information for the major discipline. The narrative shall address or list the factors indicated for each section. Data may be presented in tabular form where appropriate.

#### **Architectural:**

- (a) Describe functions to be housed in the building and the applicable VUSBC Use Group Classification(s). Include copy of the minimum space/area requirements and adjacency criteria used to develop the design.
- (b) Provide analysis of Virginia Uniform Statewide Building Code (VUSBC) and referenced standards (and NFPA 101, Life Safety Code, if applicable) requirements of all occupancies involved. Determine occupancy classifications and compute occupant load, number of units of exit and other requirements. Describe unusual or critical code requirements and indicate how such requirement will be met.
- (c) State the VUSBC Type of Construction selected with reference to the degree of fire resistance. Describe construction systems/materials proposed to achieve the construction type/fire resistance rating.
- (d) Computation of gross floor area in accordance with Section 7B guidance and of Building Efficiency factor/ratio. Gross floor areas should be indicated on the drawings.
- (e) Provide preliminary floor plans, elevations, building cross section and other drawings as required by Chapter 8 of the **Manual**. Floor plans should indicate the location of all built-in equipment and fire walls.
- (f) Statement as to the types of thermal insulation to be provided, where required, and the value of the "U" factors for the various portions of the structure, i.e., roof, walls, floors, etc. Also describe all architectural energy conserving features to be incorporated.
- (g) Provide a narrative description of the preliminary color design concept addressing architectural finishes and colors. Describe materials for all major items of construction and all interior and exterior finishes. The description of finishes (colors, textures, and patterns) shall be accomplished by the use of a finish schedule. The finish schedule (on the included drawings) shall identify spaces and interior building material finishes.
- (h) Provide furniture and equipment footprint drawings in preliminaries reflecting the College's updated equipment list which show the end result of the architect's space planning effort. The furniture footprint demonstrates the designer's plan for the various functions that are housed in the facility. The designer shall use standard furniture sizes to demonstrate adequacy of space and to communicate utility and service requirements to engineering



disciplines. (Although required for space, utility and service requirement development, these drawings are not included in the final construction bid package.)

- (i) A description of items not considered to be a permanent part of the structure, such as work benches, shelving, bins and removable partitions. (Show also on furniture footprint drawings.)
- (j) Analyze the design for compliance with acoustical requirements. List areas of high noise and vibration and acoustic design principles applied. Is an acoustical consultant or specialist required for the project?
- (k) Design features to make facilities accessible to and usable by the physically handicapped and conform to the requirements of Section 7A.2 of **the Manual**. If not incorporated, appropriate reasons/justification shall be given.
- (l) Equipment rooms of ample size shall be provided with consideration being given to adequate allowances for access, maintenance, repair and easy removal of units. Room dimensions shall not restrict equipment items to the products of any single manufacturer. The A/E should assure that equipment of more than one manufacturer can be accommodated in the space allocated. This policy will not be interpreted as sanctioning an increase in equipment space to accommodate some particular manufacturer's product when such would result in structural costs being greater than the probable resultant saving in equipment costs.
- (m) Describe special construction features incorporated into the facility such as barred windows, special wall/roof construction, etc.
- (n) The Art and Architectural Review Board (AARB) has been established to ensure architectural compatibility is maintained at each location. Presentation(s) of the design shall be presented to the AARB for comment and recommendation for approval after submittal to the College Review Unit for review and comment at the Schematic and Preliminary submittals.

**Structural:**

- (a) Description of foundation conditions, type of foundation to be used, method by which the allowable bearing values are to be determined, and maximum allowable bearing capacity for the foundations. Geotechnical information including field boring notes and foundation design recommendations shall be submitted with the preliminaries.
- (b) Statement of the type of construction adopted and reason therefore, with capacity, dimensions, or other size criteria. List of materials selected with design strengths and ASTM, AISC, ACI, etc. standards to be specified.
- (c) Special features to be included in the structures which are not evident from the drawings.
- (d) Description of the structural floor and roof systems proposed, with length, spacing and size of principal members (for beam and girder, etc.).

- (e) Description of the Lateral Force Resisting System proposed with appropriate materials and dimensions.
- (f) Statement of live loading to be used, to include floor loads, wind, snow, earthquake, etc. with data to justify.
- (g) Statement of any special considerations that affect the design, (e.g., special corrosion resistance requirements, detention facilities, cranes, etc.).
- (h) The usual accepted means of structural system selection is economy. Demonstrate this with cost comparisons of various appropriate framing systems such as:
  - (1) "Typical bay" member sizing and cost comparisons of alternate structural systems;
  - (2) Horizontal force resisting system for wind and earthquake;
  - (3) Consideration of unusual geometry (long span, high bay, deep cuts, etc.);
  - (4) Consideration of heavy equipment supports.

**Plumbing:**

- (a) Describe system to be utilized on each part of the project.
- (b) Determination/calculation of number of each type of fixture based on VUSBC occupancy load. Indicate types and quality standards in narrative and on preliminary drawings.
- (c) Estimated number of fixture units and water demand in gpm for all plumbing fixtures.
- (d) Estimated maximum and minimum water pressure at each building and indicate if booster pumping will be required.
- (e) Type, size and design temperature of domestic water heater and distribution system. Also, a statement as to whether heat recovery is contemplated for domestic water heating.
- (f) Design temperature of domestic hot water distribution system and extent of recirculation system within building.
- (g) Indicate materials to be used for each piping system.
- (h) Address- any special needs such as sumps, interceptors, pumps, pipe guides, lift pumps for sewerage, etc., and indicate tentative sizes, capacities and quality standards to be specified.

**Heating, Ventilating and Air Conditioning:**

- (a) Design Conditions
  - (1) Describe and/or list the indoor and outdoor design conditions to be used in the design of systems for this project. Refer to criteria in Chapter 7.

- (2) Energy sources for heating and cooling systems shall be determined from an analysis of the efficiency of use and economy of those available for each project. Parameters for analysis should be obtained from the Division of Engineering and Buildings. The analysis shall be presented for review with preliminary submittal and shall be summarized on an Energy Analysis Summary sheet.

(b) Heating

- (1) Describe the source of heat energy which will be used, such as extension of central high pressure steam with meter, hot water with meter, or independent heating equipment with type of fuel to be utilized. Also explain why this source was selected in lieu of other available sources. Where there is a possibility of more than one type being economical a computerized analysis should be included to justify the selection.
- (2) Briefly describe and/or show on the drawings the type and routing of the system proposed to convey the heat source, if applicable; (for example, 100 psig low level, above ground steam and condensate lines on concrete support, inter connecting to the existing system at manhole no. 150 and traveling due north into the mechanical equipment room.) State if condensate return system is to be utilized. If condensate is to be wasted, heat reclaim shall be studied. If wasted, it should be cooled to 140°F maximum, then re-turned to the sanitary sewer system (unless specifically instructed otherwise). Indicate the maximum hourly production of condensate.
- (3) Describe and/or provide schematics of the type of heating medium and system to be used within the buildings. Also include reasons for selection of this system over others available.
- (4) Describe the HVAC Control System. A specific type of control system will be specified, i.e., pneumatic, electric or electronic.

(c) Ventilation

- (1) Indicate the quantity of outside air per person in all areas, the type of filtration, and whether OSHA requirements are applicable.
- (2) State if smoke removal/control systems are to be employed.
- (3) Describe the operation of the system in summer and winter modes.
- (4) Describe any methods to reduce or minimize outside airflow

(d) Air Conditioning

- (1) Provide a complete description and/or schematics of the air conditioning system proposed including an explanation of why this system is preferred over others. Also indicate locations of major components of the system. For larger systems which qualify under Energy Conservation, a computerized comparison between at least two systems is required.

- (2) Define areas to be air conditioned.
  - (3) Identify special humidification or de-humidification requirements, as well as special filtration requirements.
  - (4) Describe any special architectural features being incorporated to reduce cooling loads. Also, any features being incorporated in the mechanical system which would reduce energy consumption should be separately discussed.
- (e) Combination Systems
- (1) For systems in which the heating, ventilating and/or air conditioning are combined, repetition may be eliminated by consolidating the aforementioned requested information. Describe changeover procedures and requirements.
- (f) Energy Conservation
- (1) Computer energy analysis (block load type) for buildings larger than 8,000 square feet requiring heating and cooling and larger than 20,000 square feet requiring heating only shall be used to study energy conservation features. Concurrence of systems to be studied should be obtained prior to conducting study. If a valid computer analysis was prepared during the Budget Study Preparation for the project, this may suffice. When computer analyses are performed, the total annual energy consumption estimate should be clearly stated.
  - (2) Describe any methods to reduce energy usage and peakloads.
- (g) Briefly describe the controls for each system and indicate intended sequence of operation.
- (h) Briefly describe testing and balancing requirements to be required.
- (i) Since the College has an Energy Management System, the preliminary submittal shall be prepared to conform to the requirements and procedures in Chapter 7.

**Environmental Pollution Control:**

Identify expected environmental pollution and the proposed method of control. A detailed description will be necessary for those facilities directly related to controlling air and water pollution such as sewage treatment plants, industrial treatment facilities, incinerators, smoke elimination facilities, and other similar projects. When subsurface tile filtration is being considered for sewage disposal, a soil percolation test will be required for each such disposal system. List all environmental control permits and notifications required.

**Asbestos, Lead-Based Paint and Hazardous Material:**

The A/E shall include a statement in the Basis of Design addressing asbestos, lead based paint, and other hazardous material (including leakage from underground storage tanks) presence or potential presence on the project. Indicate if Agency has secured an asbestos, lead based paint, or hazardous material investigation of the project area for renovation projects. Indicate how the presence of these materials will affect this project, (i.e., removed by separate project, removal included in this project,

left in place and encapsulated, etc.) If work is by separate contract, indicate if phasing of work or a delay of this project is anticipated.

**Special Mechanical Systems:**

Provide a description of any special mechanical systems such as compressed air, hydraulic, nitrogen, etc., including an explanation of the medium source.

**Central Heating Plants and Heating Plant Additions:**

- (a) Prepare an energy analysis as required by Chapter 7 and submit Energy Analysis Summary. Describe criteria and assumptions in narrative. Describe purpose and justification of systems proposed.
- (b) Describe environmental constraints such as applicable regulations, liquid wastes, gaseous emissions, treatments required, etc.
- (c) Describe new boilers including rating, flow, temperature, pressure and type.
- (d) Describe control systems.
- (e) Describe any new auxiliaries to be added and what source of power will be used for their operation.

**Refrigeration (Cold Storage):**

- (a) Identify areas to be refrigerated, indicating their usage and temperatures to be maintained.
- (b) Describe type of refrigeration equipment and systems.

**Thermal Storage:**

- (a) Describe the type (static or dynamic) of storage being considered.
- (b) Provide preliminary cooling profile.
- (c) Provide preliminary equipment and tank sizes.
- (d) State how the A/E proposes to conform to College Procurement requirements when specifying thermal storage system and components.

**Fire Protection Systems:**

- (a) Describe type(s) of automatic sprinkler and gaseous extinguishing systems to be utilized and note locations to be protected.
- (b) Describe fire detection and alarm systems including location of detectors, manual stations, audible devices, control panels, etc.

- (c) On the drawings indicate location of water supply pipe location and main entrance to buildings. Also indicate location of gaseous extinguishing system equipment and supplies and location of fire department connection and post indicator valve.
- (d) Provide the following information about sprinkler systems:
  - (1) Hazard classification of occupancy and applicable Code reference.
  - (2) Water supply available at point of connection (static pressure and residual pressure at design flow). This data must be based upon flow tests at or near the point of connection and must appear in the Basis of Design. Indicate on drawings the location of flow test.
  - (3) Describe fire pump operating parameters.
  - (4) Approximate water demand for sprinkler system.
  - (5) Statement of adequacy/inadequacy of water supply and planned upgrades by local jurisdiction, if any.

**Electrical:**

- (a) Provide the following about interior distribution systems:
  - (1) Electrical characteristics (phase, voltage, and number of conductors in main distribution circuits).
  - (2) Breakdown in tabular form of the *estimated* connected load to show:
    - a. Lighting load and convenience outlet load separately.
    - b. Power load for building equipment such as heating, air conditioning, etc.
    - c. Loads for special operating equipment such as compressors, generators, pumps, and for power receptacles being provided to energize special equipment. Apply an appropriate demand factor to each to compute total demand load.
  - (3) Type of wiring system, such as rigid conduit, electrical metallic tubing, non-metallic sheathed cable, etc., and where proposed to use. **(Present criteria prohibits embedding aluminum conduit in concrete. Present products should be reviewed to make sure that conduit, pipe, bars, anchors or other aluminum parts are not embedded in concrete.)**
  - (4) Type of conductors, such as rubber insulated, thermoplastic insulated, polyvinyl chloride jacket, etc., and where proposed to use.
  - (5) A statement describing proposed pertinent standards of design, such as voltage drop (include calculations), lighting intensities (include calculations), and type of

lighting fixtures, and a statement regarding the use of selective switching or other energy conserving features.

- (6) A determination of short-circuit duty required for all service entrance protective devices and switchgear.
- (7) Type and arrangement of Cable Television Systems (CATV), Closed Circuit Television Systems (CCTV), Nurse Call, intercom, sound, signal, and fire alarm systems. Identify number and location of telecommunication outlets (telephone, computer, word processing, etc.). Obtain information from the owner.

Space required for telecommunication equipment, point of connection to telephone utility, size of incoming duct/conduit and size of equipment mounting backboard to be provided.

Statement relative to interface provision for multi-use systems (i.e., intercom, telephone, etc.). A/E must provide all facility support for proposed telephone equipment installations, i.e., conduit, duct, and backboard. Design and procurement of telephone system to be accomplished by the College.

- (8) Indicate interior lighting on lighting plans.

(b) Outside distribution systems:

- (1) Contact the Facilities Utility Department for location and characteristics of nearest service capable of meeting project supply requirement.
- (2) Statement relative to the adequacy of the primary supply at the point of take-off. If primary source is inadequate, state measures proposed to correct the deficiency.
- (3) Electrical characteristics of power supply to site including circuit interrupting requirements and voltage regulation.
- (4) Estimate of total connected load and resulting kilowatt demand load by applying proper demand and diversity factors and power factor, if a group of loads is involved.
- (5) Basis for selection of primary and/or secondary distribution voltage.
- (6) Type of conductors and where proposed to use.
- (7) A statement describing pertinent standards for design, such as voltage drop, physical characteristic of overhead or underground circuits, type of lighting units and lighting intensities.
- (8) Type and adequacy of signal and fire alarm systems, including a statement as to spare capacity on fire alarm circuit. **The importance of early resolution of the fire protection requirements cannot be overemphasized.**
- (9) Type, adequacy and routing of supporting structure(s) for telecommunication cable.

## **Electronic Systems:**

- (a) System engineering concepts. Describe the proposed type of system, its functions and the interrelationships if the system is a multi-use system (i.e. security, etc.; See items (m) and (n) below).
- (b) Indicate circuit requirements.
- (c) Indicate equipment selection in such categories as: College furnished equipment; standard manufacturers or commercially available items; and special equipment.
- (d) Describe site or location considerations.
- (e) Describe bonding and grounding requirements.
- (f) Describe communication and control cables and radio links.
- (g) Identify test equipment, repair shop, and spare parts storage requirements.
- (h) Describe equipment, instrumentation, arrangement, and space requirements indicating requirements for racks, consoles, and individual mountings. Provide the most economical design in first cost, operation and maintenance costs, and operating conditions conforming to best engineering concepts.
- (i) Identify wiring and cabling requirements plus terminations.
- (j) Identify power and lighting requirements, including emergency or standby requirements.
- (k) Describe air conditioning, including humidity and dust control requirements.
- (l) Identify interference and clearance requirements.
- (m) State security requirements for Security/Entry Control System.
  - (1) Identify separately from the other project elements the requirements for Intrusion Detection Systems (IDS). Any of the following items and their interconnecting circuits may be considered part of an IDS:
    - Annunciation Panels and Cabinets
    - Visual and Audible Annunciators
    - Magnetic Switches
    - Proximity Sensors
    - Volumetric Sensors
    - Wire Grids
    - Vibration Detectors
    - Power Supplies Integral to Items on this List
    - Closed Circuit Television Cameras and Monitors, and
    - Video Recorders used for Intrusion Detection Purposes
    - Access Control Systems



- (2) IDS installation can be divided into three general functional categories:
  - (a) Sensitive compartmented information facilities.
  - (b) Conventional arms, ammunition, and explosives storage sites (AA & E).
  - (c) All other (including but not limited to communication facilities, special training facilities, special operational facilities, intelligence facilities, etc.).
  
- (n) Describe access control equipment (versus IDS) when required and outline locations, function, and area of control.

**Energy Monitoring and Control System (ECMS):**

- (a) Indicate if any EMCS will be utilized.
- (b) Indicate if the EMCS will be stand alone or tied into central system.
- (c) Indicate if a sole source is required for tie in.
- (d) Describe the EMCS proposed to be used.

**Site and Landscaping:**

- (a) Describe site and facility location and give reasons for selection and orientation.
- (b) List and/or describe utilities available at the site.
- (c) Describe existing vegetation, bodies of water, topography, and soil conditions.
- (d) Describe existing site improvements to remain, to be altered, and to be demolished.
- (e) Describe existing pedestrian and vehicular access, roads, sidewalks, and parking to include accessibility for the disabled.
- (f) Describe proposed site improvements.
- (g) Describe proposed contours, bodies of water, and landscaping improvements.

**Water Supply:**

- (a) Describe the existing system including, but not limited to, the type, capacity, condition, present water use, and unsatisfactory elements.
- (b) State type of construction proposed, materials for water mains, type of well, etc.
- (c) State design factors with present and projected design population loads for sewage treatment plants. Coordination with appropriate state/local regulatory agencies is required.

- (d) State materials to be used for sewer systems and sewage treatment plants.
- (e) Identify standards (federal, state, local) governing the design.
- (f) Describe the impact of steam condensate and cooling water discharges on existing sewer lines and sewage treatment plants and the estimated cost of distribution and treatment of this additional loading.

**Sewers and Sewage Disposal Systems:**

- (a) Describe the existing system indicating particularly the type, capacity, condition, present flow and unsatisfactory elements.
- (b) State degree of treatment necessary by effluent requirements and units needed to treat.
- (c) State design factors with present and projected design population loads for sewage treatment plants. Coordination with appropriate state/local regulatory agencies is required.
- (d) State materials to be used for sewer systems and sewage treatment plants.
- (e) Identify standards (federal, state, local) governing the design.
- (f) Describe the impact of steam condensate and cooling water discharges on existing sewer lines and sewage treatment plants and the estimated cost of distribution and treatment of this additional loading.

**Roads, Driveways, Parking Areas and Walks:**

- (a) State general soil conditions, with a brief outline of soil exploration and testing performed. Indicate CBR value and pavement recommendations. (Show typical paving section on the drawings.)
- (b) Describe the type and volume of traffic, controlling wheel loads and types or classes of roads under consideration. Justify any deviation from criteria thickness for these classes.

**Dust and Erosion Control:**

Dust and erosion control will be considered an integral part of all design and construction projects. Such controls will be generally limited to areas actually scarred or denuded in the process of constructing a project. Dust and erosion control will not be confused with landscaping. Preliminary submittal will contain the necessary design data, and costs for dust and erosion control measures where applicable. The Basis of Design will include a narrative regarding the type of treatment selected, affected areas, and reasons for selection of type and determination of areas.

**Fencing:** State type, heights, and justification for fencing.

**Stormwater Management:**

Describe the measures to be taken and/or features/structures required to comply with Stormwater Management Regulations.

**BUILDING SYSTEMS AND EQUIPMENT CHECKLIST**

Indicate systems and equipment to be included in project. Provide equipment data and area in spaces provided. When two or more subsystems are used, show portion of each by % of gross to nearest 10%.

**STRUCTURAL**

**Foundation System**

Ground Floor Area (SF) \_\_\_\_\_

Type	Footing Bottom From Existing Grade	Compacted Fill
_____ Spread Footings	_____ 2'	_____ Borrowfill 1'
_____ Thickened Slab @ Edge	_____ 3'	_____ Borrowfill 2'
_____ Pipe Foundation	_____ 4'	_____ Borrowfill 3'
_____ Caissons	_____ 5'	_____ Borrowfill 4'
_____ Continuous wall footing	_____ _____	_____ Borrowfill 5'
_____ Grade Beams		_____ Over 5'
_____ Special (See Site work Section)		

**Slab on Grade**

Slab on Grade (SF) \_\_\_\_\_

Type	Slab Thickness	Floor Live Load
_____ Floating	_____ 4"	_____ Under 100PSF
_____ Grade Beam Supported	_____ 5"	_____ 101-200 PSF
_____ Pile Supported	_____ 6"	_____ 201-300 PSF
_____ Reinforced	_____ 8"	_____ 301-400 PSF
	_____ Over 8"	_____ Over 400 PSF

**Structural Design Criteria**

Seismic	Roof Live/Snow Load	Wind Loading
_____ Performance Category	_____ Roof LL 20 PSF	_____ Wind 80 mph
_____ Exposure Group	_____ Roof LL 30 PSF	_____ Wind 92 mph
_____ Site/Soil Coeff	_____ Roof LL 40 PSF	_____ Wind 103 mph
	_____ Roof LL 50 PSF	_____ Wind 115 mph

**Structural Frame Type**

Gross Bldg. Area (SF) \_\_\_\_\_

- \_\_\_\_\_ Bearing Wall
- \_\_\_\_\_ Steel Frame
- \_\_\_\_\_ Concrete, Cast in Place
- \_\_\_\_\_ Wood
- \_\_\_\_\_ Concrete, Precast

**Supported Floor**

Supported Floor (SF) \_\_\_\_\_

<b>Type System</b>	<b>Floor Design Live Load</b>	<b>Span</b>
_____ Concrete, Cast in Place	_____ Under 40 PSF	_____ Under 26'
_____ Concrete on Steel Joists	_____ 40-60 PSF	_____ 26'-35'
_____ Concrete on Steel Frame	_____ 61-80 PSF	_____ 35'-45'
_____ Concrete, Precast	_____ 81-100 PSF	_____ 46'-55'
_____ Wood	_____ 101-150 PSF	_____ 56'-65'
	_____ 151-200 PSF	_____ Over 66'
	_____ Over 200 PSF	

**Roof Structure**

Area of Roof (SF) \_\_\_\_\_

<b>Framing</b>	<b>Decking</b>	<b>Span</b>
_____ Concrete, Cast in Place	_____ Steel	_____ Under 26'
_____ Precast Hollow Core	_____ Concrete Slab	_____ 26'-35'
_____ Concrete Precast	_____ Wood	_____ 35'-45'
_____ Wood	_____ Gypsum	_____ 46'-55'
_____ Steel Joist	_____ Other (List)	_____ 56'-65'
_____ Steel Framing		_____ Over 65'

**Pre-Engineered Building**

Area (SF) \_\_\_\_\_

<b>Type</b>	<b>Eave Height</b>	<b>Roof Slope</b>
_____ Rigid Frame	_____ Eave height under 12'	_____ 1 in 12
_____ Post & Beam	_____ Eave height 12'-20'	_____ 2 in 12
_____ _____	_____ Eave height over 20'	_____ 3 in 1
		_____ >3 in 12

<b>Exterior Wall</b>	<b>Roof Material</b>
_____ Prefinished Metal	_____ Standing Prefinished Metal
_____ Masonry	_____ Standing Seam Metal
_____ Insulation 'U'	_____ Insulation 'U'

**ARCHITECTURAL SYSTEMS****Roofing**

Area of Roof (SF) \_\_\_\_\_

<b>Type Mat'l</b>	<b>Insulation</b>	<b>Wind Uplift</b>	<b>Fire Resistance</b>
_____ Built-up	_____ U = 0.03	_____ FM 1-30	_____ Class A
_____ Shingles	_____ U = 0.04	_____ FM 1-60	_____ Class B
_____ Sprayed	_____ U = 0.05	_____ FM 1-90	_____ Class C
_____ Metal Roofing	_____ U = 0.____		
_____ EPDM			
_____ CSPE			
_____ Other _____			

**Stairs**

Number of Risers (SF) \_\_\_\_\_

- \_\_\_\_\_ Exposed
- \_\_\_\_\_ Enclosed
- \_\_\_\_\_ Exterior
- \_\_\_\_\_ Interior
- \_\_\_\_\_ None
- \_\_\_\_\_ Area of Rescue Assistance

- |                       |                    |
|-----------------------|--------------------|
| _____ Concrete        | _____ Closed Riser |
| _____ Steel           | _____ Open Riser   |
| _____ Steel Pan       | _____ Ships Ladder |
| _____ Checkered Plate | _____ Attic Access |
| _____ Grate           |                    |

**Exterior Wall System**

Exterior Wall Area (SF) \_\_\_\_\_ U Value \_\_\_\_\_

- Exterior Surface**
- \_\_\_\_\_ Brick
  - \_\_\_\_\_ CMU
  - \_\_\_\_\_ Synthetic (EIFS)
  - \_\_\_\_\_ Metal Panels
  - \_\_\_\_\_ Stucco
  - \_\_\_\_\_ Wood
  - \_\_\_\_\_ Concrete, Cast In Place
  - \_\_\_\_\_ Concrete, Precast
  - \_\_\_\_\_ Stone (Granite, Marble, etc)
  - \_\_\_\_\_ Vinyl Siding
  - \_\_\_\_\_ Other

- Backup**
- \_\_\_\_\_ CMU
  - \_\_\_\_\_ Wood Studs
  - \_\_\_\_\_ Steel Studs
  - \_\_\_\_\_ Concrete, C-I-P
  - \_\_\_\_\_ Concrete, Precast
  - \_\_\_\_\_ Furring
  - \_\_\_\_\_ Other

- Story Height**
- \_\_\_\_\_ Under 12'
  - \_\_\_\_\_ 12'- 20'
  - \_\_\_\_\_ over 20'

- Insulation**
- \_\_\_\_\_ Batt R= \_\_\_\_\_
  - \_\_\_\_\_ Rigid R= \_\_\_\_\_
  - \_\_\_\_\_ Other \_\_\_\_\_

**Interior Wall System**  
(excludes finishes)

Interior Wall Area (SF) \_\_\_\_\_

- Type**
- \_\_\_\_\_ Concrete Masonry Unit
  - \_\_\_\_\_ Steel Studs
  - \_\_\_\_\_ Wood Studs
  - \_\_\_\_\_ Concrete, Cast in Place

- Height**
- \_\_\_\_\_ 8'
  - \_\_\_\_\_ 9'
  - \_\_\_\_\_ 10'
  - \_\_\_\_\_ Over 10' (Height = \_\_\_\_\_ ft)

**Interior** Finishes  
(show nominal % of each)

Gross Bldg. Area SF) \_\_\_\_\_

- Walls**
- \_\_\_\_\_ Gypsum Board, Painted
  - \_\_\_\_\_ CMU
  - \_\_\_\_\_ Ceramic Tile
  - \_\_\_\_\_ Wood Panels
  - \_\_\_\_\_ Plaster
  - \_\_\_\_\_ Vinyl Wall Covering
  - \_\_\_\_\_ Other
  - \_\_\_\_\_ Other

- Floors**
- \_\_\_\_\_ VCT
  - \_\_\_\_\_ Sheet Vinyl
  - \_\_\_\_\_ Ceramic Tile
  - \_\_\_\_\_ Quarry Tile
  - \_\_\_\_\_ Exposed Concrete
  - \_\_\_\_\_ Terrazzo
  - \_\_\_\_\_ Carpet
  - \_\_\_\_\_ Hardwood
  - \_\_\_\_\_ Special Toppings

- Ceiling**
- \_\_\_\_\_ Acoustical
  - \_\_\_\_\_ Gypsum Bd
  - \_\_\_\_\_ Plaster
  - \_\_\_\_\_ Concrete
  - \_\_\_\_\_ Spray on
  - \_\_\_\_\_ Metal Panel
  - \_\_\_\_\_ Exposed Structure
  - \_\_\_\_\_ Other \_\_\_\_\_
  - \_\_\_\_\_ Other \_\_\_\_\_

**Doors and Hardware**

Surface Area one Side (SF) \_\_\_\_\_

- Door Types**
- \_\_\_\_\_ Hollow Metal Exterior, Size
  - \_\_\_\_\_ Aluminum Store Front (glass), Size
  - \_\_\_\_\_ Wood Exterior, Size
  - \_\_\_\_\_ Folding, Size
  - \_\_\_\_\_ Overhead, Size
  - \_\_\_\_\_ Vault, Size
  - \_\_\_\_\_ Metal Security Door
  - \_\_\_\_\_ Wood Interior
  - \_\_\_\_\_ Hollow Metal Interior

- Frame Types**
- \_\_\_\_\_ Hollow Metal
  - \_\_\_\_\_ Steel Frame
  - \_\_\_\_\_ Aluminum
  - \_\_\_\_\_ Painted Wood
  - \_\_\_\_\_ Stainless Steel
  - \_\_\_\_\_ Other \_\_\_\_\_

**Windows**

Surface Area one Side (SF) \_\_\_\_\_

- Type**
- \_\_\_\_\_ Fixed
  - \_\_\_\_\_ Double Hung
  - \_\_\_\_\_ Projected
  - \_\_\_\_\_ Casement
  - \_\_\_\_\_ Sliding
  - \_\_\_\_\_ Storm
  - \_\_\_\_\_ Awning
  - \_\_\_\_\_ Jalousie
  - \_\_\_\_\_ Other \_\_\_\_\_

- Glazing**
- \_\_\_\_\_ Single
  - \_\_\_\_\_ Double
  - \_\_\_\_\_ Thermal
  - \_\_\_\_\_ Safety
  - \_\_\_\_\_ Wire glass
  - \_\_\_\_\_ Bullet Proof
  - \_\_\_\_\_ Re-glazing
  - \_\_\_\_\_ Other \_\_\_\_\_

- Frame**
- \_\_\_\_\_ Aluminum
  - \_\_\_\_\_ Painted Wood
  - \_\_\_\_\_ Vinyl Clad Wood
  - \_\_\_\_\_ Aluminum Clad
  - \_\_\_\_\_ Painted Steel
  - \_\_\_\_\_ Other
  - \_\_\_\_\_ Other

**Specialties**

Gross Bldg Area (SF) \_\_\_\_\_

- \_\_\_\_\_ Jail Doors/Locks
- \_\_\_\_\_ Clean Room
- \_\_\_\_\_ Case Work
- \_\_\_\_\_ Dark Rooms
- \_\_\_\_\_ Loading Dock Equip
- \_\_\_\_\_ Projection Screen
- \_\_\_\_\_ Marker & Tack Boards
- \_\_\_\_\_ Sign and Plaques
- \_\_\_\_\_ Flagpoles
- \_\_\_\_\_ Access Flooring
- \_\_\_\_\_ Telephone Enclosures
- \_\_\_\_\_ Ladders
- \_\_\_\_\_ Others
- \_\_\_\_\_

- \_\_\_\_\_ Toilet Accessories
- \_\_\_\_\_ Toilet Partitions
- \_\_\_\_\_ Wire Partitions
- \_\_\_\_\_ Metal Walkways
- \_\_\_\_\_ X Ray Shielding
- \_\_\_\_\_ Wardrobes (Dormitory)
- \_\_\_\_\_ Chest of Drawers (Dormitory)
- \_\_\_\_\_ Storage Shelving
- \_\_\_\_\_ Fireplaces
- \_\_\_\_\_ Movable Partitions
- \_\_\_\_\_ Postal Specialties
- \_\_\_\_\_ Exterior Sun
- \_\_\_\_\_ Control Devices
- \_\_\_\_\_

**MECHANICAL SYSTEMS & EQUIPMENT**

**Plumbing**

Number of Fixtures (EA) \_\_\_\_\_

**Plumbing Fixtures**

- \_\_\_\_\_ Flush Tank WC Floor mounted
- \_\_\_\_\_ Flush Tank WC wall mounted
- \_\_\_\_\_ Flush Valve WC floor mounted
- \_\_\_\_\_ Flush Valve WC wall mounted
- \_\_\_\_\_ Water Heater Electric
- \_\_\_\_\_ Water Heater Steam
- \_\_\_\_\_ Instantaneous W.H. Elec.
- \_\_\_\_\_ Instantaneous W.H. Steam
- \_\_\_\_\_ Water Heater Gas

- \_\_\_\_\_ Tub
- \_\_\_\_\_ Shower Fiberglass
- \_\_\_\_\_ Shower/Receptor
- \_\_\_\_\_ Shower Multi-head
- \_\_\_\_\_ Emergency Shower
- \_\_\_\_\_ Emergency Eye Wash
- \_\_\_\_\_ Emergency Shower
- \_\_\_\_\_ Eye Wash

**Piping**

- \_\_\_\_\_ Copper Pipe
- \_\_\_\_\_ PVC Pipe
- \_\_\_\_\_ Acid Resistant Pipe
- \_\_\_\_\_ Cast Iron Piping
- \_\_\_\_\_ Valves, Fittings
- \_\_\_\_\_ Fixture Rough-ins
- \_\_\_\_\_ Pressure Reducer
- \_\_\_\_\_ Arrestors

**Roof Drainage**

- \_\_\_\_\_ Gutter & Downspouts
- \_\_\_\_\_ Scupper & Downspouts
- \_\_\_\_\_ Roof Drains & Interior Piping

**Building HVAC Systems**

Heating Load - \_\_\_\_\_ MBH

Building Heating Systems

- \_\_\_\_\_ Boiler
- \_\_\_\_\_ Heat Exchanger
- \_\_\_\_\_ Other \_\_\_\_\_

**Distribution Medium**

- \_\_\_\_\_ Steam
- \_\_\_\_\_ Hot Water
- \_\_\_\_\_ Hot Air

**Fuel**

- \_\_\_\_\_ Gas
- \_\_\_\_\_ Oil
- \_\_\_\_\_ Coal
- \_\_\_\_\_ Electric
- \_\_\_\_\_ Geothermal

**Heating Equipment**

- \_\_\_\_\_ Unit Heaters
- \_\_\_\_\_ Fin Tube Radiation
- \_\_\_\_\_ Individual Units
- \_\_\_\_\_ Cabinet Unit Heaters
- \_\_\_\_\_ Computer Room CW

**Air Distribution**

- \_\_\_\_\_ Ducted Supply
- \_\_\_\_\_ Ducted Return
- \_\_\_\_\_ Dual Duct
- \_\_\_\_\_ H&V Unit
- \_\_\_\_\_ Air Handling Unit

**Mechanical Ventilation**

- \_\_\_\_\_ Power Roof Exhaust Fans
- \_\_\_\_\_ In Line Exhaust Fans
- \_\_\_\_\_ In Line Supply Fans
- \_\_\_\_\_ Power Roof Supply Fans

Cooling Load - \_\_\_\_\_ Tons

Building Cooling Systems

- \_\_\_\_\_ Heat Pump, Water Cooled
- \_\_\_\_\_ Heat Pump, Air Cooled
- \_\_\_\_\_ \_\_\_\_\_ Chiller
- \_\_\_\_\_ Direct Expansion
- \_\_\_\_\_ Reciprocating
- \_\_\_\_\_ Rotary Screw
- \_\_\_\_\_ Centrifugal
- \_\_\_\_\_ Steam Absorption
- \_\_\_\_\_ Cooling Tower
- \_\_\_\_\_ Thermal Storage
- \_\_\_\_\_ Roof Top Units
- \_\_\_\_\_ Single Zone
- \_\_\_\_\_ Multi Zone
- \_\_\_\_\_ Ventilation
- \_\_\_\_\_ Dual Temperature Water
- \_\_\_\_\_ Air Cooled Condensing Unit
- \_\_\_\_\_ Computer Room Glycol
- \_\_\_\_\_ Computer Room DX

- \_\_\_\_\_ H&V Units HW, Oil
- \_\_\_\_\_ Duct Mounted Coils
- \_\_\_\_\_ Heat Reclaim
- \_\_\_\_\_ Other \_\_\_\_\_

- \_\_\_\_\_ Fan Coil Units
- \_\_\_\_\_ VAV Fan Powered
- \_\_\_\_\_ VAV Terminal Only
- \_\_\_\_\_ VAV Reheat

Fan Capacity (CFM) \_\_\_\_\_

- \_\_\_\_\_ Fume Exhaust Hoods
- \_\_\_\_\_ Kitchen Exhaust Hoods
- \_\_\_\_\_ Kitchen Supply & Exhaust Hoods
- \_\_\_\_\_ Wall Exhaust & Fans



**Dehumidification**

\_\_\_\_\_ Desiccant  
\_\_\_\_\_ Refrigeration

\_\_\_\_\_ Regenerative  
\_\_\_\_\_ Non-Regenerative

**CENTRAL PLANT SYSTEMS**

**Heating Capacity** - \_\_\_\_\_ MBH

**Cooling Capacity** - \_\_\_\_\_ Tons

**Central Heating Plant Equipment**

\_\_\_\_\_ Chiller  
\_\_\_\_\_ Boiler  
\_\_\_\_\_ Geothermal  
\_\_\_\_\_ Purchased (Outside source)

**Central Cooling System**

\_\_\_\_\_ Direct Expansion  
\_\_\_\_\_ Reciprocating  
\_\_\_\_\_ Rotary Screw  
\_\_\_\_\_ Centrifugal  
\_\_\_\_\_ Steam Absorption  
\_\_\_\_\_ Cooling Tower  
\_\_\_\_\_ Air Cooled Condenser  
\_\_\_\_\_ Air Cooled Condensing Unit  
\_\_\_\_\_ Thermal Storage

**Distribution Medium**

\_\_\_\_\_ Steam  
\_\_\_\_\_ Hot Water  
\_\_\_\_\_ High Temperature Hot Water

**Fuel**

\_\_\_\_\_ Gas  
\_\_\_\_\_ Oil  
\_\_\_\_\_ Coal  
\_\_\_\_\_ Electric  
\_\_\_\_\_ Geothermal

**Fire Protection**

Gross Area Sprinkled (SF) \_\_\_\_\_

**Sprinkler Type**

\_\_\_\_\_ Dry  
\_\_\_\_\_ Wet  
\_\_\_\_\_ Preaction  
\_\_\_\_\_ Deluge  
\_\_\_\_\_ Foam Water Deluge  
\_\_\_\_\_ Other \_\_\_\_\_

**Classification**

\_\_\_\_\_ Light Hazard  
\_\_\_\_\_ Ordinary Hazard  
\_\_\_\_\_ Extra Hazard  
\_\_\_\_\_ Limited Area  
\_\_\_\_\_ Includes Booster Pump

**Carbon Dioxide**

\_\_\_\_\_ Hose Reel  
\_\_\_\_\_ Flooding, Area  
\_\_\_\_\_ Flooding, Total

Storage Capacity (LBS) \_\_\_\_\_

**Fire Alarm**

Gross Building Area (SF) \_\_\_\_\_

- Manual  
 Automatic Detectors  
 Mechanical & Electrical  
 Extend Existing (Mfr. \_\_\_\_\_)

**ELECTRICAL SYSTEMS****Power**

Connected Load (KW) \_\_\_\_\_

	Voltage Panelboards	Transformers
_____ 120/208	____A ____V	voltage ____ V
_____ 277/480/120/208	____A ____V	Rating ____ KVA
_____ 277/480	____A ____V	
_____ 120/240	____A ____V	
_____ Alteration to Existing	____A ____V	
_____ Explosion Proof	____A ____V	
	____A ____V	

**Lighting**

Gross Building Area (SF) \_\_\_\_\_

- Incandescent  
 Fluorescent  
 High Ind Discharge w/Battery Operated Emergency  
 High Ind Discharge (HID) High Bay  
 High Ind Discharge (HID) Low Bay  
 Explosion Proof @  
 Special System

**Special Electrical Systems**

Gross Building Area (SF) \_\_\_\_\_

- Uninterruptable Power Supply (UPS)  
 Static/Battery  
 Motor Generator Set

**Electrical Generators**

Equipment Capacity (KW) \_\_\_\_\_

_____ Intermittent	_____ 120/240V, 1 PH, 60HZ	_____ 600 RPM
_____ Continuous	_____ 120/208V, 3PH, 60HZ	_____ 720 RPM
_____ Cogeneration	_____ 277/240V, 3PH, 60HZ	_____ 900 RPM
_____ Fire Pumps	_____ 347/600V, 3PH, 60HZ	_____ 1200 RPM
_____ Gas	_____ 4160V/2400V, 3PM, 60HZ	_____ 1800 RPM
_____ Diesel	_____ 11.5/6.5KV, 3PH, 60HZ	
_____ Turbine		
_____ Integral Radiators		
_____ Remote Radiators		

**Special Electrical Protection**

Gross Building Area (SF) \_\_\_\_\_

- \_\_\_\_\_ Lighting Protection
- \_\_\_\_\_ Lighting Grounding
- \_\_\_\_\_ Electronic Grounding
- \_\_\_\_\_ Distribution Grounding
- \_\_\_\_\_ Other \_\_\_\_\_

**Energy Monitoring & Control System(ECMS)**

- \_\_\_\_\_ Local Control
- \_\_\_\_\_ Remote Control
- \_\_\_\_\_ Building Only
- \_\_\_\_\_ Tie to Central System

**Security Detection**

- \_\_\_\_\_ Intrusion Alarm for Access Control
- \_\_\_\_\_ Access Control
- \_\_\_\_\_ TV Camera & Monitor
- \_\_\_\_\_ Conduit
- \_\_\_\_\_ Conduit & Wire

**Communications Systems**

- \_\_\_\_\_ Telephone
- \_\_\_\_\_ Agency Owned System
- \_\_\_\_\_ Conduit Only
- \_\_\_\_\_ Conduit & Wire

- \_\_\_\_\_ Public Announcement
- \_\_\_\_\_ Agency Owned System
- \_\_\_\_\_ Conduit Only
- \_\_\_\_\_ Conduit & Wire

- \_\_\_\_\_ Television
- \_\_\_\_\_ Agency Owned System
- \_\_\_\_\_ Leased Cable System
- \_\_\_\_\_ Conduit Only
- \_\_\_\_\_ Conduit & Wire

- \_\_\_\_\_ Intercom
- \_\_\_\_\_ Theater Sound
- \_\_\_\_\_ Two-way communication listening
- \_\_\_\_\_ Special System (Describe)
- \_\_\_\_\_ Includes PA Systems
- \_\_\_\_\_ Conduit
- \_\_\_\_\_ Conduit & Wire
- \_\_\_\_\_ Leased System
- \_\_\_\_\_ Agency Owned System

- \_\_\_\_\_ Fire Alarm
- \_\_\_\_\_ Local
- \_\_\_\_\_ To Fire Station
- \_\_\_\_\_ Conduit Only
- \_\_\_\_\_ Conduit & Wire

**Special Systems and Equipment**

Gross Building Area (SF) \_\_\_\_\_

- \_\_\_\_\_ Vacuum, Medical
- \_\_\_\_\_ Oxygen
- \_\_\_\_\_ Low Pressure below 150 psi
- \_\_\_\_\_ High Pressure above 150 psi

- \_\_\_\_\_ Vacuum, Industrial
- \_\_\_\_\_ Nitrogen
- \_\_\_\_\_ Compressed Air

**Interior Steam System**

- \_\_\_\_\_ High Pressure
- \_\_\_\_\_ Medium Pressure
- \_\_\_\_\_ Low Pressure
- \_\_\_\_\_ Chemical Treatments
- \_\_\_\_\_ Feed Water Equipment
- \_\_\_\_\_ With Condensate Return
- \_\_\_\_\_ Without Condensate Return

- \_\_\_\_\_ Gas Fired Boiler
- \_\_\_\_\_ Oil Fired Boiler
- \_\_\_\_\_ Electric Fired Boiler
- \_\_\_\_\_ Prefabricated Stack
- \_\_\_\_\_ Fire Tube
- \_\_\_\_\_ Water Tube
- \_\_\_\_\_ Controls
- \_\_\_\_\_ Fuel Oil Storage

**Other**

- \_\_\_\_\_ Dust Collection
- \_\_\_\_\_ Engine Exhaust, overhead
- \_\_\_\_\_ Engine Exhaust, under floor
- \_\_\_\_\_ Engine Exhaust, through door

**CONVEYING EQUIPMENT**

**Bridge Cranes**

- |                      |                          |                     |
|----------------------|--------------------------|---------------------|
| _____ Span under 50' | _____ Capacity under 10T | _____ Run under 50' |
| _____ Span 51'-75'   | _____ Capacity 10-20T    | _____ Run 50-100'   |
| _____ Span over 75'  | _____ Capacity 20-40T    | _____ Run over 100' |
|                      | _____ Capacity over 40T  |                     |

**Monorails**

- |                    |                         |                      |
|--------------------|-------------------------|----------------------|
| _____ Manual       | _____ Capacity under 5T | _____ Run under 50'  |
| _____ Electric     | _____ Capacity 5- 10T   | _____ Run 50 to 100' |
| _____ Air Operated | _____ Capacity over 10T | _____ Run over 100'  |

**Fixed Hoist**

- \_\_\_\_\_ Manual
- \_\_\_\_\_ Electric
- \_\_\_\_\_ Air Operated

**Vehicle Lifts**

- \_\_\_\_\_ Capacity under 5T
- \_\_\_\_\_ Capacity 5-10T
- \_\_\_\_\_ Capacity over 10T

**Elevators**

Number of Stops (EA) \_\_\_\_\_

- |                   |                       |
|-------------------|-----------------------|
| _____ Electric    | _____ Passenger       |
| _____ Hydraulic   | _____ Freight         |
| _____ Escalators  | _____ Chair Lift(H/C) |
| _____ Conveyors   | _____ Wheelchair Lift |
| _____ Dumbwaiters |                       |

**BUILT-IN EQUIPMENT**

Gross Building Area (SF) \_\_\_\_\_

- \_\_\_\_\_ Hospital Equipment
- \_\_\_\_\_ Dental Equipment
- \_\_\_\_\_ Food Service Equipment
- \_\_\_\_\_ Chapel Equipment
- \_\_\_\_\_ Movie neater Equipment
- \_\_\_\_\_ Rifle Range Equipment
- \_\_\_\_\_ Laboratory Equipment
- \_\_\_\_\_ Waste Disposal Equipment
- \_\_\_\_\_ Paint Spray Booth
- \_\_\_\_\_ Special Warehouse Equipment
- \_\_\_\_\_ Snow Melting Equipment
- \_\_\_\_\_ Exercise/Fitness Equipment
- \_\_\_\_\_ Athletic / Sports Equipment
- \_\_\_\_\_ Maintenance Shop Equipment
- \_\_\_\_\_ Vault
- \_\_\_\_\_ Parking Lot Control
- \_\_\_\_\_ Turnstiles / Personnel Access

Other Built-In Equipment (list):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DEMOLITION INTERIOR**

Gross Building Area (SF) \_\_\_\_\_

**Interior Demolition**

- \_\_\_\_\_ Complete Interior of Bldg.
- \_\_\_\_\_ Complete Interior Partition
- \_\_\_\_\_ Complete Interior Finishes
- \_\_\_\_\_ Complete Interior Mechanical
- \_\_\_\_\_ Complete Interior Electrical
- \_\_\_\_\_ Other \_\_\_\_\_

**Asbestos Removal**

Total Cost (Lump Sum) \_\_\_\_\_

- \_\_\_\_\_ Asbestos Removal Roofing Felts, Insulation
- \_\_\_\_\_ Asbestos Removal - Piping, Equip
- \_\_\_\_\_ Asbestos Removal - Ceilings
- \_\_\_\_\_ Asbestos Removal - Fireproofing
- \_\_\_\_\_ Asbestos Removal - Floors

**Lead Based Paint Removal**

Total Cost (Lump Sum) \_\_\_\_\_

- \_\_\_\_\_ Bulk Removal (Material with lead-based paint still on it)
- \_\_\_\_\_ Surface Removal / Abatement

**SITWORK SITE UTILITIES AND IMPROVEMENT DESCRIPTIONS**

**Exterior Electrical**

Length of Run (LF) \_\_\_\_\_

- \_\_\_\_\_ Electrical Distribution, Primary \_\_\_\_\_ KV
- \_\_\_\_\_ Agency Owned
- \_\_\_\_\_ Utility Co \_\_\_\_\_
- \_\_\_\_\_ Electrical Distribution, Secondary \_\_\_\_\_ V \_\_\_\_\_ PH
- \_\_\_\_\_ Substation/Transformer \_\_\_\_\_ KVA rating

**Exterior Communication**

Length of Run (LF) \_\_\_\_\_

- \_\_\_\_\_ Fire Alarm Distribution
- \_\_\_\_\_ Security Alarm Distribution
- \_\_\_\_\_ Communication, Telephone Distribution
- \_\_\_\_\_ Exterior EMCS Distribution
- \_\_\_\_\_ Other \_\_\_\_\_

**Area Lighting**

Number of Fixtures (EA) \_\_\_\_\_

- Poles with Lights: \_\_\_\_\_
- Foot Candles Required \_\_\_\_\_
- Pole Type \_\_\_\_\_ Type Fixture \_\_\_\_\_ Mounting Height \_\_\_\_\_
- Building Mounted: \_\_\_\_\_
- Foot Candles Required \_\_\_\_\_
- Type Fixture \_\_\_\_\_ Mounting Height \_\_\_\_\_

**Lighting Protection**

- \_\_\_\_\_ Building
- \_\_\_\_\_ Electrical Systems

**EXTERIOR MECHANICAL DISTRIBUTION**

Length of Run (LF) \_\_\_\_\_

- \_\_\_\_\_ Heat Distribution, Overhead
- \_\_\_\_\_ Heat Distribution, Underground Encased
- \_\_\_\_\_ Heat Distribution, Underground Trenches
- \_\_\_\_\_ Chilled Water Distribution
- \_\_\_\_\_ Condensate Collection
- \_\_\_\_\_ Gas Distribution
- \_\_\_\_\_ Compressed Air Distribution

**EXTERIOR WATER DISTRIBUTION**

Length of Run (LF) \_\_\_\_\_

- \_\_\_\_\_ Water Distribution Piping
- \_\_\_\_\_ Fire Protection Water Distribution
- \_\_\_\_\_ Fire Hydrants
- \_\_\_\_\_ Water Pumping Station
- \_\_\_\_\_ Fire Booster Pump

**EXTERIOR SANITARY SEWER COLLECTION**

Length of Run (LF) \_\_\_\_\_

- \_\_\_\_\_ Sanitary Sewer Piping
- \_\_\_\_\_ Manholes
- \_\_\_\_\_ Sewage Pump Station
- \_\_\_\_\_ Sewage Lift Station
- \_\_\_\_\_ Domestic Sewage Treatment

**EXTERIOR STORMWATER SYSTEM**

Length of Run (LF) \_\_\_\_\_

- \_\_\_\_\_ Storm Drainage Piping
- \_\_\_\_\_ Box and Arch Culvert
- \_\_\_\_\_ Drainage Facing Materials
- \_\_\_\_\_ Retention Pond, Wet
- \_\_\_\_\_ Detention Pond, Dry
- \_\_\_\_\_ Underground Structure Detention
- \_\_\_\_\_ Median Detention

**EARTHWORK**

Volume, Curb Fill (Cu. Yd) \_\_\_\_\_

- \_\_\_\_\_ Site Clearing
- \_\_\_\_\_ Site Grading & Excavation
- \_\_\_\_\_ Site Irrigation
- \_\_\_\_\_ Site Dewatering (major)
- \_\_\_\_\_ Replacement of Unsuitable Materials & Compaction
- \_\_\_\_\_ Erosion Control
- \_\_\_\_\_ Environmental Protection

**LANDSCAPING**

Area Planted (SY) \_\_\_\_\_

- |                                |                                     |
|--------------------------------|-------------------------------------|
| _____ In Construction Contract | _____ By Owner or Separate Contract |
| _____ Fine Grading             |                                     |
| _____ Fertilizing              |                                     |
| _____ Topsoil                  |                                     |
| _____ Seeding                  |                                     |
| _____ Sodding                  |                                     |
| _____ Trees, Shrubs, Other     |                                     |
| _____ Plantings                |                                     |

**SITE IMPROVEMENTS**

Area Developed (SY) \_\_\_\_\_

- |                        |                                    |
|------------------------|------------------------------------|
| _____ Retaining Walls  | _____ Pedestrian Bridge - Open     |
| _____ Signs            | _____ Pedestrian Bridge - Enclosed |
| _____ Site Furnishings | _____ Pedestrian Tunnel            |
| _____ Flagpole & Misc. | _____ Steps/Ramps                  |
| _____ Concrete Walks   | _____ Bituminous Walks             |
| _____ Gravel Paths     | _____ Special Walks                |
| _____ Wells (Water)    | _____ Other _____                  |

**ROADS - PAVED**

Paved Area (SY) \_\_\_\_\_

- |                        |                                   |
|------------------------|-----------------------------------|
| _____ Concrete Roads   | _____ Flexible (Bituminous) Roads |
| _____ Overlay Roads    | _____ Surface Treatment Roads     |
| _____ Slurry Seal Road | _____ Other _____                 |

**PARKING**

Paved Area (SY) \_\_\_\_\_

- |                           |                                   |
|---------------------------|-----------------------------------|
| _____ Concrete Parking    | _____ Bituminous Parking          |
| _____ Overlay - Parking   | _____ Surface Treatment - Parking |
| _____ Slurry Seal Parking | _____ Graveled Parking Lot        |



**FENCING**

Length of Fencing (LF) \_\_\_\_\_

- \_\_\_\_\_ Selected Areas
- \_\_\_\_\_ Pedestrian Gates
- \_\_\_\_\_ Alarms

- \_\_\_\_\_ Entire Perimeter
- \_\_\_\_\_ Vehicular Gates
- \_\_\_\_\_ Other \_\_\_\_\_

**POLLUTION ABATEMENT STRUCTURES**

- Water Treatment
- Industrial Waste Treatment
- Electro-Static Precipitator
- # Fields

- Domestic Sewage Treatment
- Oil Water Separators
- Other: \_\_\_\_\_

Single Stage \_\_\_\_\_ Two Stage \_\_\_\_\_

**RECREATION EQUIPMENT/FIELDS**

Lump Sum (EA) \_\_\_\_\_

- \_\_\_\_\_ Playground Equipment
- \_\_\_\_\_ Tennis / Basketball Courts
- \_\_\_\_\_ Football/Soccer/Lacrosse Fields
- \_\_\_\_\_ Other \_\_\_\_\_

- \_\_\_\_\_ Grandstands, Bleachers
- \_\_\_\_\_ Softball/Baseball Fields
- \_\_\_\_\_ Concession / Restroom Bldg
- \_\_\_\_\_ Other \_\_\_\_\_

**SUPPORTING STRUCTURES**

Lump Sum (EA) \_\_\_\_\_

(Separate from building above)

- \_\_\_\_\_ Central Heating Plant
- \_\_\_\_\_ Central Cooling Plant
- \_\_\_\_\_ Mechanical Equipment Building
- \_\_\_\_\_ Vehicle Wash Platform
- \_\_\_\_\_ Other \_\_\_\_\_

- \_\_\_\_\_ Electrical Equipment Building
- \_\_\_\_\_ Guard House / Security Gate
- \_\_\_\_\_ Other \_\_\_\_\_

**SPECIAL BUILDING FOUNDATIONS**

Length (LF) \_\_\_\_\_

**Piling**

<u>Type</u>	<u>Length of Piling</u>	<u>Capacity (design)</u>
_____ Timber	_____ Under 25'	_____ 15 tons
_____ Concrete, Precast	_____ 26'-35'	_____ 20 tons
_____ Concrete, Pressure Inject	_____ 36'-45'	_____ 25 tons
_____ Steel H Piles	_____ 46'-55'	_____ 30 tons
_____ Steel Sheet Piling	_____ 56'-65'	_____ 35 tons
_____ Other _____	_____ 66'-95'	_____ 40 tons
	_____ Over 95'	_____ _____ tons

**Caissons (Drilled and Cast-in-place)**

- \_\_\_\_\_ 24" Diameter
- \_\_\_\_\_ 36" Diameter
- \_\_\_\_\_ 48" Diameter
- \_\_\_\_\_ 60" Diameter
- \_\_\_\_\_ Plain Bottom
- \_\_\_\_\_ Belled Bottom
- \_\_\_\_\_ ft Nominal Depth

**Underpinning of Existing Structures**

Lump Sum Amount (LS) \_\_\_\_\_

**SITE DEMOLITION**

Lump Sum (LS) \_\_\_\_\_

- \_\_\_\_\_ Remove Utilities
- \_\_\_\_\_ Remove Paving and Slabs
- \_\_\_\_\_ Remove Structures
- \_\_\_\_\_ Remove/Dispose of Asbestos (Exterior)
- \_\_\_\_\_ Remove/Dispose of P.C.B.
- \_\_\_\_\_ Remove/Dispose of Contaminated Earth

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**CRITICAL DESIGN ELEMENTS CHECKLIST  
AND SUBMITTAL REQUIREMENTS**

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The following are offered to clarify The College of William and Mary's expectations regarding the A/E's services required by the Design and Construction Manual (DCM). They are explanations offered for the benefit, information and assistance of the A/E. None of the items listed below are additional or extra services, but are included in the A/E's Basic Services as set forth in the DCM and the A/E Contract.

ITEM	ELEMENT	SD	PD	WD	RWD
1	Drawings	X	X	X	X
2	Basis of Design Narrative	X	X		
3	Project Manual			X	X
4	Verification of Existing Conditions	X			
5	Cost Estimate	X	X	X	X
6	Project Schedule	X	X	X	X
7	Program Space Spread Sheet	X	X	X	X
8	Geotechnical Design Summary Report		X		
9	Environmental Impact Report		X		
10	Fire Safety Summary & Supporting Material		X	X	X
11	Building Systems and Equipment Checklist		X	X	X
12	Submittal, Testing, & Commissioning Checklist		X	X	X
13	Calculations and Submittals - Mechanical				

ITEM	ELEMENT	SD	PD	WD	RWD
13A	- Heating/Cooling load calculations – U value calculations		X	X	X
13B	- Air balance calculations			X	X
13C	- Water balance calculations			X	X
13D	- Duct static pressure calculations			X	X
13E	- Pump head calculations			X	X
13F	- Life Cycle Cost Analysis incl. Worksheets for each fuel studied (DCM Appendix I)			X	
13G	- Catalog cuts of major items of equipment			X	X
13H	- Coil selection calculations for each major piece of equipment			X	X
13I	- Combination ratings and calculations for each heat pump			X	X
13J	- Energy balance calculations (air and water) for each piece of equipment scheduled			X	X
13K	- Combustion air calculations			X	X
13L	- Control diagrams and Sequence of operation for each piece of equipment			X	X
13M	- Equipment support details (include methodology of maintaining fire rating integrity of existing structures as applicable)			X	X
<b>14</b>	<b>Calculations – Electrical</b>				
14A	- Show lighting levels in foot candles for various areas		X	X	X
14B	- Short circuit calculations		X	X	X
14C	- Voltage drop calculations		X	X	X
14D	- Lighting calculations with an appropriate demand factor applied		X	X	X
14E	- Convenience outlet load calculations with an appropriate demand factor applied		X	X	X
14F	- Voltage drop calculations		X	X	X
14G	- Power load calculations for building equipment (HVAC, etc.) with an appropriate demand factor applied		X	X	X
14H	- Show technique used for consideration of harmonic distortion			X	X
14I	- List in kw of total electrical load, three-phase load, motor load & largest motor in hp			X	X
14J	- Provide control diagrams, panel board schedules, riser diagrams, & lighting fixture schedule			X	X
<b>15</b>	<b>Calculations – Plumbing</b>				
15A	- Water heater calculations			X	X
15B	- Plumbing fixture calculations (supply and drainage)			X	X
15C	- Storm water calculations			X	X
15D	- Emergency storm water calculations			X	X
15E	- Natural gas distribution calculations			X	X
15F	- Fire protection hydraulic calculations			X	X
15G	- Storm water treatment system, e.g., oil/water		X	X	X
15H	- Catalog cuts of valves, meters			X	X
<b>16</b>	<b>Calculations – Structural</b>				
16A	- Life Cycle Cost Analysis including Worksheets comparing precast to cast in place where applicable	X			
16B	- Live loads, wind loads, seismic criteria used for structural design	X	X	X	X
16C	- Design bearing/support capacity for foundation system		X	X	X
16D	- Critical members		X	X	X

ITEM	ELEMENT	SD	PD	WD	RWD
16E	- Durability measures including sealing construction, control and isolation joints		X	X	X
16F	- List of structural and special inspections required			X	X
<b>17</b>	<b>Architectural Requirements</b>				
17A	-Occupancy classifications	X	X	X	X
17B	-Occupant loads	X	X	X	X
17C	-Construction type, including fire ratings of elements	X	X	X	X
17D	-Floor area computations	X	X	X	X
17E	-Thermal insulation and energy-saving features, including “U” factors		X	X	X
17F	Interior Finishes (coordinate maintenance requirements, i.e., paint)		X	X	X
17G	Exterior Finishes		X	X	X
17H	Design Checklist for Crime Prevention including security plan		X		
<b>18</b>	<b>Specialties</b>				
18A	- Hardware & Keying Plan		X	X	X
18B	- Toilet Accessories		X	X	X
18C	- Signage		X	X	X
18D	- Instructional Audio/Visual Equipment		X	X	X
<b>19</b>	<b>Conveying Systems</b>				
19A	-Elevators, including type, cab size and control type		X	X	X
19B	-Dumbwaiters, escalators, chair and platform lifts		X	X	X
<b>20</b>	<b>Telecommunications Requirements</b>				
20A	- Telephone and data		X	X	X
20B	- Paging and Intercom		X	X	X
20C	- CATV and CCTV		X	X	X
<b>21</b>	<b>Civil Requirements</b>				
21A	Stormwater Management Plan			X	X
21B	Erosion and Sedimentation Control Plan			X	X
21C	Utility Availability (water, sewer, gas, electric)		X	X	X
21D	On-Site Utilities (storm sewer, electric, site lighting)			X	X
21E	Water Supply (fire demand, hydrant flow, line loss)		X	X	X
21F	Service Area Accessibility and Operation (delivery, refuse collect.)	X	X	X	X
21G	Design Checklist for Crime Prevention, including security plan	X	X	X	X
21H	Staging Plan & Coordination Requirements			X	X
21I	Site Improvements (building footprint, roads, walks)	X	X	X	X
21J	Accessible Routes (parking, walks)			X	X
22	Startup and Acceptance Testing Plan			X	X
23	Approvals List (Shop drawings, samples, certificates, catalog cuts, source of supply, etc.)			X	X

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**APPENDIX E  
COST ESTIMATES**

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Appendix E to be written.



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## APPENDIX F

### CHECK LIST FOR RECEIVING AND OPENING BIDS

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The College shall assure that the person receiving bids, called the Bid Officer, is thoroughly trained/knowledgeable in the proper procedure for receiving and documenting bids.

#### PROCEDURES FOR RECEIVING BIDS

- (1) On the morning bids are due, check the time on the clock, the date/time stamp, and the FAX machine in the bid receipt area to assure the times are coordinated and correct. Assure the clock visible to bidders in the bid receipt area shows the correct time.
- (2) When bids or modifications are delivered on the bid receiving office, the bids shall be date stamped and the time noted or stamped on the envelope showing the time of receipt.
- (3) The bid receipt deadline must strictly comply with the specific time called for in the Invitation for Bids. It is suggested that the Bid Officer give a warning that the Bid Receipt Deadline is near such as **“The time is now 1:55 and all bids must be received by 2:00 p.m.”**

The Bid Officer shall be responsible for deciding when the Bid Receipt Deadline has arrived and shall announce **“The 2 PM Deadline has arrived. All bids and bid modifications in our possession at this time are deemed to be timely. No further bids or bid modifications will be accepted.”**

- (4) When multiple bids are delivered just prior to the bid receipt deadline, the Bid Officer shall accept the bids up to the deadline without taking time to note the time on each bid. After announcing that the deadline has arrived, the Bid Officer or assistant should note on those bids which were timely but not stamped that the bids were received prior to the 2:00 pm deadline.
- (5) If a bidder wishes to change the amount of his bid, such change must be received by telegram, facsimile, letter or written on the outside of the bid envelope before the time set for receipt of bids. Methods for modifying the bids are further described in the Instructions to Bidders, HECO-7A.
- (6) The bids, including any modifications, shall be kept in a locked security container by the Bid Opening Designee.

#### PROCEDURES FOR OPENING BIDS

- (1) Once the Agency Bid Opening Designee determines that the bid opening hour has arrived, a **statement should be made as to the number of bids received.** It is prudent to inquire whether any bidder has any question about the pending opening. After receiving either a negative reply or after answering questions, proceed to open the bids in alphabetical order. **Do not open work papers!**
- (2) Paragraph 4 of the Instructions to Bidders requires the Contractor to place its Contractor License Class and License Number on the envelope and on the bid documents. Para. 4(c) of the CO-7a gives instructions for action if not shown.

- (3) Prior to revealing any of the information in the bid, the Bid Opening Designee must verify that
- the Bid Bond or Certified Check in the amount of 5% is attached where required and
  - that the Form of Proposal is signed by the bidder and
  - Bidder information complies with item 4(b) and (c) of the Instructions to Bidders.
- Only then shall the other bid information be revealed. If the Bid Bond or Certified Check is not included or if the Bid is not signed, the bid shall not be read or considered.
- (4) If a modification to the bid has been received, check it to assure that it has been signed by one of the persons listed on the Bid Form as authorized to make such modifications. If the modification was not inside the envelope or written on the outside of the envelope, check the time received to assure that it was before the deadline.
- (5) After Opening the Bid envelope and checking for the information above, state the following items and record on the bid tabulation form:
- a. Bidder / Contractor's Name
  - b. Virginia Registration No.
  - c. Work papers were \_\_\_\_\_ were not \_\_\_\_\_ submitted.
  - d. Receipt of Addenda 1 thru \_\_\_\_\_ are acknowledged.
  - e. Bid Bond or Certified Check is \_\_\_\_\_ is not \_\_\_\_\_ included.
  - f. Bid Form is signed.

**THEN**

**g. Read Bid Information**

- Any proper Bid Modification received,
  - Part A. Building Base Bid Amount,
  - Part B – Sitework Base Bid Amount,
  - Any other Parts of the Base Bid,
  - The TOTAL BASE BID AMOUNT, and
  - Then any Additive Bid Item Amounts in order.
  - (days for completion if Bidder was allowed to state such on the Bid Form)
- h. Any **qualification** to the requested information on the Bid Form shall be noted as the bid is read.

**AFTER BID OPENING IS COMPLETE**

- a. Keep all bids, work papers, etc. until **2 hours** after bid opening to allow the Bidders to state he made a mistake. **Do not open Work Papers unless low bidder claims an error!**
- b. After two hours, return all Bid Bonds, checks, etc., to all but 3-lowest bidders. Work papers can be returned to all.
- c. Keep bids and bid bonds or checks from 3-lowest bidders until Contract is signed.
- d. Contract Department of Professional and Occupational Regulation, Contractor's Section, and verify Contractor Class and Registration No. of the 3 lowest bidders (and listed subcontractors, if any).



- e. Prepare an official tabulation of bids indicating:
- Name and Project Code of project as on the specifications
  - Time and date of bid receipt and opening
  - Exact Name, address, telephone & FAX numbers of Bidders
  - Bidder's Virginia Registration Number (non-requirement statement).
  - All amounts bid for Base Bid(s), Parts, the Total Base Bid Amount, any Bid Modification and Additive Bid Items.
  - Completion time stated if Bidder was given the option.
  - Acknowledgement of receipt of all addenda and number of addenda issued.
  - Whether or not sealed work papers were submitted.
  - Name of College's Bid Opening Designee.



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## APPENDIX G

# ROOF INSPECTION FORMS AND PROCEDURES

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### 1. The Roof Inspector

The minimum qualifications below serve as criteria for the College if selecting an outside, full-time roofing inspector:

- A. The Inspector should have a thorough knowledge of roofing details, flashing, and systems employing single-ply, built-up, metal, shingle, slate, or other membranes as the main weatherproof barrier.
- B. The Inspector should have attended at least three formal schools / seminars (for example: AIA, BURSI, RCI, CSI, NRCA or RIEI seminars) providing no less than a total of four (4) continuing education units, have a registered roof observer registration from RCI (or a Quality Assurance Observer Certificate from RIEI for the roof system to be observed) or have equivalent training as approved by the College.
- C. He should be thoroughly familiar with the latest edition of the NRCA Roofing and Waterproofing Manual.
- D. The Inspector should have a minimum of five years of full-time, practical roofing experience or approved equivalent experience.
- E. He should identify, in writing, at least three projects where he has been the full-time roofing inspector. He should provide names, addresses, and telephone numbers of roof owners and Architects / Engineers for the roof projects.
- F. He should be trained and competent in the services he is providing.
- G. Roof Inspector's Scope of Work:
  - (1) The Inspector shall monitor the work continuously during installation of the roof.
  - (2) He shall monitor the work for compliance with the contract documents and the State's Roofing Policy of Chapter 7 of this Manual.
  - (3) He shall immediately report any deviations from the contract documents, the College's Policy, or good roofing practice to the Architect and College. A written report shall follow an oral report.
  - (4) The Inspector may recommend suspension of work or rejection of non-complying work to the A/E and College.
  - (5) He shall not:
    - (a) Allow roofing materials to be installed until the manufacturer's certification that the roofing materials comply with specified ASTM or other approved standards are received. He shall notify the College so that appropriate action can be taken.
    - (b) Authorize deviations from the contract documents.
    - (c) Enter the area of responsibility of the Contractor's superintendent.

- (d) Issue orders on any aspect of construction means, methods, techniques, sequences, procedures, or safety in connection with the work.
- (6) The Inspector shall keep a daily log (refer to the form at end of this appendix) for each project and shall give a copy of the log to the roofing contractor. The Inspector shall record all pertinent information such as weather, daily progress, workmen on the job, material storage, deck condition, bitumen temperature, installation procedures, quality of workmanship, job-related visitors, and so forth.

## **2. The Roof Consultant**

The Consultant should have the following qualifications:

- A. Roof consulting and testing services should be the Consultant's full-time occupation.
- B. He should have a minimum of five years of field experience in providing the service.
- C. He should have completed at least three service contracts in the recent past. Work for each of the completed contracts should be roughly equivalent in size and complexity to the proposed work.
- D. He should be required to submit three complete surveys of roofs that were repaired, recovered, or replaced; names, addresses and telephone numbers of roof owners; and Architects or Engineers responsible for preparing the drawings and specifications.
- E. He should have attended at least three formal roofing schools / seminars (RIEI, BURSI, RCI, NRCA, AIA, CSI Seminars, for example). The seminars should be the type that gives CEU (Continuing Education Unit) credits. A minimum total of four (4) CEU credits should have been received.
- F. He should be trained, experienced and competent in performing required services.
- G. If testing is required, he shall be appropriately trained, certified, licensed in the testing procedures (infrared, nuclear, electrical capacitance surveys; core sampling; ASTM procedures; gravimetric analysis; and so forth) required for the service.
- H. He should submit resumes of his firm and all employees participating in the service.
- I. His resume should describe other related services and contributions, such as writing, lecturing, and serving as an expert witness that he has provided. He should list any professional qualifications or licenses.
- J. The resume form must be submitted with the roof Consultant's response to the College's request for proposal. It will be used with other requested items to evaluate the applicant.

## **3. Non-Destructive (NDE) Roofing Surveys**

A non-destructive (NDE) Survey uses infrared or nuclear and electric capacitance moisture detection equipment to locate unacceptable moisture within a roofing system. An infrared or nuclear survey may be used alone; electric capacitance is acceptable only if it issued with infrared or nuclear surveys.

An NDE survey is mandatory before a newly constructed roof may be accepted. Depending on the size and condition of an existing roof, a survey may or may not be required before an Agency may repair or replace the roof. The following outlines requirements for NDE surveys:

A. Equipment, subject to the College's approval, shall be equal to the following:

- (1) Infrared: AGA 720 system or Inframetrics 520 system
- (2) Nuclear: Seaman Troxler 3216 Roof Reader, Nuclear Model R-50 or later model
- (3) Electrical Capacitance: As approved by the College

B. Surveys

- (1) Infrared: Provide a complete survey of the roof or roofs. Outline all anomalies with spray paint. Provide a thermogram showing the outlines and daylight photographs of all anomalies. If video thermogram imaging is used, provide the College with the video tape of the survey. Roof markings, thermogram, and photographs shall be numbered so that features can be readily identified and coordinated.

Walkover surveys shall be performed in a pattern of 20'-0" maximum (20 foot maximum distance between walk paths), however the distance between walk paths shall not exceed the sensitivity of the instrument being used. Instrument sensitivity shall permit recognition of areas of wet insulation as small as 6 inches on a side. Surveys, inspection procedures, reports, etc. shall be conducted in accordance with the requirements and procedures in ASTM C1153, "Standard Practice for the Location of Wet Insulation in Roofing Systems Using infrared Imaging", except of otherwise noted in this Appendix.

- (2) Nuclear: Provide a grid, comprising 5'-0" on-a-side grid unit, to completely cover the roof or roofs. Mark each grid intersection with spray paint. Take readings at the inter-sections and record them on a roof plan. Provide daylight photographs of anomalies.

C. Core Samples

Since NDE surveys are not able to measure moisture in roofs directly – nuclear equipment responds to hydrogen emissions, infrared to heat changes – core samples to measure actual moisture content must be taken from surveyed roofs and correlated with NDE readings. The samples shall be taken as follows:

- (1) One is required on roofs showing no anomalies. Additional cores are not required if the Consultant can show that moisture is not causing detected anomalies. The Consultant shall identify such anomalies and explain their cause in a written report to the College.
- (2) On all other roofs a minimum of one dry and one wet core shall be taken from each roof surveyed.
- (3) As many cores as needed should be taken to establish moisture counts and changes, but no more than five cores shall be taken from any roof.

D. Gravimetric Analysis

As soon as possible after samples are taken, cores should be sealed in air tight containers and taken to the laboratory for analysis.

- (1) Analyze samples gravimetrically to determine percent of moisture in any required core sample taken from new roofs and, unless waived for justifiable reasons, from existing roofs.
- (2) Identify all materials – surfacing, membrane (and number of plies), insulation, vapor barriers, adhesives, etc. – in the cores.

E. Moisture Conditions

The Surveyor shall correlate survey reading results with actual moisture conditions determined by core samples gravimetrically analyzed. The correlation shall be shown or tabulated on the drawings.

F. Report

The Consultant shall submit a written report explaining what the problems are, what to do about them, and what the costs are. Specifically, the report shall:

- (1) Identify and describe all anomalies.
- (2) Identify and describe any visual survey defects that may be harmful to the roof.
- (3) Give the causes for each anomaly and defect.
- (4) Recommend alternate courses of corrective action for defects and anomalies harmful to the roof.
- (5) Provide the cost for correcting the defects and anomalies.

**4. Drawings**

The consultant hired to survey roofs shall provide plans complying with the following:

A. General Requirements are:

- (1) Print size, preferably, should be 24" X 36"; but in no case larger than 36" X 46".
- (2) Minimum drawing scale is 1/8" = 1'0" for roofs or portions of roofs surveyed.
- (3) Provide one reproducible print (Mylar, etc.) and two non-reproducible prints, as a minimum, for each sheet of drawings.
- (4) A legend defining all symbols and explaining abbreviations.

B. Drawings shall show the following as a minimum:

- (1) All roofs surveyed
- (2) State identification, title, and date
- (3) An orientation north arrow and drawing scale
- (4) The area of each roof and approximate overall dimensions.
- (5) All existing features, equipment, and roof penetrations of whatever nature (such as vents, stacks, drains, hatches, skylights, screens, railings, mechanical equipment, etc.) shall be accurately indicated, identified, and drawn to scale.
- (6) All roof slopes and valleys noted with drainage arrows. If there is no slope, state that the roof is dead level.
- (7) Where flashing is carried to a vertical surface, identify the surface (roof vent, masonry parapet, etc.) and give its height from roof level.
- (8) For a visual survey, show and explain all roofing defects and anomalies. Show interior damage (to the roof system) by dotted line.
- (9) For an infrared survey, accurately delineate moisture anomalies with contour lines; for a nuclear survey, show all grid point readings and define areas having unacceptable moisture by contour lines. Show where core samples were taken. Correlate nuclear grid point readings and infrared contour changes to percent of moisture. Dimension areas recommended for removal and locate them with respect to fixed identifiable features (such as parapets).
- (10) Provide at least one detail section ( $3/4'' = 1'0''$  minimum) showing roof construction where core samples were taken; more if there are differences in construction from core to core. Identify surfacing material, membrane product, insulation type and thickness, vapor barrier if used, and deck construction.

## ROOFING FORMS

Standard DGS forms and formats are available for download from the DGS Forms Center (<http://forms.dgs.state.va.us>).

For a listing of current DGS forms applicable to the design and construction process, download Form DGS-30-000 (Capital Outlay Management Forms Available for Download from the DGS Forms Center).

The following roofing forms are available for download from the Forms Center:

<b>Form Number</b>	<b>Description</b>	<b>File Type</b>
DGS-30-328	Roofing – Installation History	Word
DGS-30-332	Roofing – Built-up Roofing Data	Word
DGS-30-336	Roofing – Metal Roofing Data	Word
DGS-30-340	Roofing – Shingle Roofing Data	Word
DGS-30-344	Roofing – Single Ply Roofing Data	Word
DGS-30-348	Roofing – Inspection Checklist	Word
DGS-30-352	Roofing – Daily Inspection Log	Word
DGS-30-356	Roofing Consultant / Inspector Resume	Word

To view / download the latest version of a form, visit the website listed above and enter the Form Number (e.g., “DGS-30-328”) in the search box on the Forms Center.

Additional instructions for viewing and downloading forms are available in the [Help Guide](#) on the DGS Forms Center.



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# APPENDIX H

## PRE-CONSTRUCTION CONFERENCE AGENDA

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### PRECONSTRUCTION CONFERENCE AGENDA

PROJECT:

Work Order No. \_\_\_\_\_

I. Introduction of Team Players

- A. College Project Manager
- B. College Construction Administration Manager
- C. A/E project manager
- D. Contractor project manager and Superintendent

II. Inspection

- A. College Inspector \_\_\_\_\_
- B. Architectural Representative \_\_\_\_\_
- C. Fire/Life Safety \_\_\_\_\_
- D. Quality Control Inspection by Contractor
- E. Other consultants

III. Correspondence and Communication

- A. Copies of all correspondence will be directed to:
- B. Correspondence Includes:
  - 1. General Correspondence (To Project Manager Only)
  - 2. Submittals
  - 3. Request for Information (RFIs)
  - 4. Change Orders

IV. Status of Contract

- A. Contract
- B. Separate College Contracts
- C. Notice to Proceed
- D. Completion Date - Damages
- E. Working Hours

V. Submittals

- A. Project Manager and Superintendent's List
- B. Schedule of Values

- C. Construction Schedule (monthly) Bar Chart, other
- D. Cash Projection Schedule
- E. List of Subcontractors. (Minority List)
- F. Shop Drawings (2 approved copies to UVA)
  - 1. Schedule of Shop Drawinga and Submittals
- G. Emergency Contact List
  - 1. Post on Job
- H. Change Orders (Per General Conditions)
- I. As-Builts

VI. Special Items

- A. Detectors (Smoke/Fire)
- B. Dust Control
- C. Noise Control
  - 1. Abusive Language
- D. Equipment/Materials Removal
- E. Asbestos
  - 1. Dump reports
  - 2. Encapsulation 0 weekends
- F. Firestopping
- G. Notify UVA Police
- H. Shutdowns
  - 5 Day notice.
- I. Project Meetings
- J. Quality and Inspection
  - 1. Site visits by A/E, consultants, inspectors and others
  - 2. Running punch list
  - 3. Quality control, testing, inspections and notices required
  - 4. Systems commissioning requirements
- K. Parking and Staging Area, Site limits, Access
- L. Safety-Security
  - 1. Identification
    - Badge and I.D.#
  - 2. Hazardous Material Safety Data Sheets

- M. Special Conditions
- N. Minority Participation
- O. Project Sign

VII. Payment Request

- A. Deadline importance
- B. By schedule of values
- C. Dual submittal to project manager and A/E
- D. Monthly Pay Meeting

VIII. Contractor Evaluation

- A. By Construction Project Manager and Inspector
- B. By Architect and/or Engineer
- C. By Project Manager

IX. Contractors Comments/Questions

X. UVA Comments/Questions

XI. Architect's Comments/Questions

Attachment: Attendance Roster



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# APPENDIX I

## PARAMETERS FOR CALCULATING LIFE CYCLE COSTS AND ENERGY ANALYSES

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### Parameter for Calculation of Life Cycle Costs and Energy Analyses

#### I. General Instruction for All Life Cycle Costs Analyses:

- a. Costs are to be computed over a 30 year period, except as noted in Paragraph II below.
- b. Costs for each alternative must be shown on the Life Cycle Cost Worksheet or an exact facsimile. Specific instructions for completing the worksheet are provided in Paragraph III below.
- c. Include appropriate backup to support the summary figures shown on the worksheet (i.e., include how the various costs were calculated and note the basis or source of cost data.)

#### II. Additional Instructions for Calculating Life Cycle Costs for Energy Analyses

##### a. Use the following periods for energy-related life cycle cost studies:

- |                                   |          |
|-----------------------------------|----------|
| 1) Building Envelope Studies:     | 30 years |
| 2) Central Heating System Plants: | 30 years |
| 3) Building HVAC Systems:         | 20 years |
| 4) Fuel Selection Studies         | 20 years |

b. Average service lives of mechanical equipment shall be based upon the Average Service Life shown in the ASHRAE Applications Handbook.

c. Indoor and outdoor design conditions shall be as stated on the Life Cycle Cost Worksheet.

d. The type of system and the energy source shall be clearly noted on the Life Cycle Cost Worksheet

e. The supporting backup shall clearly show how the various fuel/energy rates (i.e., \$/gallon, \$/kwh, etc.) and the data source for each.

#### III. Specific Instructions for Completing Worksheets:

- a. Use a new Worksheet for each alternative.
- b. Complete all general information at the top of the Worksheet.

c. Fill in Columns “a” thru “f” for each year. Use escalated costs. On the Worksheet, specify the annual escalation rate used for each cost category. In the supporting documentation, identify the source basis for the chosen escalation rates.

d. Sum Columns “a” thru “e” for each year; subtract Salvage Value (Column “f”) and place results in Column “g”.

e. Multiply the Column “g” figures by the corresponding discount factor in column “h” and replace results in column “i”.

f. Sum Column “i” and place results in the box at the bottom of the Worksheet.

### **Building Life Cycle Cost Summary Worksheet**

Standard Department of General Services (DGS) forms and formats are available for download from the DGS Forms Center (<http://forms.dgs.virginia.gov>).

To view/download the latest version of the Building Life Cycle Cost Summary (aka, Form “DGS-30-228”), visit the website listed above and enter “DGS-30-054” in the search box on the Forms Center.

Additional instructions for viewing and downloading forms are available in the Help Guide on the DGS Forms Center.

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## **APPENDIX J**

### **SAMPLES OF FORMS AND FORMATS**

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See the Contract Documents Manager, Facilities Planning, Design and Construction Department, for the following:

Supplementary Agreement for Off-site Storage of Fabricated Structural Steel

Supplementary Agreement for Off-site Storage of Precast Concrete Panels

Sample Prebid Question Format

Sample VBO Posting Data for Construction Project

Sample Hardware Specification & Schedule

Sample Submittal Register

Sample Panelboard Schedule Format

Sample Schedule of Values & Certificate for Payment (CO- 12)

Sample RFP for Project Inspection/Management Services (Nonprofessional Services)

Sample RFP for Construction Testing Services (Nonprofessional Services)

Sample General Conditions for Nonprofessional Services

Sample Special Conditions for Nonprofessional Services

Sample Demolition Note

Sample Disadvantaged Business Utilization Evaluation Criteria





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## **APPENDIX K**

# **CONSTRUCTION CHANGE ORDER PROCEDURE GUIDELINES**

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### **OVERVIEW**

The A/E shall use the following procedures in the development of change orders to any construction project. The procedures are based on requirements of Section 38 of the General Conditions.

Construction change orders may be necessary during the course of construction to deal with unforeseen construction conditions, user-directed changes, or for other reasons. All changes involving a modification to contract cost or time for completion must be documented with a Contract Change Order (HECO - 11). Procedures outlined herein will generally begin once a change in the work is identified by the College, A/E, or Contractor.

### **PROCEDURE**

In order to ensure compliance with Paragraph 38 of the General Conditions, the following Change Order procedures are recommended:

1. A. Where the College desires to modify the requirements of the Contract Documents to add, to delete from, or to alter the sequence or timing of the Work, the College will have the A/E prepare a Request for Proposal (RFP) to the Contractor describing the requested change and asking that the Contractor submit a price proposal for accomplishing said change in the Work.
- B. Where the A/E determines that a change to the Contract Documents is necessary or desired, the A/E will obtain approval from the College to prepare an RFP to the Contractor describing the requested change and asking that the Contractor submit a price proposal for accomplishing said change in the Work.
- C. Where the Contractor desires to make a substitution and/or where the Contractor desires to delete a requirement for Work described in the Contract Documents, or where the Contractor determines that the direction provided by the College or the A/E constitutes a change in the Work required by the Contract Documents, the Contractor shall prepare a price proposal for same and request that the College issue a Change Order.
- D. Where unit prices for Work were requested in the Bid Form and included in the Contract [reference General Conditions Section 38(a)(2)], the Contractor and the A/E will agree upon the actual quantity of the Work performed and multiply by the unit price included in the contract to determine the value of such Work accepted. If the value of such Work is more than or less than the value for such Work included in the Contract Price, a Change Order will be prepared by the A/E to increase/decrease the Contract Price to reflect the Work performed and accepted.
- E. Where Work or changes in the Work are to be performed under the procedures described in General Conditions Section 38(a)(3), the A/E shall prepare a Change Order describing the Work

to be performed and directing the Contractor to keep an accounting of all labor, material and associated costs of performing the Work. The Change Order shall cite General Conditions Section 38(a)(3) as the basis for determining the cost of such Work and shall identify any specific requirements or formats not specified in Section 38(a)(3) which the Contractor will be required to use. One or more subsequent Change Orders will be issued to adjust the Contract Price and/or Time and each shall cite or reference the initial Change Order authorizing such Work to be done using this method for determining price and time compensation.

2. The Contractor will send his pricing proposal for the Change Order to the A/E and College. To facilitate analysis by the College and A/E, this estimate shall be prepared using the following forms:

GC- 1, General Contractor s Estimate for Change Order

SC- 1, Subcontractor s Estimate for Change Order

SS- 1, Sub-Subcontractor s Estimate for Change Order

The general contractor and each affected subcontractor and sub-subcontractor must sign these forms. These forms are available at:

[http://forms.dgs.state.va.us/eo51/dgs\\_viewforms.asp?page=5&srch=&order=FormNum&sort=ASC&div=&bu=BCOM](http://forms.dgs.state.va.us/eo51/dgs_viewforms.asp?page=5&srch=&order=FormNum&sort=ASC&div=&bu=BCOM)

3. When a mutually agreed price has been determined, the A/E shall make his written recommendation to the College for acceptance by signing the bottom of Form GC-1. A statement as to how any differences were reconciled shall be provided by to the College by the A/E.
4. If the Change Order proposal is acceptable, the College shall have a Change Order prepared.
5. The A/E shall prepare the Change Order form (Form HECO-11) and the Change Order Justification (Form HECO-11a) accompanied by a full description of the change, including drawings if applicable, and copies of the estimate sheets used to reach the mutually agreeable price.
6. The Contractor will sign Form HECO - 11 and send to the College. All backup material must be provided with each copy of the change order.
7. **No work on any change order shall be accomplished without the approval of the Change Order.** Change Order approval authorities are described in.
8. The College will distribute approved Change Orders to the A/E and Contractor.

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**APPENDIX L  
NOT USED (RESERVED)**

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## APPENDIX M

# STRUCTURAL AND SPECIAL INSPECTIONS

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The 2003 VUSBC Chapter 1, Section 113, “Inspections,” prescribes minimum Inspections to be performed on a project and cites the 2003 International Building Code, Article 17, Section 1704, requirements for Special Inspections. These inspections have been, heretofore, provided on College projects by a combination of the College’s project inspection, the A/E and the College’s independent testing lab. Chapter 8 describes the procedures assuring that the structural, special and other associated inspections are provided for the project. The concept of the process is that:

- the A/E will determine in the design the materials, strengths, configurations, quality and standards applicable to the work and describe that information to the Contractor in drawings and specifications;
- the A/E will specify the submittals (i.e., shop drawings, manufacturer’s data, and certificates of conformance), required from the Contractor and review the submittals;
- the A/E and the Agency shall review the list of Special Inspections for the applicable code, make appropriate notations on the list and forward the marked-up list with the completed College for review and approval;
- the Contractor shall review the submittals from its subcontractors, suppliers, fabricators and vendors to assure conformance with the contract documents and assure that materials, sizes, and configurations proposed are compatible with other trades and the space provided;
- the fabricator, supplier, vendor or production plant shall secure and/or have ongoing the required testing and quality control/assurances program to meet the requirements specified and shall submit certificates of conformance to the applicable standards of practice and quality assurance;
- the A/E will perform on-site observations of erections, placements, and installations to ascertain the intent of the contract documents and shop drawings are met;
- the College’s Project Inspector/Clerk of the Work will observe day-to-day operations and report deviations/discrepancies in the materials and/or work versus contract documents and approved submittals;
- the College’s test lab will for the indicated items make on-site inspections, measurements, tests and sample collections, make applicable laboratory tests and submit copies of the reports to the College, the Contractor, the A/E, and the Project Inspector;
- the Contractor will have other tests made as specified and as necessary to assure conformance with the applicable regulations and standards of practice and workmanship;
- the A/E’s Structural Engineer shall complete the Final Report of Structural & Special Inspections,

Form HECO-13.1b, and submit to the College as soon as completed, but prior to the Substantial Completion Inspection report;

- copies of the HECO-6a, HECO-6b, and HECO-13.1b are also included for reference.

(Rev. 01/07)

**STATEMENT OF STRUCTURAL & SPECIAL INSPECTIONS**  
**(COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS)**

DATE: \_\_\_\_\_

**PROJECT TITLE:**

**PROJECT CODE:**

**ARCHITECT/ENGINEER OF RECORD:**

**STRUCTURAL ENGINEER OF RECORD:**

The following firms and/or individuals (with address and telephone number shown) are designated to perform the Structural & Special Inspections designated below. The firm/individual has the experience, qualifications, certifications and/or licenses required to perform the functions indicated.

Special Inspector (s):

Owner's Testing & Inspection Service (s):

Owner's Project Manager:

Owner's Project Inspector:

Inspection and/or Testing responsibilities are indicated on the **attached** Structural & Special Inspections Schedule, Form HECO-6b. Copies of all test data and reports shall be provided to the Architect/Engineer of Record and to the Owner's Project Manager on a timely basis. The Contractor shall be notified of all deficiencies and discrepancies in a timely manner so that corrective action can be taken.

Prepared By:

College of William and Mary Project Manager:

A/E: \_\_\_\_\_

Owner: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature) (Date)

By: \_\_\_\_\_  
(Signature) (Date)

Special Inspector:

Structural Engineer of Record:

Name: \_\_\_\_\_

Name: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature) (Date)

By: \_\_\_\_\_  
(Signature) (Date)

Code Review Team's Acceptance / Comments: (Acceptable as submitted) (Acceptable as marked)

Date: \_\_\_\_\_

By: \_\_\_\_\_  
*Code Review Team Review Engineer*



**FINAL REPORT OF STRUCTURAL & SPECIAL INSPECTIONS**

(COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS)

DATE: \_\_\_\_\_

**PROJECT TITLE:**

**PROJECT CODE:**

**ARCHITECT/ENGINEER OF RECORD:**

**STRUCTURAL ENGINEER OF RECORD:**

To the best of my information, knowledge, and belief, the structural and special inspections required for this project, and itemized in the Statement of Structural and Special inspections submitted for permit, have been completed.

The following discrepancies that were outstanding since the last interim report dated \_\_\_\_\_, have been corrected:

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Special Inspector:

Name: \_\_\_\_\_

By : \_\_\_\_\_

*(Signature)*

*(Date)*

Seal of SI



## 2003 VUSBC SPECIAL INSPECTIONS - COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS

MATERIAL/ACTIVITY	TYPE OF INSPECTION	REQ'D THIS PROJ ?	REFERENCE	INSPECTION / TEST BY			
				A/E	OWNER'S PROJ INSP	OWNER'S TEST LAB	CONTRACTOR / SUPPLIER
<b>QUALITY ASSURANCE</b>							
Seismic	Quality Assurance Plan		1705	X			submit CO-6c
Wind	Quality Assurance Plan		1706	X			submit CO-6c
<b>GENERAL</b>							
Pre-construction conference	Meeting with parties listed in the William and Mary Design Guide to discuss Special Inspection Procedures			X	X	X	X
<b>FOUNDATIONS</b>							
Soil	Compaction of Fill Materials		Specs, 1704.7			X	
Soil	Bearing at bottom of footing excavations		Specs			X	
Soil / Rock	Bottom of Caissons		1810			X	
Piles	Driving records, tip & cutoff elevations		1704.8, 1808,1809	4		X	
Piles	Load Test		Specs, 1808.2.8.3	4		X	
Reinf. Bars	Size & placement in foundations		ACI, Specs	5	X	X (Spot)	
Piers	Size & placement of Reinf. Bars		1704.9	5	X	X(Spot)	
<b>CONCRETE CONSTRUCTION</b>							
Concrete	Ready-mix Plant quality control		Specs	2			X, 1
Concrete	Mix design tests and certificates		Specs, 1704.4.1	X			X, 1
Reinf. Steel	Shop drawings of reinforcing steel		Specs	X			
Reinf. Steel	Placement of reinforcing steel		1704.4	5	X	X (Spot)	
Reinf. Steel	Welding		1704.4	2		X	X, 1
Formwork	Design, placement & shoring		1906.1		X	X (Spot)	X
Formwork	Inspection of concrete formwork, shoring and reshoring		1906, ACI 6.1 & 6.2		X	X (Spot)	X
Formwork	Removal and reshoring		1906.2				X
Concrete	Test cylinders		1704.4, 1905.6	4		X	
Concrete	Mix proportions & Mix on Delivery Tickets		1704.4		X		
Concrete	Slump test		1704.4	4	X	X	
Concrete	Placement procedures		1905.9, 1905.10	5	X	X	
Concrete	Curing temperatures & techniques		1905.11		X		
Prestressed	Prestressing procedures & forces		1704.4	2			X, 1
Prestressed	Shop drawings of prestressed units		Specs	X			

## 2003 VUSBC SPECIAL INSPECTIONS - COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS

MATERIAL/ACTIVITY	TYPE OF INSPECTION	REQ'D THIS PROJ ?	REFERENCE	INSPECTION / TEST BY		
				A/E	OWNER'S PROJ INSP	OWNER'S TEST LAB
<b>CONCRETE CONSTRUCTION (Continued)</b>						
Precast	Quality control of manufacturer		1704.2	2		X, 1
Precast	Shop drawings of precast		Specs	X		
Precast	Erection of precast		1704.4	5	X (Spot)	X
Precast	Inspection of Connections		1704.4			X
Anchors	Anchors cast in concrete		1912			X
<b>MASONRY CONSTRUCTION</b>						
Inspection Level	Indicate Level of Inspection Required (1, 2, na)		1704.5			
Quality Assurance	Indicate Level of Quality Assurance Required (1, 2, na)		1708.1			
Clay Masonry	Certificates, Tests & technical data		1704.5, 1708.1	X		3
Concrete Masonry	Certificates, Tests & technical data		1704.5, 1708.1	X		3
Reinf. Steel	Shop Drawings		Specs	X		
Reinf. Steel	Condition, Size, Location, Spacing of Reinf Steel		1704.5			X
Anchors	Manufacturer's Data		1704.5	X		3
Accessories	Manufacturer's Data		Specs	X		3
Mortar & Grout	Mix design and data		1704.5	X		
Masonry Panel	Masonry Strength		1708.1	2, 4		X
Mortar & Grout	Field samples and testing		1704.5	4		X
Foundations	Tolerance inspection		Specs		X	
Masonry	Placement of units, mortar & accessories		1704.5	5	X	
Masonry	Protection of masonry work		1704.5	5	X	
Anchorage	Placement of devices		1704.5	5	X	
Seismic	Reinforcing (Seismic Design Category "C")		1708.2, 1708.3		X	
<b>STEEL CONSTRUCTION</b>						
Fabricator	Quality control inspection of shop		1704.2	2		X, 1
Fasteners	Mfr's Certificate of Compliance		1704.3	X		3
Struct. Steel	Mfr's Certificate of Compliance		1704.3	X		3
Weld Mat'l's	Manufacturer's Certificate of Compliance		1704.3	X		3
Details	Shop drawings review		Specs	X		
Erection	Installation of High-strength Bolts		1704.3.3			X
Erection	Welding		1704.3.1, 1707.2			X
Erection	Steel Framing and Connections		1704.3.2	5	X	X (Spot)
Seismic	Structural Steel		1707.2, 1708.4	2, 5		X
Seismic	Cold-formed Framing - Connections		1707.4			X (Spot)

**2003 VUSBC SPECIAL INSPECTIONS - COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS**

MATERIAL/ACTIVITY	TYPE OF INSPECTION	REQ'D THIS PROJ ?	REFERENCE	INSPECTION / TEST BY		
				A/E	OWNER'S PROJ INSP	OWNER'S TEST LAB
<b>ADDITIONAL SEISMIC INSPECTIONS</b>						
Components	Storage Racks & Access Floors (SDC = D)		1707.5			X (Spot)
Components	Architectural Exterior Cladding (SDC = D)		1707.6			X (Spot)
Components	Mechanical & Electrical - Anchorage (SDC = C)		1707.7			X
<b>WOOD CONSTRUCTION</b>						
Fabrication	Quality control inspection of shop		1704.2	2		X, 1
Wood	Grade stamp		Specs	5	X	
Wood	Fastening per code and drawings		Specs, 1704.6	5	X	
Trusses	Shop drawings		Specs	X		
Trusses	Truss placement & fastening and anchorage		Specs, 1704.6	5	X	
Laminates	Shop drawings		Specs	X		
Laminates	Identification per shop drawings		Specs	5	X	
Plywood	Grade stamp & thickness		Specs, 1704.6.1	5	X	X
Construction	fastening of seismic force resisting system		1704.6.1, 1707.3		X	X
<b>FIREPROOFING</b>						
Spray-on	Manufacturer's data		Specs	X		3
Spray-on	Surface Conditions		1704.11.1			X
Spray-on	Application		1704.11.2			X
Spray-on	Thickness		1704.11.3			X
Spray-on	Density		1704.11.4			X
Spray-on	Bond Strength		1704.11.5			X
GW/B Fireproof	Manufacturer's data		Specs	X		3
GW/B Fireproof	Placement of materials		Specs		X	
Firewall Assy	Manufacturer's data		Specs	X		3
Firewall Assy	Placement of materials		Specs		X	
<b>EXTERIOR INSULATION and FINISH SYSTEMS (EIFS)</b>						
Materials	Manufacturer's data		Specs	X		3
Preparation	Condition of substrate		Specs	5	X	
Application	Methods, proportions & thickness of installation		Specs, 1704.12	5	X	X (Spot)

2003 VUSBC SPECIAL INSPECTIONS - COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS						
MATERIAL/ACTIVITY	TYPE OF INSPECTION	REQ'D THIS PROJ ?	REFERENCE	INSPECTION / TEST BY		
				A/E	OWNER'S PROJ INSP	OWNER'S TEST LAB CONTRACTOR / SUPPLIER
<b>SMOKE CONTROL</b>						
Ducts	Device location and air duct leakage		1704.14			X, 7
System	Pressure difference, flow measurements & detection testing		1704.14			X, 7
Controls	Activation sequence		1704.14			X, 7

Inspection Agents	Firm	Address	Telephone
1. Special Inspector			
2. Special Inspector			
3. Special Inspector			
4. Special Inspector			
5. Testing Laboratory			
6. Testing Laboratory			

## 2003 VUSBC SPECIAL INSPECTIONS - COLLEGE OF WILLIAM AND MARY OWNED BUILDINGS

### NOTES:

1. Fabricator, supplier, ready-mixed plant or other production plant shall provide certificates from an approved independent inspection, testing or quality assurance agency attesting that the plant meets at least one of the following criteria:
  - a. The plant is a certified production plant meeting the quality assurance standards of a recognized national standards organization for that product.
  - b. The plant maintains an agreement with an independent inspection or quality assurance agency to conduct periodic in-plant quality assurance inspections. The frequency of these inspections shall not be less than one every six months.
  - c. The plant has an in-shop quality assurance inspection program by an independent testing or quality assurance agency for the work/product to be provided on this project.
2. A/E shall review fabricator/supplier/producer certificates for conformance with appropriate standards of practice and quality assurance.
3. Contractor/supplier shall submit manufacturer's certificates of compliance for the materials/products.
4. Reviews records and test results for conformance with requirements.
5. Observes placement and erection of materials during jobsite visits.
6. Unless noted otherwise, the reference numbers listed refer to the 2003 VUSBC.
7. Special Inspection firm shall have expertise in fire protection engineering, mechanical engineering, and certification as an air balancer.





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## APPENDIX N

# DUTIES OF THE PROJECT INSPECTOR

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The Project Inspector must have the following minimum qualifications to perform the duties listed below:

- have education, trade related training, and experience in a design or construction related field;
- have the ability to read and understand the requirements of building Plans & Specifications;
- have some knowledge of construction means, methods and procedures;
- be knowledgeable of and have reasonably convenient access to the codes and standards referenced in the Contract Documents which stipulate the requirements for installation and workmanship on the trades involved in the Work. (e.g. ACI, SMACNA, NFiPA, NEC, VUSBC, ASHRAE, etc.)
- have an understanding of the General Conditions of the Construction Contract;
- have the ability to read and understand a construction bar chart schedule; and
- have the ability to communicate effectively orally and in writing.

The following is a detailed listing of the duties, services, functions and responsibilities of the Project Inspector. This listing supplements and expands upon the duties, functions and responsibilities generally described in Chapter 12 of the **Manual** and in Section 16 of the **General Conditions of the Construction Contract**. The Project Inspector is an employee of the College and is responsible to the College for performing the duties, observations, and services described. The Project Inspector reports to the Construction Administration Manager, if assigned, otherwise to the College Project Manager. The Project Inspector will be assigned in writing. These duties may also be assigned to the Construction Administration manager. This in no way relieves the Architect/Engineer from providing and being responsible for his contractual obligations as described in the **Manual**, the A/E contract, and the **General Conditions of the Construction Contract**.

The Project Inspector shall perform the following services unless modified by the contract for services:

- Monitor and inspect all construction materials, equipment, and supplies for compliance with the contract documents, shop drawings, and submittals.
- Inspect installation and workmanship for compliance with the approved plans, specifications, shop drawings and referenced standards. (e.g. ACI, SMACNA, NFiPA, NEC, VUSBC, ASHRAE, etc.) Verify compliance prior to cover or close-in of work.
- Monitor quality and coordination of trade contractors' Work at all times. Recommend to the College ways to alleviate identified problems. Identify all work not done in accord with the Contract Documents and report it to the College and A/E. Immediately report all discrepancies

in the Contractor's work to the Architect/Engineer and the College. Also report any **discrepancies noted in plans and specifications to the Architect/ Engineer (A/E)** for clarification or resolution. The Project Inspector shall not interpret or change approved plans and specifications.

- Keep a record or records, including a daily log of construction activity, roofing, tests, inspections, reports, photographs, and annotated drawings, in order to show the progress of and changes in the project during its construction. Keep records of the designer's and designer's representatives' site visits. Maintain these records. (See Formats in Appendix N of the **Manual**.)
- Provide full-time inspection of the roof during its application. The Inspector shall not permit the Contractor to install roofing materials without first having obtained from the A/E a copy of the manufacturer's certification confirming that roofing materials delivered for use on the project meet specified ASTM standards. During 'Roofing Operations,' the inspector shall maintain a daily written roofing report covering such items as: weather conditions, deck conditions, materials stored, and installation procedures including, bitumen temperature at kettle and point of application, etc. A copy of the daily report shall be given to the Contractor.
- Notify the A/E and College if work begins before required shop drawings, product submittals, or samples have been approved by the A/E. Receive and log samples required to be furnished at the site; notify the A/E when they are ready for examination; record the A/E's approval or other action; and maintain custody of approved samples.
- Report to the A/E and the College when in his judgment the Work being performed does not conform to the requirements of the Contract Documents or safety requirements are not being followed and, if appropriate, recommend suspension of the Work,
- Notify the College of any safety violations, OSHA visits, accident reports, and corrective actions observed. Such reports do not relieve the General Contractor of responsibility for safety under terms of the Contract for construction.
- Observe tests required by the Contract Documents. Record and report, to the A/E and College, the Contractor's test procedures and, where applicable, results of the tests.
- Observe and report on all tests performed by the Contractor and note results in daily reports.
- Report presence of and activities performed by College's Testing & Inspection agents.
- Verify invoices for on-site tests/site visits of independent testing entities, which are to be paid by the College.
- Submit to the College and the A/E a weekly report in an approved format summarizing the significant activities and occurrences at the project site. Include copies of the Daily Reports with the report. (See Formats in Appendix N of the **Manual**.)

The Inspector shall record, maintain, and submit with the Weekly Report a running record of outstanding, unresolved issues. The record shall include the issue, date of occurrence, and date of resolution. After an item is reported to be corrected, it shall be deleted from the list in the weekly Report.

- The Inspector shall report, in writing, to the College and A/E any notifications from the Contractor of dates and times that services will be disrupted.
- The Inspector shall participate in progress **and monthly pay meetings with the** College's representative, Architect, Contractor, and other designated representatives, to review the current status of Work and any action needed to keep the project within budget and on schedule. The College may assign the Inspector other duties related to these scheduled meetings.
- The Inspector shall record, maintain, and submit with the weekly report a running record of outstanding discrepancies / deficiencies noted by the Inspector. The record shall include the item, the date observed, and the date corrected. After an item is reported to be corrected, it shall be deleted from the list in the weekly report.
- The Inspector shall maintain, on site, a complete set of minutes of meetings as a "Running Record" of evolution of problems and solutions during progress of the work.
- The Inspector shall maintain current copies of the following at the job site:
  - a. current set of Contract Documents (addenda, contracts, drawings, specifications, change orders, proposed change orders, request for clarification, construction change authorizations, A/E's supplemental instructions, etc.
  - b. all correspondence and reports of site conferences
  - c. shop drawings
  - d. samples and product data
  - e. College's purchases, including material and equipment
  - f. supplementary drawings
  - g. color boards, schedules and samples
  - h. names and addresses of Contractors, Sub-contractors, and Principal Material Suppliers
  - i. Contractor's Applications For Payment
  - j. running list of discrepancies/deficiencies and dates
  - k. running list of Unresolved Issues
  - l. A/E punch lists with date of issue indicated on each
  - m. any other documents and revisions resulting from issues concerning the Contract or Work
  - n. maintenance and operating manuals and instructions when received from Contractor
- The Inspector shall review and provide a recommendation to the College on the acceptability of all proposals submitted by the Contractor for changes initiated by the College or Architect, and the acceptability of all claims for change orders initiated by the Contractor.

- The Inspector shall confirm to the College that changes required by approved change orders are incorporated in the work at a time deemed appropriate by the Contractor, and are reflected in the Contractor's progress schedule.
- The Inspector shall keep a record of all Proposal Requests from the Architect, change order proposals from the Contractor, and executed change orders from the Architect. He shall file copies with the College monthly.
- Throughout construction, the Inspector shall review the Contractor's detailed schedule and advise the College on the Contractor's progress and all other construction scheduling issues. He shall monitor the schedule, notify the College of any slippage in critical path time, make recommendations on accepting the Contractor's proposed schedule recovery plan, and maintain an annotated copy of the schedule that reflects actual progress of the work.
- The Inspector shall maintain, at the site, a copy of the project **schedule with notations**, highlighting, etc., that show work to date and any changes made in the CPM schedule. Where a schedule shows early/late start and finish dates for various activities, the Project Inspector shall note actual dates of each occurrence on a copy of the CPM listing. The Inspector shall make recommendations to the College as appropriate concerning the Contractor's conformance to the schedule and/or recovery plans.
- When the Contractor is directed to make changes based on unit costs, the Inspector shall verify accuracy of quantities of material and labor (or other units of measure) attributable to change orders. The Inspector shall verify that all change orders are complete.
- The Inspector shall observe the Contractor's Record Drawings at intervals appropriate to the state of construction and shall notify the Architect of any apparent failure by the Contractor to maintain up-to-date records.
- The Inspector shall review each certificate and application for payment and advise the Architect and College if they accurately represent progress of the work and values of each line item in the Schedule of Values. He shall verify that stated quantities of stored materials are accurate. Based on such review and verification, he shall make recommendations to the College and Architect to approve or to revise the Certificate and application for payment.
- The College may assign the Project Inspector other duties related to the project.

The Project Inspector has no authority to and shall not:

1. Authorize deviations from the Contract Documents;
2. Enter into areas of responsibility of the Contractor's superintendent;
3. Issue directions regarding construction means, methods, techniques, sequences or procedures, or safety precautions and programs in connection with the Work;
4. Authorize or suggest that the College occupy the project in whole or in part;
5. Issue a certificate for payment.

Supervisor: The Inspector shall report to the College's Project Manager or Construction Administration Manager, if assigned.

## **CHECKLIST OF PROJECT INSPECTOR**

**1. REPORTS/RECORDS (See Sample Formats for Reports)**

Photographs (progress and non-conforming work).

Daily reports (prepare and maintain standard form).

Weekly reports (prepare and maintain summary of daily report).

Monthly reports (prepare and maintain summary of weekly report).

Record drawings (review periodically).

Notify A/E and College of Contractor's failure to keep up-to-date changes.

Notice of defective or non-conforming work with resolution space at bottom of form (to GC, A/E, College).

Safety notification (to GC, A/E, College).

Understands and maintains clarification requests.

**2. MEETINGS (ATTEND, REVIEW MINUTES AND MAINTAIN COPIES)**

Pre-construction meeting.

HVAC Preinstallation meeting.

Monthly pay request.

Interim A/E inspection.

Pre-roofing conference.

Substantial Completion Inspection.

Final Inspection.

Coordination meetings.

Records College's minutes of meetings when A/E is absent.

**3. SUBMITTALS (RECEIVE, USE, KEEP TRACK OF)**

Shop drawings/Samples.

Response to notice of Non-conforming work.

Responses to Contractor's requests for clarification.

A/E field orders.

Request for proposals.

Change order.

Names, addresses, and Telephone Numbers of Contractor(s), subcontractors materialmen, College, superintendent, Architect/Engineer, consultants, special inspectors.

Special inspection reports.

Project inspector reports.

Minutes of meetings.

Operation and maintenance manuals, and instructions.

Any other documents and revisions resulting from issues concerning work.

#### **4. INSPECTIONS/QUALITY CONTROL**

Inspects all work and materials for conformance to Contract Documents, shop drawings, change orders.

Coordinates special inspections.

Judges clean-up effectiveness. If ineffective, notifies A/E and College of problems.

Verifies approved erosion & sediment control plan is on site and is being followed daily. Notifies A/E and College of deficiencies.

Verifies Contractor's disposal site has been approved.

Verifies that off site storage for Contractor materials is approved.

Verifies Contractor records proper disposal of hazardous material.

#### **5. SCHEDULING/PAYMENTS**

Assists A/E to verify accuracy of CO- 12 quantities.

Compares work progress to scheduling.

Notifies A/E and College of Contractor's failure to comply with schedule.

Verifies Contractor time and materials for change orders and unit prices.

Advises College and A/E if separate Contracts are being executed.

**6. PROJECT CLOSE OUT**

Verifies readiness for substantial completion inspection.

Verifies readiness for final inspection.

Turns over complete and organized submittals, reports, records to College.

Provides list of unresolved issues.

Reports status of separate contracts at substantial completion inspection.

Coordinates Contractor's training of College's forces.

Receives and keeps track of punch list.





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## **APPENDIX O PROJECT TYPES**

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Project types to be written.



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**APPENDIX P**  
**BUILDING PERMIT/PROJECT PERMIT POLICY**

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The Building Permit Policy for College Buildings and Structures is contained in the College Building Official's letter of February 14, 2007, Building Permits/Project Permits (attached).



**Interdepartmental Communications**

**Department of Facilities Management**

To: Vice Presidents, Deans, Department Heads, Facilities Coordinators, & Selected Administrative Personnel

From: Robert P. Dillman, P.E., College Building Official 

Date: February 14, 2007

Subject: **Building Permits/Project Permits**

One of the most significant features of the Charter legislation (the Restructured Higher Education Financial and Administrative Operations Act of 2005) is the delegation of Building Official authority to the College. While the College has always designed and built our facilities to meet required building codes, review of those design documents to ensure building code compliance has been performed by the Commonwealth and the Commonwealth has issued building permits. A major element of the restructuring act grants the College the authority to designate a Building Official to issue Building Permits and Certificates of Use and Occupancy (CUOs). The College designated me Building Official effective September 1, 2006.

The College has also established Code Review Team to provide technical support for the Building Official responsibilities. The Code Review Team will review all work requiring a Building Permit and will inspect construction as necessary. When required, a Certificate of Use and Occupancy (CUO) will be issued upon satisfactory completion of the project and inspection by the Code Review Team and the State Fire Marshal or his designee. Only work requiring a CUO will require inspection by the State Fire Marshal although the College may request the Fire Marshall's assistance on other projects.

For some of the more minor facilities work, a Project Permit may be issued in lieu of a Building Permit; and there will be some facilities work that will be exempt from permit. Project Permits will be issued by Messrs. Wayne Boy, P.E.; David Shepard, P.E.; and Wendell B. Goodwin, P.E.; under authority delegated by the College Building Official.

The following paragraphs provide guidelines for facilities work which requires a Building Permit, a Project Permit, or which is exempt. Interpretations will be by the Building Official.

**BUILDING PERMIT REQUIRED**

- Projects authorized and approved by the Board of Visitors or the Vice President for Administration.
- Change in building use or occupancy.
- Work that affects access/egress/exit ways/fire partitions/fire walls, or fire barriers.
- Adding, removing, or altering any interior wall or partition.
- All structures, whether or not occupied, including temporary structures.
- Demolition of structures.
- Removal, cutting, or altering a building or facility structural member.
- Site/foundation/utility preparation for factory built or prefabricated structures.
- Adding/removing/altering parking lots, roads, fences over 6 feet in height, railings, retaining walls.
- Elevator work, other than ordinary repairs.
- Adding/removing/retrofitting HVAC, electrical, plumbing, gas, fire protection, fire suppression and alarm systems.
- Utility structures (box culverts, manholes, drainage systems, pump stations etc.)
- Tents that cover an area of 900 square feet or more or have an occupant load of 50 or more people.
- Temporary stages, platforms and bleachers greater than 4 inches in height.
- Piers, wharfs, and dolphins and bulkheads.

**PROJECT PERMIT REQUIRED**

- Structural repairs
- Hazardous material (lead paint and asbestos) work.

- Minor additions, alterations or changes to HVAC, electrical, plumbing, gas, fire protection systems.
- Wall or floor penetrations.
- Roof repair or replacement in excess of 100 square feet or 25% of existing roof, whichever is greater.
- New penetrations, flashing, or similar work affecting roof integrity.
- Electronic access systems.
- Brick or stone walls that are not retaining walls.
- Antennas and flagpoles.
- Sidewalks.

WORK EXEMPT FROM PERMIT

- Preventive maintenance.
- Standing work orders approved by the Building Official.
- Ordinary repairs/replacement in kind or with similar materials or equipment.
- Landscaping/grounds maintenance.
- Building services/housekeeping.
- Recycling.
- Plaster, tiling, and painting.
- Keys and locks.
- Network broadband communications wiring and equipment operating at less than 50 volts, not in an air plenum, and not part of a fire and life safety system and not penetrating wall or floor.

Where an emergency situation occurs and a permit can not be obtained, the permit request must be submitted the next working day.

Please disseminate this information widely as it is important to our success in implementing and retaining our new authorities that we continue to comply with these requirements of law and regulation.

If you would like further explanation of any of the above, or would simply like to discuss it, please call and I will be pleased to meet with you and your staff.

cc: President Nichol  
Provost  
College of W&M Code Review Team  
Director, Facilities Planning, Design and Construction  
Director/Deputy Director, Maintenance and Construction  
Director, VIMS Facilities Management

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**APPENDIX Q**  
**COLLEGE OF WILLIAM AND MARY PROCEDURE FOR**  
**RESOLUTION OF CONTRACTUAL CLAIMS**

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The College of William and Mary Procedure for Resolution of Contractual Claims is contained in Facilities Directive 800 and is available on-line at <http://www.wm.edu/facman/FPDC/FPDC-Home.php>





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## **APPENDIX R DETERMINATION AND FINDINGS**

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D&F Forms are available from the FPD&C Web Site at: <http://www.wm.edu/facman/FPDC/FPDC-Home.php>



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## **APPENDIX S PROCUREMENT RULES**

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The Procurement Rules for the College of William and Mary are stated in the Restructured Higher Education Financial and Administrative Operations Act, Chapter 4.10 ( § 23-38.88 et seq.) of Title 23 of the Code of Virginia, Exhibit J, Attachment 1.

The full text of Exhibit J, Attachment 1 is included in this Appendix.



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## **APPENDIX T**

# **PLANNING, DESIGN AND CONSTRUCTION PROCESS**

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The attached diagram is a graphic illustration of the planning, design and construction process utilized by the College of William and Mary.



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## **APPENDIX U**

# **FACILITIES MANAGEMENT TECHNICAL STANDARDS**

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The Facilities Management Technical Standards are available at <http://www.wm.edu/facman/FPDC/FPDC-Home.php>





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**APPENDIX V**  
**REAL PROPERTY TRANSACTIONS**  
**CAPITAL ACQUISITIONS/DISPOSITIONS, EASEMENTS**  
**AND LEASES**

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**CAPITAL ACQUISITIONS/DISPOSITIONS (BUILDINGS OR LAND)**

- Defined:
  - Restructured Act, Section 23-38.89, Definitions.
  - Management Agreement, Article 4, Exhibit G, Policy Governing Capital Projects, Section II.
- Process, Procedures, Systems:
  - Restructured Act, Section 23-38.109, Capital Projects; and Section 23-38.112, Acquisition, possession, operation, and disposition of property.
  - Management Agreement, Article 4, Exhibit G, Policy Governing Capital Projects, in its entirety but particularly, Section XI, Building or Land Acquisitions, and Section XII, Building or Land Dispositions.
- Capital Leases:
  - Restructured Act, Section 23-38.113, Leases of Property.

**EASEMENTS:**

- Easements to be acquired across non-institution land.
  - Restructured Act, Section 23-38.112.
  - Restructured Act, Section 23-38.88. A.4.
- Easements to be granted or conveyed on any land owned or controlled by the Institution.
  - Restructured Act, Section 23-38.112, Acquisition, possession, operation and disposition of property.
  - Restructured Act, Section 23-38.88. A.6.

**LEASES:**

- Capital Lease Processes, Procedures, Systems:
  - Restructured Act, Section 23-38.112, and 23-38.113, Leases of Property.
  - Management Agreement, Article 4, Exhibit G, Policy Governing Capital Projects; and Exhibit H, Policy Governing Leases of Real Property.
  
- Operating and Income Leases:
  - Restructured Act, Section 23-38.113, Leases of Property.
  - Restructured Act, Section 23-38.88 A.5.
  - Management Agreement, Article 4, Exhibit H, Policy Governing Leases of Real Property.

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## **APPENDIX W**

# **SUPPORTING DOCUMENTS**

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### **A. Enabling Legislation**

1. Restructured Higher Education Financial and Administrative Operations Act (The Act) 2005 Virginia Acts of the Assembly (see also Virginia Code §23-38.88 to §23-38.121)
2. Management Agreement By and Between the Commonwealth of Virginia and the College of William and Mary (The Management Agreement) 2006 Virginia Acts of the Assembly.

### **B. Delegation Letters**

1. Building Official Delegation
2. Project Permit Delegation

See the AVP/FM Administrative Assistant for copies of the above.



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**APPENDIX X**  
**THE COLLEGE OF WILLIAM AND MARY**  
**CAMPUS DESIGN GUIDELINES**

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The Campus Design Guidelines are available at <http://www.wm.edu/facman/FPCD/FPCD-Home.php>



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## APPENDIX Y

### Division 1 - CWM Special Provisions

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**1. GENERAL** - The College of William and Mary (CWM) and the Virginia Institute of Marine Science (VIMS) have standard procedures for construction operations that apply at either campus. These provisions will be included in Division 1 of all contracts prepared for work at the respective campuses. Any alteration, deviation, or additions must be approved by the Director, Planning, Design and Construction at the CWM and by Director, Facilities Management at VIMS.

#### **2. COLLEGE OF WILLIAM AND MARY (CWM) SPECIAL PROVISIONS**

➤ Hours of Work

- Monday – Friday        7 a.m. – 5 p.m.
- Weekends/Holidays    8 a.m. – 5 p.m.
- Prior to the start of work and after the completion of work no loud noise whether created by vehicles, equipment, tools or shouting is allowed to include noises created by material deliveries, vehicle operations, back-up alarms, fork lifts, mixers, or hand tools is permitted. This is a particularly sensitive issue when projects are in the proximity of dormitories and libraries which operate year round and not just during the academic calendar.
- Exceptions must be requested through the CWM PM to the Director, FPDC

➤ Campus Points of Contact (POCs)

<i>Agency</i>	<i>Phone Number (Area Code 757)</i>	<i>Functional Responsibilities</i>
ADA (Assistant Dean, Dean of Students)	221-2510	Coordinate notification of ADA route changes created by construction impacts
Campus Police	221-4596 911 (campus system rings to Campus Police / cell phone rings to City/County)	Public Safety Traffic control
Facilities Management <ul style="list-style-type: none"> <li>▪ O&amp;M Work Control</li> <li>▪ Env Health &amp; Safety</li> <li>▪ Plan, Design &amp; Const</li> <li>▪</li> <li>▪ Code Review</li> </ul>	221-2270/2275 221-2146 221-2245  221-1337	Trade shop coordination Incident Accident/Incident Accident/Incident Reports Safety/Hazmat Project management Code review
IT	221-4357/4008	Phone/data cabling
Parking Services	221- 2434/4764	Parking permits
<b>Williamsburg Fire Dept</b>	221-6220	Design/const coordination

➤ Fencing

- 8' high chain link w/green tennis court screening required.

- 8' wood stockade fencing required in Historic Campus.\*
  - Note: Area bounded by Richmond Road, Jamestown Road, and the fence to the west of the Wren Building.

➤ Fire Protection System Impairment

- An impairment request (at Figure Y-1) will be prepared and submitted to the CWM PM 15 days prior to impairment of an operational fire protection system (fire alarm and fire suppression systems) in accordance with FM Directive 740. A copy of the directive may be obtained from the CWM PM/CM.
- The CWM PM will coordinate review and approval of the request by the Associate VP for Facilities Management
- The CWM PM will return the approved/disapproved request to the requesting contractor
- Actual impairment will not begin without an approved request.

➤ Hazmat Disposal Policy

- The contractor will be responsible for having a valid EPA Identification number issued by the Virginia State Department of Environmental Quality site specific for The College of William and Mary. The contractor will be the generator of all hazardous waste generated and be subject to regulations set forth by the State Department of Environmental Quality and Federal EPA. If the generation of hazardous waste is greater than 2,200 lbs in a month, the generator is considered a Large Quantity Generator. A Large Quantity Generator must pay a \$1000.00 fee to the Virginia State Department of Environmental Quality. Generation of less than 2,200 lbs in a month is classified as a Small Quantity Generator and is not subject to a fee.
- A generator is defined as “any person, by site, whose action or process produces hazardous waste identified or listed in [40 CFR part 261] or whose act first causes a hazardous waste to become subject to regulation.” The contractor is considered a generator because he is the person whose act first causes a hazardous waste to become subject to regulation.
- The contractor will manage, handle, ship, and dispose of hazardous waste in accordance with all applicable regulations. The contractor is encouraged to utilize one of the contractors listed in the Virginia Hazardous Waste Disposal and Recycling Services Contract PF-507-70VAPP for hazardous waste transport, disposal and recycling services. Selection of hazardous waste transporters, disposal facilities, and recycling services from vendors not listed in Virginia Hazardous Waste Disposal and Recycling Services Contract PF-507-70VAPP, will require approval from the College’s Director, Environment, Health, & Safety prior to final selection.
- Copies of all Hazardous Waste Manifests and Certificates of Destruction signed by the final disposal facility will be provided to the Environment, Health and Safety Office within 60 days of the shipment.

Reference: A letter from THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, D.C. 20460, dated AUGUST 10, 1995

➤ No Work Days

- Work will not be allowed on the dates listed below. Sites will be thoroughly policed in preparation for these dates/events. Exact dates may be found at [www.wm.edu/registrar/acadcalendar/undergradcal](http://www.wm.edu/registrar/acadcalendar/undergradcal).
  - Freshman arrival on campus Mid-August (1 day).
  - Family weekend September (Sat/Sun).



- Homecoming October (Sat/Sun).
  - Charter Day February (Sat/Sun).
  - Commencement May (Sat/Sun).
- Parking Policy
- All vehicles require parking passes for on construction site and off construction site parking.
  - No parking is allowed off paved driveways/roads/designated parking. Vehicles will not be parked on grassed/planted areas.
  - Parking passes are provided on a complimentary basis to contractors. The number of passes available for on campus parking is determined by Parking Services based on contractor requirements versus total requirements by active contracts on campus. The contractor may obtain parking passes by completing of the parking permit request shown at Figure Y-2 for approval by the CWM PM and submission to the Parking Services Office.
- Project Sign
- A project sign will be posted at a location to be determined by the contractor and approved by the PM using the template at Figure Y-3.
  - Cost of the sign will be included in pricing for General Conditions.
- Quality Control
- The contractor will develop a Project Quality Control Plan in accordance with the requirements outlined in Chapter 9 – Design Coordination and Quality Assurance.
  - The Project Quality Control Plan will be based on a three phase inspection process.
  - **The Project Quality Control Plan will be submitted and approved before a Notice to Proceed will be granted.**
- Quiet Times
- Quiet time where construction noises are minimized to the maximum extent possible will be observed before and after the hours of work cited above and at specific reading periods prior to examinations and during examination periods. College academic calendars can be found on the College website at [www.wm.edu/registrar/acadcalendar/undergradcal](http://www.wm.edu/registrar/acadcalendar/undergradcal). For example, during the academic year 2007-2008, quiet times are:
    - Fall Semester 2007
      - Dec 8-9 Reading period
      - Dec 10-11 Exams
      - Dec 12 Reading period
      - Dec 13-14 Exams
      - Dec 15-16 Reading period
      - Dec 17-20 Exams
    - Spring Semester 2008
      - Apr 26-27 Reading period
      - Apr 28-May 2 Exams
      - May 3-4 Reading period
      - May 5-7 Exams
- Safety
- A risk analysis will be prepared for each phase of work, and a Project Safety Plan keyed to the exposures determined in the risk analysis as outlined in the requirements of Chapter 9, Design Coordination and Quality Assurance.
  - As a minimum, the following major hazards will be addressed, as required, for each phase of work:

- Fall protection
  - Scaffolding
  - Shock protection
  - Welding safety- The following College Hot Work Policy will be reflected.
    - New construction does not need a separate hot work permit from the College. Hot work activities are covered by the building permit issued for the contract.
    - The College requires contractors performing work in occupied facilities to issue a permit for hot work activities in accordance with their in-house safety program requirements.
    - The contractor will establish acceptable time limits for duration of hot work permits IAW guidelines in ANZI Z49.1 and NFPA 51B.
    - Fire watches shall remain in place for at least one (1) hour after the completion of all activities associated with the hot work.
    - Hot work permits must be submitted to CWM PM and FSO for review to ensure all hot work safety concerns are addressed per requirements in OSHA regulations and standards (29CFR 1926, Subpart J; ANZI 49.1)
  - The CWM PM will provide routine oversight of hot work and may stop work if a serious safety concern is observed until the concern is resolved.
  - Vehicle safety
  - **The Project Safety Plan will be submitted and approved before a Notice to Proceed will be granted**
- Schedule
- The schedule will be created in the most current edition of the following software packages:
    - Microsoft Project
    - Sure-Track
    - Primavera
  - A license for the software package used will be provided by the contractor to the CWM PM.
  - The project schedule will be submitted and approved before a Notice to Proceed will be issued.
- Security Requirements
- The contractor is responsible to provide employee identification to assure that only authorized personnel and vehicles/equipment are accessing the project site.
  - An “interlocking padlock” system will be used at the site gate to allow Campus Police to have immediate response capability in event an emergency occurs within the site. The PM will provide the campus lock. Keys will be secured with the Campus Police dispatcher for emergency use.
  - A phone roster of permanent project personnel to receive e-mail/cell phone voice mail messages in the event of a campus emergency will be provided to the CWM PM prior to the start of construction. The permanent personnel will be responsible to provide alert notification to all personnel on site per contractor determined procedures. Data columns for the roster are as follows:
    - First name
    - Last name
    - Home phone
    - Work phone
    - Mobile phone
    - E-Mail address
    - TTY phone (teletype)
    - SMS phone (text messages)
- Site Maintenance Standards
- Sites will be continuously maintained for police and repair of site facilities to include trailers, storage containers, fencing, storage of materials and emptying of trash containers.

- Deficiencies noted by and through the PM/CM will be corrected within 24 hours.
- Storm Water / E&S Compliance
- A copy of storm water and erosion and sediment control drawings approved and stamped by the DCR Division of Soil and Water Conservation York-Rappahannock Watershed Office will be maintained on site at all times.
  - Storm water and erosion and control measures will continuously maintained in accordance with the contract documents and State of Virginia Storm Water and Erosion and Sediment Regulations.
  - Deficiencies noted by DCR inspections and or the PM/CM will be corrected within 24 hours. Repeated deficiencies leading to two consecutive DCR deficiency findings during periodic inspections will be sufficient basis to withhold 1% retainage from the next monthly invoice until corrections are made.
- Utility Outage/Building System Outage Coordination
- A Utility Outage/System Testing Notification Worksheet (shown at Figure Y-4) will be prepared, coordinated, and filed at Work Control, Facilities Management to schedule an outage
  - Temporary interruption of underground utilities and/or of building services must be coordinated 10 days in advance.
  - Requests submitted less than 10 days in advance will be processed contingent on the ability of Work Control to notify end users/affected activities.
  - The Director, FM Maintenance & Operations approves outages for the College
- Worker Behavior/Decorum – Contractor personnel will refrain from contact with students, faculty, and staff other than for that interaction necessary for the execution of their contract responsibilities. Expressly prohibited is contact in the form of harassment, whistles, cat-calls, comments, gestures or any form of uninvited communication. Any violation of this policy will result in immediate and permanent removal of violators from the campus project site. To be clear, uninvited communication is a one strike policy.

### 3. VIRGINIA INSTITUTE OF MARINE SCIENCE (VIMS) SPECIAL PROVISIONS

- Hours of Work
- Monday – Friday        7 a.m. – 5 p.m.
  - Weekends/Holidays    8 a.m. – 5 p.m.
  - No loud noise of any kind by the Contractor is permitted outside of the hours of work listed above.
  - Exceptions to working outside the stated hours of work must be requested through the VIMS PM to the Director of Facilities Management.
- Campus Points of Contact (POCs)

<i>Agency</i>	<i>Phone Number (Area Code804)</i>	<i>Functional Responsibilities</i>
Facilities Management	684-7090/684-7096 (7am-5pm)	Coordinate notification of ADA route changes created by construction impacts
VIMS Security	694-7300 (Cell) Nights and Weekends Campus blue light phone system-upper button rings directly to 911 lower non-emergency/info button rings directly to VIMS security.	Public safety, security, and traffic control after normal hours.

Safety & Environmental Programs	684-7322	Work & Fire Safety/Hazmat during hours of normal operation
IT	684-7080	Phone/data cabling during normal hours of operation.
Parking Services	684-7322	Parking permits during normal hours of operation.
<b>Gloucester Fire Dept All Emergencies 911</b>	<b>693-3890</b>	

➤ Hazmat Disposal Policy

- The contractor will be responsible for having a valid EPA Identification number issued by the Virginia State Department of Environmental Quality site specific for The Virginia Institute of Marine Science. The contractor will be the generator of all hazardous waste generated and be subject to regulations set forth by the State Department of Environmental Quality and Federal EPA. If the generation of hazardous waste is greater than 2,200 lbs in a month, the generator is considered a Large Quantity Generator. A Large Quantity Generator must pay a \$1,000.00 fee to the Virginia State Department of Environmental Quality. Generation of less than 2,200 lbs in a month is classified as a Small Quantity Generator and is not subject to a fee.
- A generator is defined as “any person, by site, whose action or process produces hazardous waste identified or listed in [40 CFR part 261] or whose act first causes a hazardous waste to become subject to regulation.” The contractor is considered a generator because he is the person whose act causes hazardous waste to become subject to regulation.
- The contractor will manage, handle, ship, and dispose of hazardous waste in accordance with all applicable regulations. The contractor is encouraged to utilize one of the contractors listed in the Virginia Hazardous Waste Disposal and Recycling Services Contract PF-507-70VAPP for hazardous waste transport, disposal and recycling services. Selection of hazardous waste transporters, disposal facilities, and recycling services from vendors not listed in Virginia Hazardous Waste Disposal and Recycling Services Contract PF-507-70VAPP, will require approval from the VIMS Directors of Facilities Management and Safety and Environmental Programs prior to final selection.
- Copies of all Hazardous Waste Manifests and Certificates of Destruction signed by the final disposal facility will be provided to the VIMS Department of Facilities Management and VIMS Office of Safety and Environmental Programs within 60 days of the shipment.

Reference: A letter from THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, D.C. 20460, dated AUGUST 10, 1995

➤ Parking Policy

- All vehicles require parking passes for on construction site and off construction site parking.
- No parking is allowed off paved driveways/roads/designated parking. Vehicles will not be parked on grassed/planted areas.
- Parking passes are provided on a complimentary basis to contractors. The number of passes available for on campus parking is determined by the Department of Facilities Management based on contractor requirements versus total requirements by active contracts on campus. The contractor may obtain parking passes through the VIMS PM.

- Project Sign
  - When required, a project sign will be posted at a location to be determined by the contractor and approved by the PM.
  - Project sign shall be formatted using the template at Figure Y-2.
  - The cost of the sign will be included in the price of the Contractor's General Conditions.
  
- Quality Control
  - The contractor will develop a Project Quality Control Plan in accordance with the requirements outlined in Chapter 9 – Design Coordination and Quality Assurance.
  - The Project Quality Control Plan will be based on a three phase inspection process.
  
- Safety
  - The Contractor shall prepare a risk analysis for each phase of work, and a Project Safety Plan keyed to the exposures determined in the risk analysis as outlined in the requirements of Chapter 9, Design Coordination and Quality Assurance.
  - As a minimum, the following major hazards will be addressed, as required, for each phase of work:
    - Fall protection
    - Scaffolding
    - Shock protection
    - Welding safety
    - Work in confined spaces
    - Vehicle safety
  - **The Project Safety Plan will be submitted and approved before a Notice to Proceed will be issued.**
  
- Security Requirements
  - The contractor is responsible to provide employee identification to assure that only authorized personnel and vehicles/equipment are accessing the project site.
  - An “interlocking padlock” system will be used at the site gate to allow VIMS personnel immediate response capability in event an emergency occurs within the site. The PM will provide the campus lock. Keys will be secured with VIMS Security and VIMS Office of Safety and Environmental Programs for emergency use.
  
- Storm Water / E&S Compliance
  - A copy of storm water and erosion and sediment control drawings approved and stamped by the DCR Division of Soil and Water Conservation York-Rappahannock Watershed Office will be maintained on site at all times.
  - Storm water and erosion and control measures will continuously maintained in accordance with the contract documents and State of Virginia Storm Water and Erosion and Sediment Regulations.
  - Deficiencies noted by DCR inspections and or the PM/CM will be corrected within 24 hours. Repeated deficiencies leading to two consecutive DCR deficiency findings during periodic inspections will be sufficient basis to withhold 1% retainage from the next monthly invoice until corrections are made.
  
- Utility Outage/Building System Outage Coordination
  - The Contractor shall submit a written Utility Outage/System Testing Notice and give the notice to the PM for Facilities Management to schedule an outage.

- Temporary interruption of underground utilities and/or of building services must be coordinated 10 days in advance.
  - Requests submitted less than 10 days in advance will be processed contingent on the ability of VIMS Department of Facilities Management to notify end users/affected activities.
  - The Contractor shall not proceed with a utility outage or system testing before receiving authority from VIMS Department of Facilities Management.
- Worker Behavior/Decorum – Contractor personnel will refrain from contact with students, faculty and staff other than for that interaction necessary for the execution of their contract responsibilities. Expressly prohibited is contact in the form of harassment, whistles, cat-calls, comments, gestures or any form of uninvited communication. Violation of this policy, even once, will result in immediate and permanent removal of violators from the campus project site. VIMS has the sole right to exercise this policy and to require the removal of Contractor personnel who violate this policy. Removal is not subject to appeal.

Figure Y-1 – Fire Alarm/Sprinkler Impairment Request

**THE COLLEGE OF WILLIAM AND MARY  
FIRE PROTECTION IMPAIRMENT PERMIT**

**Date:**

Building:

Specific Area of Building Affected:

Description of Impairment:

Reason for Impairment: [Provide attachments such as drawings or sketches to support request, if applicable]

Actions to be taken to mitigate risk:

Signature (Impairment Coordinator) \_\_\_\_\_ Date: \_\_\_\_\_

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**Reviewers: (signature indicates concurrence)**

**Return to Service**

FPS Maintenance Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_ Initials: \_\_\_\_\_ Date: \_\_\_\_\_

Director, O&M: \_\_\_\_\_ Date: \_\_\_\_\_ Initials \_\_\_\_\_ Date: \_\_\_\_\_

Building Coordinator: \_\_\_\_\_ Date: \_\_\_\_\_ Initials: \_\_\_\_\_ Date: \_\_\_\_\_

Campus Police Dispatch: \_\_\_\_\_ Date: \_\_\_\_\_ Initials \_\_\_\_\_ Date: \_\_\_\_\_

Fire Safety Officer: \_\_\_\_\_ Date: \_\_\_\_\_ Initials \_\_\_\_\_ Date: \_\_\_\_\_

Director, EH&S: \_\_\_\_\_ Date: \_\_\_\_\_ Initials \_\_\_\_\_ Date: \_\_\_\_\_

Deputy Director, FPDC: \_\_\_\_\_ Date: \_\_\_\_\_ Initials \_\_\_\_\_ Date: \_\_\_\_\_

For impairments impacting construction projects.

**Approval:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Associate V.P. Facilities Management

**Completion Certification:**

**System operational and returned to service** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Impairment Coordinator





Figure Y-2 – Parking Permit Request Form



**Division of Facilities Planning,  
Design and Construction  
P.O. Box 8795  
Williamsburg, Virginia 23187-8795  
757/221-2245, Fax 757/221-2473**

**Name** \_\_\_\_\_  
**Company** \_\_\_\_\_  
**Street Address** \_\_\_\_\_  
**City, State, Zip Code** \_\_\_\_\_

**Re:** **Parking Permits**  
**Project Name** \_\_\_\_\_  
**Project Number** \_\_\_\_\_  
**Project Location** \_\_\_\_\_

Dear Representative:

General Contractors and their subcontractors are required to display a complimentary parking permit in the windows of the vehicles parked on campus. It is required that the Project Manager from Facilities Planning Design and Construction Division authorize the issuance of these complimentary parking permits for all vehicles that will be parked on campus by employees of your company.

Please complete the information in the chart below for all the vehicles that will be parked on campus by employees of your company, and return the form, by mail or fax, to the above Capital Outlay address before your on-campus work begins on the above listed project.

Once approved by the Project Manager, this list will be forwarded to Parking Services, and the individuals on the list will then be authorized to obtain the permit at Parking Services, located at the Parking Deck at 201 Campus Drive. Remember, a valid driver's license and vehicle registration are required.

A block of passes for distribution to your subcontractors will be provided to your project site superintendent.

#	Name	Vehicle Tag Number	Work Start Date	Work End Date
1				
2				
3				
4				
5				
6				

As an authorized party for said Company, and in condition for the issuance of the complimentary parking permits, said Company agrees to uphold the College of William and Mary's parking policies and agrees to be responsible for any and all violations incurred by any of the aforementioned individuals.

\_\_\_\_\_  
**Contractor Authorized Signature**

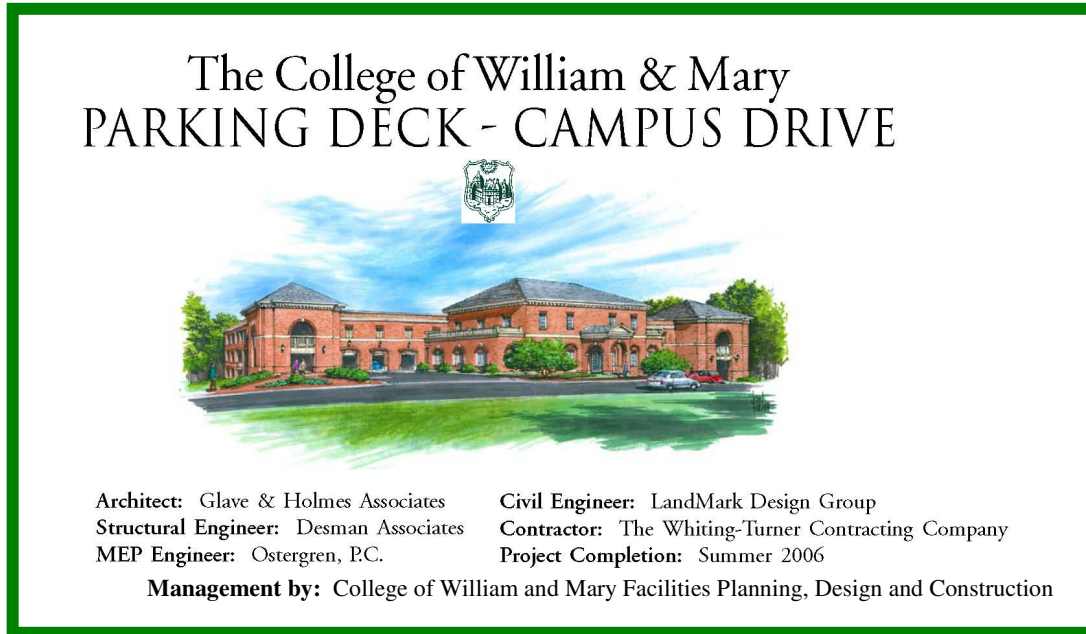
\_\_\_\_\_  
**(Date)**

\_\_\_\_\_  
**Project Manager Authorized Signature**

\_\_\_\_\_  
**(Date)**



Figure Y-3 - Project Sign Prototype



Sign Notes:

- Color rendering/computer elevation required
- Green border/white background required
- College crests at each upper corner required
- List members of project team (no corporate logos)
- Show project completion as a season not a specific month.



**Fig Y-4 - Utility Outage/Systems Testing Notification Worksheet**

**UTILITY OUTAGE/SYSTEM TESTING NOTIFICATION WORKSHEET**

**Requester:** \_\_\_\_\_ **Today's Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Date/Time of Outage:** \_\_\_\_\_

**Length Of Outage/Testing:** \_\_\_\_\_

**Building(s) to be affected:** \_\_\_\_\_

**Rooms/Area to be affected:** \_\_\_\_\_

**Type of Shutdown:**    \_\_\_ Air Handler                    \_\_\_ Power (circle one: partial, total)  
                              \_\_\_ Chiller                                    \_\_\_ Steam  
                              \_\_\_ Elevator                                   \_\_\_ Water (circle one: hot, cold, both)  
                              \_\_\_ Other (Please state: \_\_\_\_\_)

**Type of Testing:**        \_\_\_ Fire alarm (circle one: horns, no horn )  
                                      \_\_\_ Sprinkler/suppression

**Reason for outage/Testing:** \_\_\_\_\_

\*\*\*\*\* this portion completed by Customer Service Personnel \*\*\*\*\*

**Date/Time Received:** \_\_\_\_\_ **Notification Required:** y / n    **Type:** Email or phone

**Notify:** Building Occupants / In-house / PM Tech / ADA \_\_\_\_\_ **Assigned to:** \_\_\_\_\_

**Notify:** On **POWER OUTAGES** by phone I.T. Scott Fenstermacher, Dan Ewart, Chris Ward

**Follow up Required?** N/A N Y (Date/Time) \_\_\_\_\_

<u>Contact</u>	<u>Phone/Email</u>	<u>Comments</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Date/Time Notified:** \_\_\_\_\_ **Date/Time Confirmed with Requester:** \_\_\_\_\_

**Outage arranged by:** \_\_\_\_\_ **Follow up Notification sent:** \_\_\_\_\_

