

101 - Introduction

101.1 Purpose and Scope: The **Capital Construction Project Procedures Manual** is intended for use by design professionals as well as administrators and agency staff. The policies and procedures identified in this document explain the expectations for each entity involved in the Capital Construction process.

101.2 Limitations: This Capital Construction Project Procedures Manual prescribes standard procedures and instructions for the required design, drawings, specifications, design analyses, cost estimates, and related support tasks for Capital Construction Projects under the direction of EKU's Division of Capital Construction and Project Administration (CCPA). This manual augments but does not replace the provisions of all legal and contractual documents used in the administration of Capital Construction Projects by the University. The rights, obligations and procedures contained in legal and contractual documents, if in conflict with those described herein, shall take precedence.

This edition of the Procedures Manual contains procedures for a Capital Construction Project. For the purposes of this manual, Projects are assumed to involve design and/or construction, with administration and oversight by CCPA. In the absence of provisions not specifically contained in this manual, criteria defined in the Owner's Project Requirements or the applicable codes and regulations, shall be followed. Such procedures shall be consistent with accepted engineering practice within the Commonwealth of Kentucky.

Specific Project requirements may alter the procedures indicated herein where strict adherence to the procedures would not be warranted or applicable. The final determination of the applicability of a procedure identified herein is made on a case by case basis by CCPA

CCPA may modify the procedures indicated in this manual. Persons referring to this manual should verify that they have access to the most recently issued edition.

Applicable publications are listed in the various chapters of this Manual. Unless specifically stated otherwise in this Manual, the Architect-Engineer shall be responsible for obtaining all publications applicable to the design of the Project. In general, publications applicable to all Projects include, but are not limited to, the latest editions of the following:

- A. Kentucky Building Code (KBC)
- B. Life Safety Code
- C. National Fire Protection Association Code (NFPA)
- D. National Electrical Code
- E. Americans with Disabilities Act Accessibilities Guidelines
- F. United States Green Building Council (USGBC)
- G. High Performance Building Standards (Commonwealth of Kentucky)
- H. Leadership in Energy and Environmental Design (LEED)

101.3 Manual Organization: This Capital Construction Project Procedures Manual is organized into eleven chapters and a Technical Manual. Chapters One through Eleven generally follow the sequential development of capital construction projects. Chapter one provides a broad overview of the Capital Construction Project process, responsibilities of Project participants and Project delivery options. Chapters Two through Nine describe various project phases or activities. Chapters Ten and Eleven discuss post project requirements. The Technical Manual contains various supplements detailing technical requirements and guidelines and is organized per the Construction Specification Institute.

Chapters are sub-divided to describe specific aspects of particular project phases. Refer to the Capital Construction Project Procedures Manual "Table of Contents" for a detailed listing of manual contents by chapter and section.

102 – Definitions

APPLICATION FOR PAYMENT: A periodic application for partial payment for Work completed to date under a Construction Contract.

ARCHITECT-ENGINEER (A/E): A firm that provides professional design services and is engaged by CCPA for Capital Construction Projects, and identified as such in the Contract Documents. The term refers to the design team, consisting of the prime architect-engineer and all Sub-Consultants (if used) or consultant identified by the Owner.

ARCHITECTURAL SERVICES: Means any professional service involved in the practice of architecture including rendering or offering to render certain services in connection with the design and construction of a structure or group of structures which have as their principal purpose human habitation or use, and the utilization of space within and surrounding such structures. The services referred to in the previous sentence include planning, providing preliminary studies, designs, drawings and specifications, and administration of construction contracts (KRS 323.010)

ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS (A.S.I.): For the purposes of this document, this term shall be considered equivalent to the term Field Order; i.e. a document that modifies a Construction Contract by giving direction to the Contractor, but does not change the contract amount and/or time for completion.

ARCHITECTURAL INTERIOR DESIGN: Design of aesthetic aspects (e.g. materials, colors, fixtures etc.) related to fixed architectural interior elements, such as walls, ceilings, floors and built-in fixtures. Such design is typically considered to be within the normal services provided by an Architect-Engineer for a building design. It does not include specification of furniture or modular furniture systems (see INTERIOR DESIGN).

AS-BUILT DRAWINGS: See RECORD DRAWINGS.

BANNER: the University's financial and accounting computer software system. All Capital Construction contracts and payments are processed through the Banner system.

BASIS OF DESIGN: See SYSTEMS BASIS OF DESIGN.

BEST-VALUE: A procurement process where additional factors (other than price) may be also considered in determining the award of a Contract. Examples of such factors might be product quality, service or vendor experience.

BID DOCUMENTS: The documents released as part of a bid advertisement, consisting of specifications and/or drawings or other information that become the basis for bidding. The Bid Documents become the Contract Documents when the Construction Contract takes effect.

CADD: Computer-Aided Drafting and Design.

CAPITAL CONSTRUCTION PROJECT: Any study, design and/or construction of a capital improvement, usually requiring professional design services; administered by CCPA.

CHANGE ORDER: A written order to the Contractor executed by the Owner and the Architect-Engineer after execution of the Contract, directing a change in the Work. It may include a change in the Contract Price or the Contract Completion Time, or any combination thereof. A copy of EKU's Change Order form can be found at <http://projectadmin.eku.edu/forms>.

COMMISSIONING: See COMMISSIONING PROCESS.

COMMISSIONING AUTHORITY (CxA): The designated person, company, agent, or combination thereof identified by the Owner. This entity will lead, plan, schedule, and coordinate the Commissioning Team in implementing the overall Commissioning Process¹.

COMMISSIONING PLAN: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the Commissioning Process¹. It includes a schedule of Commissioning Process activities, individual responsibilities, documentation requirements, communication and reporting protocols, and evaluation procedures. This document is updated throughout the project.

COMMISSIONING PROCESS: A quality-focused process for enhancing the delivery of a project. The process focuses upon verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the Owner's Project Requirements¹.

COMMISSIONING - FUNDAMENTAL: Fundamental Commissioning, a LEED prerequisite, is the process of verifying that the Project's energy-related systems are installed, calibrated and performing according to the Owner's Project Requirements, Systems Basis of Design and construction documents. The Commissioning Authority may be a member of the firm of the design team or contractor firm but not directly involved in the Project. CCPA does not allow the Commissioning Authority to be a member of the same firm as the design firm of record.

COMMISSIONING - ENHANCED: Enhanced Commissioning includes all Fundamental Commissioning Requirements plus additional requirements such as involving the Commissioning Authority during the design, construction and post construction phases of the project and adhering to the additional requirements of the USGBC and LEED certification process. The Commissioning Authority must be completely independent of the design team and contract directly with the Owner.

COMMISSIONING TEAM: The individuals or entities that, through coordinated action, are responsible for implementing the Commissioning Process. The team members will change as the Project progresses. The Commissioning Team is led by the Commissioning Authority.

CONSTRUCTION: The process of demolishing, building, altering, repairing or improving any public structure or building, or other tangible improvements to any real property. It does not include the routine maintenance of existing structures or real property.

CONSTRUCTION CONTRACT: For the purposes of this manual, this means the same as CONTRACT.

CONTRACT: The legal relationship, duties and obligations between the Owner and Contractor as evidenced by the Contract Documents for the Project. The Contract also includes the legal relationship with design professionals, Commissioning Authority, special inspectors and any other vendors as required.

CONTRACT COMPLETION TIME: The number of calendar days between the Effective Date of the Contract and the dates set for Substantial Completion and Final Completion of the Work, including any adjustments thereto, all as established in the Contract between Owner and Contractor.

CONTRACT DOCUMENTS: Include the Invitation for Bids, the Instructions to Bidders, the Payment and Performance Bonds, the General Conditions, the Special or Supplemental Conditions, the drawings, specifications, solicitation addenda, the contractors response to the solicitation, any written clarification of the response, the award document containing the Agreement between the Owner and Contractor, and modifications issued after execution of the Contract.

CONTRACT MODIFICATION: A written alteration in the specifications, delivery point, rate of delivery, contract period, price, quantity, or other contract provisions of any existing contract, whether accomplished by unilateral action in accordance with a contract provision or by mutual action of the parties to the contract. It includes bilateral actions, such as supplemental agreements, and unilateral actions, such as change orders, administrative changes, notices of termination, and notices of the exercise of a contract option.

CONTRACT SUM: The sum stated in the Contract (including any authorized adjustments thereto) representing the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents.

CONTRACTOR: The person or entity with whom the Owner has executed the Contract for construction.

COST ESTIMATE FORM (B210-12): Total Estimate of Funds Required through Design. A form used internally to summarize projected expenditures (by accounting object codes) for a Capital Construction Project, typically prepared and maintained by the Project Manager. See Section 202.1.

COST ESTIMATE FORM (B210): Total Estimate of Funds Required through Construction. A form used internally to summarize projected expenditures (by accounting object codes) for a Capital Construction Project, typically prepared and maintained by the Project Manager. See Section 202.2

COST ESTIMATE FORM (PHASE A ESTIMATE OF CONSTRUCTION COST): A form to be completed by the Architect-Engineer for cost estimates during Phase A. This form will be signed by the Using Agency Representative and the Project Manager as part of the acceptance process for Schematic Design Phase A. **See Section 309.**

COST ESTIMATE FORM (PHASES B & C ESTIMATE OF CONSTRUCTION COST): A form to be completed by the Architect-Engineer for cost estimates during Phases B and C. This form will be signed by the Using Agency Representative and the Project Manager as part of the acceptance process for each of Phases B and C. **See Sections 508 and 611.**

DESIGN DEVELOPMENT: Collectively, Phases B and C of the design process, which expand and embellish the schematic design from Phase A. See also PHASE B and PHASE C.

DIRECT EXPENSES: All items of expenses directly incurred by or attributable to a specific project, assignment or task and direct costs consist of direct materials, direct labor, subcontract costs, and other miscellaneous direct costs such as bonding and equipment rentals, that are directly related to and can be specifically attributed to an individual contract.

DIRECTOR: Unless otherwise denoted, this term refers to the Director of the Division of Capital Construction and Project Administration (CCPA). Typically, the Director will be the direct supervisor of the Project Manager. For some projects, the Director may also act as a Project Manager.

DIVISION FOR AIR QUALITY: The state agency responsible for the enforcement of regulations to achieve and maintain air quality. The Division for Air Quality is under the Energy and Environment Cabinet, Department for Environmental Protection.

DIVISION OF CAPITAL CONSTRUCTION AND PROJECT ADMINISTRATION (CCPA): The agency responsible for administering Capital Construction Projects, consisting of (but not necessarily limited to): interfacing with the Using Agency, employment of consultants, Project Program coordination, cost estimates, management of Project funds, and construction oversight. CCPA is under the Office of Finance and Administration.

DIVISION OF WATER: The state agency responsible for the enforcement of regulations to achieve and maintain water quality. The Division of Water is under the Energy and Environment Cabinet, Department for Environmental Protection.

DRAWINGS: The graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

EASTERN KENTUCKY UNIVERSITY (EKU): See OWNER.

EFFECTIVE DATE: The date specified in the Contract as the date upon which the Contractor is authorized to begin work.

EKU INFORMATION TECHNOLOGY (IT): The ECU Division responsible for the coordination and specification of communication systems required by the various Departments/Divisions of the University. This agency will typically supply Project Program requirements for building phone and data systems.

ENGINEERING-RELATED SERVICES: Means specialized professional services performed by individuals, consultants, or other organizations of recognized technical competence, education, or experience that are involved in the planning, design, construction, maintenance, or operation of Kentucky's transportation systems or construction projects in accordance with applicable licensing statutes (KRS 45A.800).

ENGINEERING SERVICES: Means any professional service or creative work, the adequate performance of which requires engineering education, training, and experience as an engineer.

EXPERIENCE MODIFICATION RATING (EMR): EMR is a term used in the American insurance business for Workers Compensation insurance. It is the adjustment of annual premium based on previous worker loss experience. Usually three years of worker loss experience are used to determine the experience modifier for a workers' compensation policy.

EXTENDED PHASE D: The warranty period of a Capital Construction Project. This Phase is 5% of the total Architect-Engineer Contract. It includes a one year warranty inspection to determine if any remedial work is required to satisfy any outstanding warranty issues. On projects seeking LEED Certification the Architect-Engineer, in association with the Contractor, shall prepare and submit the LEED application to the USGBC and answer any appeals until the appropriate certification is acquired.

EXTRA WORK: Work not part of the existing Contract Documents which is being added to the Contract by Change Order.

FIELD ORDER: A written order issued by the Architect-Engineer which clarifies or interprets the Contract Documents, or orders minor changes in the Work which does not require a change under Article 22 of the General Conditions (Changes in the Work/Change Orders). It may also be referred to as Architect's Supplemental Instructions. This definition is in Article 1.13 of the General Conditions.

FINAL COMPLETION: The Work being acceptable under the Contract Documents, the Contract fully performed in accordance with the terms and conditions of the Contract Documents, and the Contractor's entire payment balance is due and payable. This definition is in Article 1.14 of the General Conditions.

FINAL COST ESTIMATE: The last cost estimate generated during the design process, presented at the end of Phase C. This cost estimate becomes the basis for the evaluation of received bids. **See Section 611 for the Phase C Estimate of Construction Cost.**

FIRM: Means any individual, partnership, corporation, or other legal entity permitted by law to practice the profession of architecture or engineering and provide the architectural or engineering services. (KRS 45A.800)

FOAPAL: The accounting string in **Banner**, the University's financial and accounting computer software system. All Capital Construction contracts and payments are processed through the Banner system using the FOAPAL (Fund, Organization, Account, Program, Activity, Location). **See Section 110.**

FOOTPRINTS: The software used by CCPA to track all Requests to Change Facilities (RCFs) including Capital Construction Projects. Footprints tracks project dollars, Purchase Orders, project budget, etc. (See **REQUEST FOR CHANGE TO FACILITY (RCF)**).

HAZARDOUS MATERIALS COORDINATOR: An employee or agent of Eastern Kentucky University who is responsible for the identification of hazardous materials, development of abatement strategies, and administration of abatement contracts or related services.

HIGH PERFORMANCE BUILDING STANDARDS (HPBS): A set of standards as set forth in Kentucky Administrative Regulations intended to ensure that High Performance Buildings are designed and constructed so that they: Increase environmental performance and economic value over time; Safeguard the health of occupants; Enhance satisfaction and productivity of workers through energy-efficient systems; Incorporate environmentally friendly materials and products; and Reduce waste **See Chapter 106.5 - Responsibilities of Design Professionals for the High Performance Building Standards.**

INTERIOR DESIGN: The design of moveable interior furnishings and/or modular furniture layouts within a building. See also ARCHITECTURAL INTERIOR DESIGN.

INTENT TO AWARD: Is a written letter issued to the apparent successful contractor after acceptance of bid price, unit prices, subcontractors and equipment and materials. The Intent to Award informs them of such acceptance and requests the required additional documentation to initiate the Contract. This is not an authorization to proceed.

IT: Refers to EKU's Division of Information Technology (See EKU IT).

LEED: Leadership in Energy and Environmental Design was developed by the U.S. Green Building Council (USGBC) to set a benchmark for design, construction and operation of high-performance green buildings.

LINE-ITEM PROJECT: A Capital Construction Project (typically larger than \$1,000,000 in Project Scope) that has been included as a specific “line-item” in the Legislature’s biennium budget. Except for special circumstances, projects may not exceed \$1,000,000 in total scope unless they have “line-item” status.

L.R.C.: Legislative Research Commission; the administrative arm of the Kentucky General Assembly.

K.A.R.: Kentucky Admistrative Regulation

K.R.S.: Kentucky Revised Statute

MASTER AGREEMENT PROCUREMENT SPECIALIST: An employee of ECU who is responsible for the procurement of professional design services via the Master Agreement.

OFFICE OF FINANCE AND ADMINISTRATION: A first-level subdivision of Eastern Kentucky University, which is charged with the authority to administer Capital Construction Projects on behalf of Using Agencies. For the purpose of Capital Construction Projects, this authority has been delegated to the Division of Capital Construction and Project Administration.

OWNER: the Commonwealth of Kentucky, acting through the Board of Regents of Eastern Kentucky University and the University President. The Owner is represented by Capital Construction and Project Administration. This definition is in Article 1.17 of the General Conditions.

OWNER’S PROJECT REQUIREMENTS: A written document that details the functional requirements of a Project and the expectations of how it will be used and operated. This includes Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information¹. This document is updated throughout the project.

PERSONAL SERVICES CONTRACT (PSC): A contract issued by the Purchasing Official used to procure Professional Design Services. Typically, such contracts are offered to firms selected through a qualifications-based process.

PHASE A: The initial design phase of a Capital Construction Project, which culminates in the schematic design of the Project. Typically, this phase is approximately 20% of total effort of the Architect-Engineer.

PHASE B: The second design phase of a Capital Construction Project, in which the schematic design of the Project is further developed. Typically, this phase is approximately 40% of total effort of the Architect-Engineer.

PHASE C: The third and final design phase of a Capital Construction Project, in which the schematic design of the project is totally developed. Typically, this phase is approximately 75% of total effort of the Architect-Engineer, and results in documents that are Ready-To-Advertise.

PHASE D: The construction phase of a Capital Construction Project. The construction administration phase is 25% of the total contract of the Architect-Engineer. When Phase D services is added to Phases A, B, and C it combines to be 100% of the total Architect-Engineer contract. For projects requiring LEED Certification, 80% of the total Phase D price (20% of the total Price) shall be paid for Construction Administration services during Phase D construction and 20% of the Phase D Price (5% of the Total Price) shall be paid during the Extended Phase D services. **See Section 106.13.**

PURCHASING OFFICIAL: An employee of EKU, Division of Purchases and Stores who is the designated contracting representative. The Purchasing Official is responsible for the procurement of construction services.

PURCHASE ORDER: An official document issued by the Purchasing Official to a vendor indicating types, quantities, and agreed prices for products and/or services ordered.

PROGRESS MEETINGS: Scheduled on-site meetings for the progress review of a Construction Contract.

PROJECT: Means any capital improvement project, study, plan, survey, or new or existing program activity of a political subdivision that requires architectural or professional engineering services. (KRS 45A.800). Includes construction performed under the Contract Documents in whole or a part of which may include Construction by the Owner and/or by separate contractors.

PROJECT MANAGER: The person designated by Capital Construction and Project Administration to oversee the design and construction processes associated with a Capital Construction Project.

PROJECT PROGRAM: A written document that defines the Using Agency's requirements and expectations for a Capital Construction Project, typically performance-based rather than prescriptive.

PROJECT SCOPE: The total amount of money allocated for a Capital Construction Project, including all costs such as (but not limited to) land acquisition, legal, design, inspection, printing, construction and contingencies.

PROJECT TITLE: A project identification name assigned for administrative purposes by CCPA. **See Section 110**

QUALIFICATION STATEMENT: means federal form SF330 and any other supporting documents that present a firm's qualifications and performance data. (KRS 45A.730).

REQUEST FOR CHANGE TO FACILITY (RCF): Project number assigned by the Project Manager used to track project in FootPrints, EKU's project tracking system. **Please reference RCF number in all project correspondence.**

READY-TO-ADVERTISE: Construction documents that have been completed by the Architect-Engineer and given final review and acceptance by the Project Manager and the Using Agency, that will be released for bidding.

RECORD DRAWINGS: Construction drawings that have been revised to reflect actual dimensions and configurations as constructed by the Contractor, where differing from the bidding documents. Record drawings are produced by the Architect-Engineer at the end Phase D from information provided by the contractor throughout the construction process.

REQUEST FOR BID (RFB): A process where EKU publicly request bids for a construction Project.

REQUEST FOR INFORMATION (RFI): A process through which EKU may publicly request information about a particular subject, inviting vendors to submit appropriate information for consideration.

REQUEST FOR INFORMATION – DURING CONSTRUCTION: A document where the Contractor may request information from the Architect-Engineer about issues relating to the Contract Documents and the Work.

REQUEST FOR PROPOSAL (RFP): A procurement process through which EKU may publicly solicit offers from a vendor to provide goods and/or services related to a Capital Construction Project. Such contracts may be Personal Service Contracts, Construction Contracts, or contracts for purchases of material or equipment.

REQUEST FOR PROPOSAL – DURING CONSTRUCTION: A document where the Architect-Engineer requests a proposal from the Contractor that requires a change in the Contract Sum and will be the basis for a Change Order.

REQUEST FOR QUALIFICATIONS (RFQ): A process through which EKU may publicly request information about parties that may be qualified relative to particular criteria, inviting vendors to submit appropriate information for consideration.

RESIDENT OBSERVER: A party engaged by the Architect-Engineer and assigned at the request of the Project Manager to provide on-site observation, documentation and communication services at a construction site, usually on a full-time (i.e., daily) basis.

SCHEDULE OF VALUES: A zero-dollar Certification of Payment (i.e., invoice), completed shortly after the beginning of a Construction Contract, which outlines the labor and material components of the Contract amount, usually by specification division. When approved by the Contractor, Architect-Engineer and CCPA, this document becomes the basis for all Applications for Payment.

SCHEMATIC DESIGN PHASE: See PHASE A.

SHOP DRAWINGS: Drawings, completion diagrams, schedules, and other data specially prepared for the Work by the Contractor or any Subcontractor, lower tier subcontractors, manufacturer, supplier, or distributor to illustrate some portion of the Work.

SUB-CONSULTANT: Any design professional entity that subcontracts with an Architect-Engineer to become part of the design team for a particular Capital Construction Project.

SUBCONTRACTOR: The person or entity having a direct contract with the Contractor for the performance of a part of the Work.

SUBSTANTIAL COMPLETION: The point at which, as certified in writing by the Architect-Engineer, the Project is at a level of completion in strict compliance with the Contract. Approvals by public authorities has been given such that the Using Agency can enjoy beneficial use or occupancy and can use, operate and maintain it in all respects, for its intended purpose. Partial use or occupancy of the Project shall not result in the Project being deemed substantially complete and such partial use or occupancy shall not be evidence of Substantial Completion. Typically warranties start on the date of Substantial Completion.

SYSTEMS BASIS OF DESIGN: A document that identifies the design parameters of a Project and how each criterion in the Owner's Project Requirements will be addressed. The document records the concepts, calculations, decisions, and project selections used to meet the Owner's Project Requirements and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process. This document is updated throughout the Project.

SYSTEMS MANUAL: A system-focused composite document that includes the Owner's Project Requirements, Record Drawings, operations and maintenance manual, and additional information of use to the Owner during the Occupancy and Operations Phase.

TESTING AND BALANCING (TAB): The TAB specialist performs air and hydronic measurements on the HVAC systems and adjusts the flows as required to achieve optimum performance of the building environmental equipment. The balancing is based upon the design flow values required by the Mechanical Engineer for the Project, and the TAB contractor submits a written report which summarizes the testing and balancing and notes any deficiencies found during the TAB work.

U.S. GREEN BUILDING COUNCIL (USGBC): A non-profit trade organization that promotes sustainability in how buildings are designed, built, and operated. USGBC is best known for the development of the Leadership in Energy and Environmental Design (LEED) green building rating systems and Greenbuild, a green building conference and expo that promotes the green building industry, including environmentally responsible materials, sustainable architecture techniques and public policy.

UNIT PRICE BID: A bid format for Construction Contracts where categories of Work are listed with estimated amounts, and the Bidder supplies numerical values for each corresponding unit price. The total bid amount is the sum of the products of the estimated quantities and the unit prices.

USING AGENCY: The division, department or college that will occupy and utilize the finished Work. The Using Agency is the client of the Division of Capital Construction and Project Administration and the eventual user of the finished product. The General Conditions of the Contract refer to the Using Agency as the Agency.

USING AGENCY REPRESENTATIVE: The person that officially represents the Using Agency while working with CCPA during the course of a Capital Construction Project.

VALUE ENGINEERING: A process for establishing and evaluating costs and benefits for alternative methods or materials that may be considered for use in construction of a Capital Construction Project.

VENDOR VIOLATIONS: A listing of all violations of the General Contractor within the last 5 years. The listing includes violations of the following:

1. KRS Chapter 136 (Corporation and Utility Taxes)
2. KRS Chapter 139 (Sales and Use Taxes)
3. KRS Chapter 141 (Income Taxes)
4. KRS Chapter 337 (Wages and Hours)
5. KRS Chapter 338 (Occupational Safety and Health of Employees)
6. KRS Chapter 341 (Unemployment Insurance);
7. KRS Chapter 342 (Workers Compensation)
8. Occupational Safety and Health Laws in Kentucky as well as any other states and at the federal level

WARRANTY: A written document that provides a guarantee or assurance by the Contractor or manufacturer that the building and all of its components function as specified in the Contract Documents.

WORK: Includes the construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, supervision, materials, equipment, services, and things provided or to be provided by the Contractor to fulfill the Contractor's obligations.

WORK PLAN: A project-specific outline for the phased delivery of professional design services, used for Projects that do not lend themselves to traditional facility design phasing (i.e. Phases A through D as defined in this document). Typically used for civil engineering or master planning projects.

1 ASHRAE. 2004. *ASHRAE Guideline 0 – The Commissioning Process*. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. Atlanta, GA.

103 - Project Process Overview

The following is a brief overview of a typical capital construction project from creation to completion.

103.1 Project Initiation

- Need identified by Using Agency:* A need arises to alter, improve, construct or demolish.
- Project funded by the State Legislature (exceeding \$1,000,000):* The project is approved by the General Assembly as a line item of the budget.
- Project approved by Using Agency (not exceeding \$1,000,000):* The project is funded by a Using Agency with an approved source of funds, i.e., a maintenance pool or federal funds, etc.
- Project funded by Bond Funded Maintenance Pools as authorized by HB 267 (These projects can exceed \$1,000,000):* The project is funded by the Using Agency from an authorized pool as established by the General Assembly. The use of these funds, if exceeding \$1,000,000, is required to be pre-approved by the Governor's Office for Policy and Management and reported to the Capital Projects Bond and Oversight Committee through the Secretary of the Finance and Administration Cabinet. These projects are required to be of a more permanent nature i.e. roofs, HVAC systems, windows, etc. with a useful life that approximates the life of the bonds (20 years). Typically, they may also have a two-year limit on the expenditure of these funds.

103.2 Project Pre-Design

- Architect-Engineer Selection:* The University solicits prospective professional service firms with expertise necessary to design the project. Depending on the size of the project, Architect-Engineer is selected through a qualifications based process or from a Master Agreement list. A contract for professional services is offered, negotiated and awarded.
- Selection of Commissioning Authority:* CCPA will determine if there is a need for a Commissioning Authority for the project. If yes, CCPA in consultation with the Using Agency, identifies the Commissioning Authority that will lead the implementation of the project's Commissioning Process. The Commissioning Authority may be CCPA, an independent professional commissioning provider, other appropriate entity, or a combination thereof. The scope and delivery method of the project will impact the Commissioning Authority selection. Third party commissioning providers may be selected through a qualifications based process or from a Master Agreement list. A contract for professional services is offered, negotiated and awarded.
- Project Requirements identified:* The Using Agency, CCPA the Architect-Engineer and the Commissioning Authority develop the Owner's Project Requirements.

103.3 Project Design

- Initial Meeting:* The Architect-Engineer, Project Manager, Using Agency Representative(s), and members of the Commissioning Team (when applicable) will meet to discuss the Owner's Project Requirements.
- Phase A: Schematic Design:* The Architect-Engineer verifies that the Project Program portion of the Owner's Project Requirements is sufficient for the project. Site analysis, conceptual diagrams, schematic drawings, systems descriptions and project cost estimates are created by the Architect-Engineer. Decisions are made concerning the basic design of the project. For projects seeking LEED certification, the Architect-Engineer shall register the project with the USGBC, determine and identify the appropriate LEED checklist and appropriate credits. The Architect-Engineer shall provide a preliminary energy model as required to document compliance for the LEED Energy and Atmosphere Credit 1. The Commissioning Team reviews the design to affirm compliance with the Owner's Project Requirements.
- Phase B: Design Development:* The Architect-Engineer fully develops the design concepts, specifications, drawings, equipment and cost estimate. With the basic design set during Phase A, the design is fine-tuned and final decisions about the design are reached. For projects seeking LEED certification, the Architect-Engineer shall participate in commissioning, finalize LEED points and provide a preliminary energy model as required to document compliance for the LEED Energy and Atmosphere Credit 1. The Commissioning Team reviews the design to affirm compliance with the Owner's Project Requirements.
- Phase C: Contract Documents:* The Architect-Engineer completes final development of bidding and contract documents. The Architect-Engineer re-affirms that the project is within budget and in conformance with the Owner's Project Requirements. The Commissioning Team concurs that the design meets the Owner's Project Requirements and the Commissioning Plan will assure its successful implementation. For projects seeking LEED certification, the Architect-Engineer shall incorporate details and specifications as necessary to meet the LEED requirements for all credits being pursued. The Architect-Engineer shall provide the final energy model and the resulting number of points for Energy and Atmosphere Credit 1. The Architect-Engineer shall prepare and submit the LEED Design Application to the USGBC.
- Bidding Phase:* EKV Purchases and Stores solicits bids from potential construction companies, issues addenda, receives bids,

analyzes the lowest and best bid and awards the contract for construction.

103.4 Construction

<i>Construction of the Work:</i>	The contractor selected through the bidding process performs the construction work. The Architect–Engineer provides construction administration services. The Commissioning Authority administers the Commissioning Plan to quantify the success of the project.
<i>Substantial Completion:</i>	The point at which, as certified in writing by the Architect-Engineer, the Project is at a level of completion in strict compliance with the Contract, and necessary approval by public authorities has been given, such that the Owner can enjoy beneficial use or occupancy and can use, operate and maintain it in all respects, for its intended purpose. Partial use or occupancy of the Project shall not result in the Project being deemed substantially complete and such partial use or occupancy shall not be evidence of Substantial Completion.
<i>Final Completion:</i>	The work is accepted and is turned over to the Using Agency.
<i>Post-Occupancy Period:</i>	The Commissioning Authority conducts any off-season system testing required and continues to evaluate the Using Agency operating methods. The Using Agency reports warranty issues to the Contractor for remediation. The Architect-Engineer, in association with the Contractor, shall submit the LEED application to the USGBC and shall coordinate all comments and reviews for response to the USGBC until the specified certification has been achieved.
<i>End-of-Warranty Inspection:</i>	The Project Manager, Using Agency Representative, Architect-Engineer and the Commissioning Authority inspect the Work and document warranty issues. The Contractor repairs the deficiencies found.
<i>Capital Construction Project Closeout:</i>	<i>The capital construction account is closed.</i>

104 - Responsibilities of Eastern Kentucky University

104.1 The Division of Capital Construction and Project Administration: Division of the University Capital Construction program, including design and construction of Capital Construction Projects, is the responsibility of Capital Construction and Project Administration (CCPA). These administrative responsibilities include but are not limited to:

- Act as a liaison with the Using Agency Representative
- Assist in development of Owner's Project Requirements
- Assist in project programming
- Develop project budgets
- Employ consultants
- Negotiate consultant fees
- Monitor design, construction and commissioning
- Work with a Purchasing Official to advertise and award construction contracts
- Review and approve changes in the Owner's Project Requirements
- Review and approve Construction Documents and Commissioning Process Reports
- Conduct overall management of project funds
- Perform oversight of the Architect-Engineer, Contractors, and Commissioning Authority (when applicable).

CCPA will review the project design documents in relation to the program and the Owner's Project Requirements during the design process. CCPA will be consulted regarding any proposed project changes that affect the Owner's Project Requirements or intended use of the project. CCPA will participate as part of the Commissioning team, throughout the design and construction phases.

Following each project phase review, CCPA will make recommendations to the Using Agency and the funding source (if different than the Using Agency) pertaining to their review of the project documents at that phase of the project. CCPA will sign the official Phase C Estimate of Construction Cost form as developed and submitted by the Architect-Engineer.

The Project Manager signs the title block of the Ready-to-Advertise drawings prior to the submission for bidding. This signature indicates that the Using Agency has reviewed and accepted the project and construction schedule as represented in the Ready-to-Advertise documents and agrees to the advertisement for bid proposals. This agreement by the Project Manager also indicates that the funding is in place to execute the project as submitted in the final Phase C Estimate of Construction Cost. The Project Manager shall maintain adequate allotments in the proper FOAPAL and cash in the account throughout design and construction of the project.

104.2 Division of Real Properties Responsibilities: This Division is responsible for the State's acquisition and disposal of real property, the leasing of property for State use, and managing space of State owned and leased premises. **See Section 203 - Property Acquisitions.**

104.3 Using Agency Responsibilities: The Using Agency provides the program and Owner's Project Requirements to Capital Construction and Project Administration. If the Using Agency has no program or Owner's Project Requirements, Capital Construction and Project Administration will contract these services.

The Using Agency appoints a representative to attend project meetings during construction of the project. The Using Agency Representative consults with the Project Manager on all project-related issues. The Using Agency Representative is charged with ensuring that any changes in the project during the construction are consistent with the Owner's Project Requirements.

Upon Substantial Completion, the Using Agency assumes the following responsibilities:

- Maintains and updates Systems Manual.
- Obtains proper insurance coverage for the facility.
- Lists the project and costs with the Division of Real Properties for inventory purposes.
- Provides staff for Operations and Maintenance Training.
- Assumes operation of the completed project.
- Conducts normal maintenance operations
- Reports all warranty issues to Capital Construction and Project Administration
- Participates in the end-of-warranty inspection
- Participates in the extended Phase D services on projects seeking LEED certification.

104.4 Department of Housing Building and Construction Responsibilities:

<http://dhbc.ky.gov/Pages/default.aspx>

Plan Review and Inspection: The following is an excerpt from the Kentucky Building Code.

SECTION 104 - JURISDICTION FOR PLAN REVIEW AND INSPECTION

104.1.7 State buildings exempt. *Buildings owned by the Commonwealth shall not be subject to local plan review, inspection or approval, regardless of size, occupant load or occupancy classification.*

104.2 State jurisdiction. *The Office (Department of Housing Building and Construction) shall have jurisdiction to review construction documents, issue permits, and make inspections to determine compliance with this code for the buildings listed in Sections 104.2.1 through 104.2.8 and all buildings except single-family dwellings where no local building inspection program exists as required by Section 103.4 of this code.*

104.2.8 State-owned buildings. *All buildings owned by the Commonwealth regardless of occupancy classification or size.*

105 - Responsibilities of Commissioning Authority

105.1 Commissioning Authority Identification: If it is determined that a Commissioning Authority is needed for the project, Capital Construction & Project Administration will identify the Commissioning Authority after the establishment of a Capital Construction Account and before the Using Agency completes the Owner's Project Requirements. The Commissioning Authority will lead the Commissioning Process for each commissioned system for the project. This Commissioning Authority may be any entity or combination of entities as identified by the Owner. Examples of Commissioning Authority alternatives include owner representatives, professional commissioning providers or other qualified parties.

105.2 Direction: The Commissioning Authority shall accept directions only from the Project Manager. Requests or desires of the Using Agency made directly to the Commissioning Authority will be immediately referred to the Project Manager. Any changes to the project scope must be authorized in writing by the Project Manager.

105.3 The Commissioning Authority Responsibilities: The Commissioning Authority shall guide the Commissioning Process for all commissioned systems. The Commissioning Process requires the Commissioning Authority to perform the following for designated projects:

- Lead the Commissioning Team,
- Plan the implementation of Commissioning Process activities,
- Develop and maintain Commissioning Process documents, and
- Act as the owner's representative to assure that the project satisfies criteria as described in the Owner's Project Requirements.

The Commissioning Authority shall furnish copies of the Commissioning Process instructions, manuals, and other documents to all Commissioning Team members to facilitate coordination of design and construction. The Project Manager shall determine the Commissioning Authority's scope of responsibility. The Commissioning Authority shall furnish all services, materials, supplies, equipment, investigations, studies, and travel required in connection with the Commissioning Process for this project as defined by the Commissioning Plan and per the terms in their contract where professional services are used.

105.4 The Commissioning Process: The Commissioning Authority executes the Commissioning Process through the writing and review of reports, organization of meetings, organization of tests, demonstrations, and training events per the Contract Documents and Commissioning Plan. The Commissioning Authority shall prepare meeting agendas, maintain attendance lists, arrange for facilities, and provide timely notification to all participants for each Commissioning Process activity. The Commissioning Authority shall be the chair for all Commissioning events and ensure execution of all agenda items.

105.5 Design Quality Assurance: The Commissioning Authority will lead the Commissioning Process which is a method of quality assurance for capital construction projects. The Commissioning Process requires reviews of all designs, drawings, and specifications required by a project for compliance with the Owner's Project Requirements. The Commissioning Process does not detract from the Architect-Engineer's responsibility to maintain a quality-control program. The Architect-Engineer's quality-control program assures that all services, designs, drawings, and specifications required by this contract are performed and provided in a manner that meets professional architectural and engineering quality standards.

Discrepancies discovered between the project documents and the Owner's Project Requirements will be documented by the Commissioning Authority. These findings will be communicated to the Project Manager for resolution by the Architect-Engineer or the Contractor. To the extent possible, errors and deficiencies in the design documents shall be identified and corrected prior to submitting them to the Project Manager. The Commissioning Authority shall utilize a systematic process for pre-submission reviews of design and construction documents.

105.6 Commissioning Process Meetings: The Commissioning Authority shall prepare written minutes of each Commissioning Process meeting and shall furnish this record within five (5) working days to the Project Manager with copies to all Commissioning Team members and meeting attendees. The written minutes will include the project name and names of all participants, a paraphrase of all discussions, and listing of issues that require follow-up or response. The Owner may require additional Commissioning Process meetings during the course of the design or construction of the project. The Commissioning Authority may also request additional Commissioning Process meetings subject to the Owner's approval.

105.7 Construction Phase: During Phase D of the Project, the Commissioning Authority shall lead the Commissioning Team in verifying the installation of commissioned systems and assemblies for compliance with the Owner's Project Requirements. A series of installation checklists, test forms, and performance tests shall be completed during the verification of systems and assemblies. The Commissioning Authority may select, subject to approval by the Project Manager, qualified specialists and consultants to develop and perform the functional tests on commissioned systems. The Commissioning Authority is responsible for collecting and compiling all checklists, test forms, and data forms.

105.8 Occupancy Phase: The Commissioning Authority shall coordinate the seasonal testing and other deferred testing as required by the Specifications. During this process, the Commissioning Authority shall continue to direct operations and maintenance training. If warranty issues arise during the Occupancy Phase, the Commissioning Authority shall verify contractor's resolution of warranty repairs.

105.9 Warranty Phase: During the warranty period, the Commissioning Authority shall continue to coordinate seasonal testing and other deferred testing as required by the Specifications. The Commissioning Authority and facilities staff shall verify the deficiency corrections made by appropriate Subcontractors. The Commissioning Authority shall return to the project, at a date determined by the Commissioning Plan. During this visit, the Commissioning Authority shall review with facility staff the current building operation and the condition of outstanding issues related to the original and seasonal commissioning. The Commissioning Authority shall interview facility staff and identify problems or concerns they have operating the building as originally intended. The Commissioning Authority shall make suggestions for improvements and identify areas that may come under warranty. The Commissioning Authority shall also assist facility staff in developing reports and documents and requests for services to remedy outstanding problems.

105.10 Extended Warranty Phase (LEED): On projects seeking LEED Certification, the Commissioning Authority shall provide documentation to the Architect-Engineer as necessary for the preparation and submission of the LEED application to the USGBC. The Commissioning Authority shall continue to assist the Architect-Engineer in answering any appeals until the appropriate certification is acquired.

106 - Responsibilities of Design Professionals

106.1 Qualifications: The Architect-Engineer and his Sub-consultants shall be qualified design professionals licensed to practice Architecture, Landscape Architecture and Engineering in the Commonwealth of Kentucky, per the Kentucky Revised Statutes. <http://lrc.ky.gov/KRS/322-00/360.PDF>. The Architect-Engineer shall ensure that all aspects of the Project are designed in accordance to the Owner's Project Requirements and are in compliance with applicable codes and regulations. Responsibility for all aspects of the project design and construction documents shall belong to the Architect-Engineer. Services provided by the Architect-Engineer shall meet established and accepted professional standards for design services.

106.2 Direction: The Architect-Engineer shall accept directions only from the Division of Capital Construction and Project Administration Project Manager. Requests or desires of the Using Agency made directly to the Architect-Engineer will be immediately referred to the Project Manager. Any changes to the project scope must be authorized in writing by the Project Manager.

106.3 Architect-Engineer Representative: The Architect-Engineer shall assign a person within the firm who has the responsibility of being present at all meetings and to supervise all significant elements of the work in progress, and shall be cognizant of and assure that all documents on the project have been coordinated. The Architect-Engineer will be a member of the Commissioning Team and participate in all applicable Commissioning activities. This individual shall be a person who has verifiable engineering or architectural design experience and is a Kentucky-registered professional architect, engineer or landscape architect. Each Sub-Consultant within the Architect-Engineer's design team shall assign a lead person for that discipline. This individual shall be a person who has verifiable design experience in the discipline and is a Kentucky-registered professional in that discipline. The Architect-Engineer shall notify the Project Manager of the names of these individuals and the names of alternate persons assigned to each position.

106.4 Design Quality Control: The Architect-Engineer shall effectively maintain a quality-control program that will assure that all services, designs, drawings, and specifications required by the contract are performed and provided in a manner that meets professional architectural and engineering quality standards. Errors and deficiencies in the design documents shall be identified, documented, and corrected prior to submitting them to the Project Manager. The Architect-Engineer shall utilize reasonable care in the pre-submission review of the design documents.

The design documents will be systematically reviewed by the Commissioning Authority for compliance with the Owner's Project Requirements. Identified deviations in the design documents will be documented. The Commissioning Team will work together to resolve any design issues uncovered by the Commissioning Process. The Architect-Engineer shall participate in the Commissioning Process in order to assure design quality.

The Architect-Engineer shall furnish copies of all instructions, manuals, and all design requirements to all Sub-consultants to insure a complete coordinated design. The Architect-Engineer and all Sub-consultants shall comply with the design requirements. The Architect-Engineer's responsibility shall be continuous from the inception of design, through construction and warranty phases. The Architect-Engineer shall furnish all services, materials, supplies, equipment, investigations, studies, and travel required in connection with this project as defined by the terms of agreement in their Contract for professional design services.

106.5 High Performance Building Standards: The following is 200 KAR 6:070, eff. 7-29-2009.

200 KAR 6:070. High performance building standards.

RELATES TO: KRS 56.770, 56.775, 56.777, 56.872, 164A.580

STATUTORY AUTHORITY: KRS 56.777

NECESSITY, FUNCTION, AND CONFORMITY: KRS 56.777(7) requires that the Finance and Administration Cabinet promulgate administrative regulations to establish high performance building standards for state building projects, considering recommendations from the High-Performance Buildings Advisory Committee established by KRS 56.777(7). This administrative regulation establishes the criteria for the high performance building standards and the benchmarks by which the standards will be measured in consideration of the Committee's recommendations.

Section 1. Definitions. (1) "Committee" means the High-Performance Buildings Advisory Committee established by KRS 56.777.

(2) "ENERGY STAR" is defined by KRS 56.770(17).

(3) "High performance building" is defined by KRS 56.770(7).

(4) "LEED" is defined by KRS 56.770(19).

(5) "Major renovation building project" means a renovation project for which the budget exceeds half of the replacement value of the building being renovated.

(6) "Replacement value" means the insured value.

Section 2. High Performance Building Standards. The standards established in this section shall apply to high performance buildings, in accordance with KRS 56.777.

(1) All new construction and major renovation building projects for the amount of \$25 million or more in budget shall be designed, built, and submitted for certification to achieve a rating of Silver Level or higher using the LEED 2009 - New Construction Project Scorecard.

(2) All new construction and major renovation building projects between \$5 million and \$25 million in budget shall be designed, built, and submitted for certification to achieve a rating of Certified level or higher using the LEED 2009 - New Construction Project Scorecard.

(3) All new construction and major renovation building projects greater than \$5 million in budget shall additionally achieve a minimum of 7 points for new and for existing buildings under the LEED Energy and Atmosphere Credit 1, Optimize Energy Performance in the LEED 2009 - New Construction for Member Ballot.

(4) All new construction and major renovation building projects between \$600,000 and \$5 million in budget shall be designed and built using the LEED Rating System as guidance.

(5) Any new construction or major renovation building project that fails to achieve the LEED rating required under this section shall be considered to have met the requirements of this section, if:

(a) The required rating was not achieved due to the sole failure to receive a point for certified wood, credit 7 in the Material and Resource category of the LEED Rating System; and

(b) The project used wood products certified under the American Tree Farm System (ATFS) or the Sustainable Forestry Initiative (AFI).

Section 3. Exemption From Standards. A new construction or major renovation building project that is required, or that it will otherwise be in the best interest of the Commonwealth to grant an exemption to meet the high performance building standards

may be granted an exemption from the standards if there is an extraordinary undue burden in accordance with subsections (2) and (3) of this section.

- (1) An affected agency may request that the Secretary of the Finance and Administration Cabinet, or in the case of a state university, which manages its own capital construction projects under KRS 164A.580, the university's governing board, grant an exemption from the standards in Section 2 of this administrative regulation. This request for exemption shall be made in writing and fully justified.
- (2) The Secretary, or the university's governing board with actual jurisdiction, shall have the nondelegable authority to grant an exemption from the standards in Section 2, if the agency adequately demonstrates that an extraordinary undue burden will be placed upon the agency if project compliance is required, or that it will otherwise be in the best interest of the Commonwealth to grant an exemption. If the Secretary or the university's governing board grants an exemption, the exemption shall specify the extent to which the standards in Section 2 of this administrative regulation shall be waived.
- (3) Factors to be considered in determining whether to grant an exemption shall include:
 - (a) Whether the cost of compliance exceeds a building's life-cycle cost savings;
 - (b) Whether compliance will increase costs beyond the appropriated funding capacity for a project;
 - (c) Whether compliance will compromise the historic nature of a building;
 - (d) Whether compliance will violate federal, state, or local law;
 - (e) Whether the unique nature of a project makes compliance impractical or not feasible.
 - (f) Whether another high performance building program, such as the ENERGY STAR rating system or the Green Globes rating system, will be utilized even if an exemption from the standards in Section 2 of this administrative regulation is granted.
- (4) If a university's governing board grants an exemption, a copy of the exemption shall be promptly provided to the Secretary of the Finance and Administration Cabinet for informational purposes only.

Section 4. Mandatory Requirement. Pursuant to KRS 56.777(7), each high-performance building shall be designed, constructed, or renovated so that it is capable of being rated as an ENERGY STAR building. An exemption shall not be granted from this requirement.

Section 5. For all new construction and major renovation building projects, agencies shall consider and encourage the use of the items identified in KRS 56.777(8). The use of locally grown lumber shall include wood products certified under the Forest Stewardship Council (FSC), the American Tree Farm System (ATFS), or the Sustainable Forestry Initiative (SFI).

Section 6. In accordance with KRS 56.777(2), the Finance and Administration Cabinet and universities that manage their own capital construction projects under KRS 164A.580 shall give a preference in the leasing process to high performance buildings over other buildings that do not meet these standards, unless an exemption is granted in accordance with Section 2 of this administrative regulation.

Section 7. Universities that manage their own capital construction projects under KRS 164.580 shall provide the Finance and Administration Cabinet with a report on or before September 1 of each odd-numbered year, on the use of energy-efficiency measures, including improvements in energy efficiency planned or realized through the use of high performance buildings standards, in order to allow the Finance and Administration Cabinet to comply with the reporting requirements of KRS 56.782.

Section 8. Incorporation by Reference. (1) The following material is incorporated by reference:

- (a) "LEED 2009 - New Construction Project Scorecard"; and*
- (b) "LEED 2009 - New Construction for Member Ballot".*

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Department for Facilities and Support Services, Room 340, Bush Building, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m. (35 Ky.R. 2371; Am. 2764; 36 Ky.R. 20; eff. 7-29-2009.)

106.6 Projects Seeking LEED Certification: For projects seeking LEED Certification, the Architect/Engineer shall register them as a LEED project with the USGBC. The Architect-Engineer shall determine the appropriate LEED checklist and shall identify, with the Owner's assistance, the LEED credits appropriate for the project. The Architect-Engineer shall conduct design activities accordingly to achieve the desired credits. The Architect-Engineer shall include Contractor requirements relating to LEED documentation and prepare and submit the LEED Design Application to the USGBC. The Architect-Engineer will continue to coordinate with the USGBC until the appropriate LEED certification is achieved and received.

The Architect/Engineer shall provide energy models throughout all design phases of the project as required to document compliance with the required number of points for LEED Energy and Atmosphere Credit 1.

106.7 Design Schedule: The Architect-Engineer shall prepare and submit to the Project Manager for approval a design schedule including the following:

- Milestones as originally outlined in the RFP or as provided by the Owner's Project Requirements.
- Significant milestones such as review submittals.
- An updated design schedule will be submitted at each design review meeting or when the progress of the project has significantly changed.

The Architect-Engineer shall submit the Design Schedule to the Project Manager for review and approval within ten (10) working days following the Initial Meeting.

The Architect-Engineer shall assign sufficient personnel to identify all major tasks, including the internal monitoring of scheduling those that control the flow of work. The Project Manager shall be notified in writing should a delay in the work be identified.

When a contract modification or project delay occurs, the Architect-Engineer shall submit a revised design schedule reflecting the change within five (5) working days of the receipt of the request for change.

The submittal dates established by the design schedule are to be delivery dates to all project participants as directed by the Project Manager.

106.8 Meetings: The Architect-Engineer shall, coordinate, participate and document all meetings as follows:

- **Site Visit/ Project Discussions:** Site visits shall be arranged through the Project Manager, or at the direction of the Project Manager through the Using Agency Representative. The Architect-Engineer shall prepare a written record of each site visit and/or significant project discussion and submit to the Project Manager. Site investigations must be sufficiently thorough to ensure that design details are compatible with the existing conditions at the project site.
- **Commissioning Reviews and Meetings:** The Architect/Engineer shall participate with the Commissioning Authority throughout the project and develop a Basis of Design (BOD) based on the Owner's Project Requirements (OPR). The Architect-Engineer shall facilitate interim reviews for each phase of design with the Commissioning Authority, and shall actively evaluate the list of commissioning review comments to ensure that each comment has been adequately addressed. The Architect-Engineer shall participate in appropriate Commissioning Team meetings.
- **Project Meetings:** The Architect-Engineer shall prepare written minutes of each project meeting and shall furnish this record within five (5) working days to the Project Manager with copies to all meeting attendees. The written minutes will include the project name and names of all participants, a paraphrase of all discussions, and listing of issues that require follow-up or response.
- **Additional Meetings:** The Project Manager may require additional project meetings during the course of the design or construction of the project. The Architect-Engineer may also request additional project meetings subject to the Project Manager's approval.

106.9 Review Comments: After each project submittal, the Architect-Engineer will be furnished design review comments from the Project Manager and the Using Agency Representative through the Project Manager. The Architect-Engineer shall actively review the comprehensive list of comments to ensure that each comment has been adequately addressed, either by incorporation into the project documents, or excepted as listed in the paragraph below. If the Architect-Engineer disagrees technically with any comment and does not intend to comply with it, he shall clearly outline, with ample justification, the reasons for noncompliance within seven (7) working days after receipt in order that the comment can be resolved.

106.10 Project Budget Limits: The design shall be limited as defined by the Owner's Project Requirements, unless specific written consent is obtained from the Project Manager. The estimated construction cost of the completed design will not exceed the amount established by the Owner's Project Requirements. The Architect-Engineer shall design the project within the funding limitations. Should the estimated cost exceed the funding limitations, the Architect-Engineer shall make recommendations for reducing the project scope and/or identifying optional bid items of work.

Upon receiving written approval from the Project Manager, the Architect-Engineer shall modify the contract drawings and specifications to incorporate all changes necessary to reduce the base bid cost estimate below the funding limitation.

If revised criteria prevent the Architect-Engineer from meeting the cost limitations, the Architect-Engineer shall notify the Project Manager immediately. The Architect-Engineer shall list the problem criteria and explain the negative impact on the design cost.

106.11 Value Engineering: The Project Manager may require the Architect-Engineer to provide Value Engineering studies, either during or after the completion of design, or following bidding. Value Engineering may be undertaken for the following reasons:

- Project design estimate provided by the Architect-Engineer exceeds the construction funds available.
- The lowest bid proposal received during bidding exceeds the available construction funds.

The Architect-Engineer shall identify potential design elements, along with potential cost savings, to be considered for Value Engineering. The Project Manager will then direct the Architect-Engineer to perform technical and economic analyses for selected elements. The Architect-Engineer shall present the completed analyses for consideration by the Project Manager. The Project Manager will direct the Architect-Engineer to incorporate any selected elements into the project design.

106.12 Compliance with Applicable Codes, Laws and Regulations: The Architect-Engineer is responsible for complying with all applicable codes, laws and regulations and shall submit the appropriate documents to applicable authorities having jurisdiction over the project.

106.13 Design Phases: Upon receipt of written approval of a specific phase of the project the Architect-Engineer shall proceed with the subsequent phase, unless directed specifically in writing to suspend progress of the work at this level of development.

Phase A (20%) – Schematic Design

Phase B (40%) – Design Development

Phase C (60%) – Contract Documents Intermediate Review

Phase C (75%) – Contract Documents Complete and Ready to Bid

Phase D (100%) – Construction Administration

For projects seeking LEED Certification:

Phase D (95%) – Construction Administration

Extended Phase D Services (5%)

Capital Construction and Project Administration will provide the front end documents (i.e., instructions to bidders, General Conditions and typical bidding documents) to the Architect-Engineer upon request. The documents provided by Capital Construction and Project Administration are not to be inserted into the review set or Ready-to-Advertise set of documents by the Architect-Engineer.

106.14 Interior Design: For the purposes of this manual interior design will be considered either Architectural Interior Design or Comprehensive Interior Design.

- **Architectural Interior Design** is the design of aesthetic aspects (e.g. materials, colors, fixtures etc.) related to fixed architectural interior elements, such as walls, ceilings, floors and built-in fixtures. Such design is typically considered to be within the normal services provided by an Architect-Engineer for a building design.
- **Comprehensive Interior Design** is the design of moveable interior furnishings and accessories and/or modular furniture layouts within a building.

Architectural Interior Design is required for all building interiors regardless of size or scope. The Architect-Engineer should review the Owner's Project Requirements to determine if Comprehensive Interior Design is required for the project. When Comprehensive Interior Design is required, a Certified Interior Designer shall be utilized.

Correctional Industries products shall be given priority consideration for all projects where Comprehensive Interior Design is required. Waiver requirements for this requirement shall be coordinated with the Project Manager. Where feasible and in addition to Correctional Industries, Office of Procurement Services contracts may be used to develop the Comprehensive Interior Design.

Selection of building related finishes and furnishings are to be a team effort using both the Architect-Engineer's and Interior Designer's expertise to insure the Architectural Interior Design and Comprehensive Interior Design are fully compatible in theme, function and aesthetics. Capital Construction and Project Administration and the Using Agency will have input into the interior design.

An Architectural Interior Design narrative addressing the overall basic color scheme concepts and the conscious design considerations for selection of colors, materials, and finishes as it relates to the building's design, and health, safety and welfare of the occupants is to be submitted at Phase B (50%) Design Development.

Architectural Interior Design color boards and Comprehensive Interior Design narrative describing furniture being considered for the project are to be submitted at approximately 60% of the Phase C Contract Documents, or at the Phase C (60%) Intermediate review.

107 - Drawings

107.1 Project Identification: The Architect-Engineer will be furnished with the Project Title and RCF/Project Number. This information shall be applied to every drawing and item of correspondence.

107.2 Drawing Size: Typical contract drawings will be prepared on sheets measuring 24" x 36" or 30" x 42". If ½ size drawings are to be used for bidding purposes, the original drawings submitted to the Division of Capital Construction and Project Administration for bidding purposes and record drawings shall be full size. The drawings will be reduced to ½ sizes by the printer.

107.3 Title Blocks: The standard ECU Division of Capital Construction and Project Administration title block shall be used. No other title block is permitted. An electronic or "hard-copy" sample title block is available from the Project Manager. The Project Manager will provide the Project Title and RCF/Project Number, project location, and other project specific information that is to be contained in the title block. The sheet title assigned by the Architect-Engineer should clearly define the information contained on that drawing. This sheet title shall match the sheet name on the drawing index. All title block information must be as complete as possible for each submittal. **See Section 107.9 Title Block** for an example.

107.4 Cover Sheets: All drawing sets shall have a cover sheet of the same size as the drawing set that contains the following information:

- Project and location information
- Using Agency information
- RCF/Project Number
- Architect-Engineer and Sub-consultants
- Vicinity map
- Drawing index

107.5 Drawing Layout: Drawings shall be prepared so that they present complete information. Drawings shall be void of unnecessary wasted space, duplicate notes, and repetitive details. Standard details that are not applicable to the project shall not be shown. Drawings shall be detailed to the extent that:

- An accurate cost estimate can be prepared by the Architect-Engineer
- Potential bidders can prepare bid proposals
- The general contractor can perform the work of the project

Drawings shall be developed using drafting standards that insure clarity and legibility when reduced to half size. Drawings, when plotted to full size, shall use a minimum text height of 3/32 inch. All plans, elevations, sections, details, legends and notes shall be clearly and uniquely titled. Complete legends, symbols and lists of abbreviations shall be placed on the drawings so their meaning is clear.

107.6 Drawing Standards:

- **Lines Styles and Widths.** All CADD design file graphics, line weights and styles, shall be such that the drawings are clearly readable.
- **Drawing Scales:** All drawings and details shall be of a scale provided on a standard Architectural or Engineering scale in English units. No drawing shall be “not to scale”, unless approved by the Project Manager and so indicated on the drawing. Each sheet of drawings shall have a graphic scale that corresponds to each drawing scale on the sheet.
- **Drawing Cross Referencing:** Cross-referencing for sections and details shall be based on sheet reference numbers. Major sections shall be identified with uppercase letters. Major details shall be identified with numerals.

107.7 Special Requirements: The submittal requirements for each design stage are listed elsewhere in this manual and shall determine the appropriateness of the following:

- **Location of Project Elements:** To facilitate the location of project elements and the coordination of the various drawings, all plans with column grids shall indicate a column line or planning grid, and all floor plans (except structural plans) shall show room numbers.
- **Composite and Key Plans:** If plans for a large building or structure must be placed on two or more sheets to maintain proper scale, the total plan shall also be placed on one sheet at a smaller scale. Appropriate key plans and match lines shall appear on segmented drawings. Key plans shall be used to relate individual buildings to complexes of buildings. Key plans shall be placed in a convenient location and shall indicate represented plan area by crosshatching.
- **“For Information Only” Drawings:** When drawings from previous contracts are deemed necessary for information purposes only, the words "FOR INFORMATION ONLY" shall be printed in bold letters immediately above the title block or as near thereto as practical. The original title blocks shall not be changed. For filing and sequential purposes, a file number for the new project shall be printed in the margin below the title block.

107.8 Code Review Plan: Show graphically key components of what is required by the Department of Housing Building and Construction.

108 - CADD Standards

108.1 Electronic Format: All drawings shall be furnished in an electronic format compatible with AutoCAD (".dwg" format). The term "compatible" means that data can be accessed directly by the target CADD system without translation, preprocessing, or post-processing of the electronic data files. Prior to submitting electronic files the Architect-Engineer shall verify with the Project Manager the required format/version of AutoCAD files.

108.2 Conventions: CADD files shall include and be prepared to comply with the following drawing conventions:

- Standard File Names: CADD files shall have a standard name. This name shall be the File Number and the sheet number that appears on the drawing. Example: FILENUMBER_A-1 Floor Plan.dwg
- Standard File Name Example: 440-C43R-HP03-00 A1 - Floor Plan.dwg
- Extraneous graphics outside the border area shall be removed.
- Reference Files shall be attached without device or directory specifications. All files must be free standing and independent files.
- Fonts: Only standard fonts available in AutoCAD are allowed.
- Drawing Package Assemblage: All drawings submitted on removable media shall be properly sequenced to correspond to the drawing index on the cover sheet.
- Independent Files: All files must be free standing and independent files.

See Section 107 - Drawings and Section 608 – Phase C Submittals for additional information.

109 – Project Delivery Options

109.1	Design/Bid/Build	not yet published
109.2	Design/Construction Management	not yet published
109.3	Design/Build (Agency at Risk)	not yet published
109.4	Build to Suit	not yet published

110 – Project Identification

110.1 Project Identification for Correspondence and Documents: The exact Project Title and the Organization (ORG) code must be used on all correspondence and documents related to the project. When applicable, the Request to Change Facilities (RCF) number and the Activity code must also be use on correspondence and documents related to the project. These numbers are a part of the FOAPAL (Fund, Org, Account, Program, Activity, Location) that is used to identify and organize project information. This information should be listed in the following order:

1. RCF Number (if applicable)
2. ORG Code
3. Activity Code (if applicable)
4. Exact Project Title

Additionally, the project RCF number, ORG code, and Activity Code shall be used on all documents that concern funding, construction costs, modifications to the contract time or Contract Sum, payment requests, schedule of values, etc.

110.2 Example of Project FOAPAL:

<u>RCF</u>	<u>FUND</u>	<u>ORG</u>	<u>ACCOUNT</u>	<u>PROGRAM</u>	<u>ACTIVITY</u>	<u>LOCATION</u>
1273	910200	512162	-	-	R01273	-

110.3 Functions of Project FOAPAL:

RCF – Request to Change Facilities

Ex: 1273 – Alumni Coliseum Parking Lot Entrance Wall Repair

FUND – (*Where*) Specific source of monies

Ex: 910200 –

ORGANIZATION – (*Who*) Department or Grant (Budget) Code

Ex: 512162 – Capital Construction & Project Admin.

ACCOUNT – (*What*) Classification of Expenditures

Ex: 710800 –

PROGRAM – Specific purpose

Ex: 10 -

ACTIVITY – Used for reporting; Special Projects

Ex: R01273 -

LOCATION – Physical place or site used by Fixed Assets for inventory

Ex: PK301 – Perkins Building, Room 301