



San Joaquin Delta College Center for Microscopy and Allied Sciences

2017 Facilities Planning Manual

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FACILITIES PLANNING MANUAL FOR CALIFORNIA COMMUNITY COLLEGES

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PREFACE

This California Community College Facilities Planning Manual (Manual) is a “how-to” guide to the capital outlay process for use by community college staff and consultants, the Chancellor’s Office and the Department of Finance. The Manual is intended to inform and assist in the development of state funded community college facilities and address the capital outlay process and its four components: 1) master plans; 2) capital outlay budgeting; 3) capital outlay project design and construction; and 4) acquisitions. Additionally, it emphasizes master planning and the funding and management of capital outlay projects consistent with the district’s educational needs.

The Manual contains a combination of legal mandates, procedural requirements and suggestions or advisories. Where specific procedures are required for consistency, in response to statute or regulation, specific sections are cited. For clarity, the term ‘shall’ is employed in all cases where legal mandates are discussed. ‘Required,’ and ‘must,’ are used to explain procedural requirements. Other less directive terms such as ‘should’ or ‘it is advised’ are used for advice and suggestions.

Over time, construction materials, technology, regulations and codes have changed resulting in the need for update. This revision provides updated processes and dates taking into account these changes. If you have any comments or suggested changes regarding this Manual or its related policies and procedures, please contact the Facilities Planning and Utilization Unit at (916) 322-8515. Correspondence may be directed to:

California Community Colleges
Facilities Planning and Utilization Unit
Re: Manual Revisions
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Sacramento, CA 95811-6549



CHAPTER 1: INTRODUCTION

- 1.1 Overview**
- 1.2 The Challenge**
- 1.3 Education and Capital Construction Initiatives**
- 1.4 Role of the Facilities Planning Manual**
- 1.5 Chapter Synopses**

1.1 Overview

In 1907, the California Legislature authorized the K-12 system to create junior colleges to offer a higher education experience similar to the first two years of study at the state universities. In 1917, the Junior College Act expanded instructional services to include vocational trade curriculum. The expansion continued in the 1920's and junior colleges were allowed to exist independently from high school districts. By 1938, there were 38 junior colleges throughout the state. The G.I. Bill (1944) encouraged soldiers returning from WWII to attend junior colleges. By the 1950's there were 56 junior college districts, 28 of which were not associated with high school districts. And, in 1967, the Legislature created the Board of Governors of the California Community Colleges to oversee the formally established community college system.

The California Master Plan for Higher Education, initiated in 1960 and renewed in 1990, set the objective of providing economic and social opportunity through a high quality, low-cost system of public higher education available to all. Community colleges are now the primary point of access to higher education in California and the nation. More than one in five community college students in the United States attends a California community college, and 31 percent of University of California and 52 percent of California State University graduates started at a California community college. In addition to preparation for transfer, the college system provides workforce training, certificate and degree programs, as well as basic skills instruction in English and math.

Today, the California Community Colleges form the largest postsecondary educational system in the world. The California Community Colleges system serves more than 2.1 million students annually. This represents one-quarter of the nation's community college students and approximately three-quarters of California's public postsecondary undergraduate students in both vocational and academic program offerings. As of 2017, the California Community College System comprised 72 semi-autonomous districts encompassing 114 colleges, 77 approved off-campus centers, and 24 separately reported district offices. The community college system assets include more than 24,425 acres, 5,951 buildings, and 87 million gross square feet of space, including 52.4 million assignable square feet (ASF) of space. In addition, the system has many off-campus outreach centers at various locations to meet localized instructional needs.

This Facilities Planning Manual (Manual) is intended as a starting point for districts in the process of maintaining, growing or modernizing campus facilities to support the largest postsecondary educational system in the world. This objective, however,

presents a major dilemma to the California Community Colleges. Uncertain state funding, changing student enrollment, the increased need for job training, rapid shifts in technology, an ever-changing economy, changes in teaching methods, student demographics, service areas and new paradigms in nearly every academic and social sector, are just some of the factors affecting community colleges.

1.2 The Challenge

Providing high quality education through a low-cost system can be challenging both from a teaching and learning as well as a facilities (capital outlay) perspective. Districts must provide educational and physical environments suitable for a constantly changing process while staying within annually fluctuating budgets.

To accomplish this, districts must use their limited capital outlay resources to ensure:

- Sufficient facilities to accommodate district enrollment
- Campuses capable of using the latest technology
- Educational delivery systems to support changes in teaching methods
- Learning environments appropriate to student needs
- Improved access and cost effectiveness

Statewide policy makers and commissions have suggested numerous responses to aid districts with facility prioritization, including:

- Increased use of existing facilities
- Shared facilities with business and other educational and public agencies
- Use of electronic communication technology to increase teaching and service delivery efficiency in the classroom
- Use distance learning at remote sites to reduce the need for campus space for educational and student service programs
- Built-in flexibility in the facilities to meet future needs
- Better built and designed learning environments based upon instructional and student services approaches known to increase learning and educational effectiveness

Inherent in procedures that develop capital outlay projects are the following goals:

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- Primary reliance upon educational master plans as the basis for facility and system plans and capital outlay projects
 - Wise and efficient use of public funds with appropriate accountability
 - Decision-making in an open collaborative process involving all stakeholders especially local faculty
 - Consistent, predictable review and approval procedures
 - Clear and accurate information for control agencies and community reviews
 - Adherence to applicable regulations and procedures
 - Maintenance of positive, trustworthy business relationships at all levels

Traditionally, an educational program translated into a need for space and equipment. A program now includes educational delivery systems and learning environments. Educational programs and facilities have become interdependent and should be planned together as a dynamic system. **“Capacity,”** the amount of enrollment that can be accommodated in an amount of space, historically has been used to quantify facility needs. Adequacy, condition and cost efficiency are other factors which must also be considered. *Chapter 2 discusses these factors in detail.*

The challenge to meet changing needs is complicated by competition for resources to meet non-programmatic factors such as:

- Aging buildings, infrastructure, and utilities
- Building code changes and the resulting deficiencies such as increased safety, seismic retrofit, disabled access, and environmental regulations
- Telecommunications and information infrastructure demands
- Energy and water conservation demands

1.3 Education and Capital Construction Initiatives

The California Community Colleges, Board of Governors, issued its policy direction in The Basic Agenda. This policy agenda (adopted in 1992) reaffirming the 1960 Master Plan for Higher Education and Assembly Bill 1725 (1988), set the community college educational priorities and related services as follows.

Educational Initiatives

- Implement transfer provisions of the Master Plan for Higher Education
- Implement the general education transfer curriculum
- Reaffirm strong support of vocational education
- Seek methods to accommodate the growing demand for student access, especially for underrepresented students

Capital Construction Initiatives

- Provide for new facilities in the colleges
- Complete those campuses that lack adequate support facilities
- Consider modernization of old facilities as a priority in capital outlay
- Develop a capital construction plan for the Chancellor's Office

In 2013, the Board of Governors issued a Strategic Plan that emphasized the challenges and opportunities that the system had on improving student success. One of the goals is to improve system effectiveness and provide additional resources.

1.4 Role of the Facilities Planning Manual

The Manual assists districts to meet The Challenge. By describing all the aspects of the community colleges' capital outlay process, the Manual provides a common ground for discussion of issues and options, and a vehicle for policy decisions. The Manual defines terms and principles, clarifies roles and responsibilities and provides the basis for clear communication between districts and state governmental agencies. Additionally, it provides the basis for fair and equitable treatment of districts and projects and is the means for improving and streamlining the capital outlay process.

1.5 Chapter Synopses

The Manual is organized into the following four major components of the capital outlay process:

- 1) Master Planning
 - College Master Planning
- 2) Capital Outlay Budgeting

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- Five-Year Construction Plan
 - Capital Outlay Project Proposals
 - Project Selection and Prioritization
- 3) Capital Outlay Project Design and Construction
- Project Management
 - Programming and Design
 - Bidding and Award of Construction Contracts
 - Construction and Commissioning
- 4) Acquisitions
- Acquisitions for New Colleges, Campuses and Educational Centers

Chapter 2, College Master Planning, provides the community context, educational approach, and educational and facilities goals and objectives for capital outlay program.

Chapter 3, Project Priorities and Selection, covers the activities for state funding requests beginning with the submittal by the districts of the Five-Year Construction Plan and Initial Project Proposals and ending with the Final Project Proposals.

Chapter 4, Five-Year Construction Plans, are annual plans submitted by each district to the Chancellor's Office and the data is used in the California Community Colleges Five-Year Capital Outlay Plan. The plans include master plan summaries, capital improvement needs and priorities, and project lists and description of new projects proposed for the next funding cycle.

Chapter 5, Capital Outlay Project Proposals, describes the contents of Initial Project Proposals, Final Project Proposals and information submitted to the state for review and approval.

Chapter 6, Project Management, covers the setup of the project management team and organization of the project and extends through project planning, programming, design, bid, and construction.

Chapter 7, Programming and Design, covers the compilation of all the information necessary to guide the project through the schematic design, design development, and construction document phases.

Chapter 8, Bidding and Award of Construction Contracts, covers the process of competitive bidding of the construction contract and the awarding of that contract to the lowest responsible bidder.

Chapter 9, Construction and Authorization Procedures, covers project construction, equipment procurement and installation, occupancy, and post occupancy review.

Chapter 10, Site Acquisitions for New College and Center Development, describes the state process for evaluating a possible site purchase, appropriating funds, and making the purchase as well as obtaining Board of Governors approval for new sites eligible for capital development with state funds.

Appendices, Glossaries for terms, abbreviations and policy memorandums (e.g., quarterly reports and project closeout) are included in the appendix.

CHAPTER 2: DISTRICT AND COLLEGE MASTER PLANNING

- 2.1 Overview**
- 2.2 Master Plan Elements**
- 2.3 Managing the Master Planning Process**
- 2.4 Components of Master Plans**
- 2.5 Time Frame for the Master Plan**
- 2.6 Suggested Methods of Master Planning**
- 2.7 Mastering Planning Method A**
- 2.8 Master Planning Method B**
- 2.9 Summary**

2.1 Overview

Since 1972, the California Code of Regulations, Title 5, Sections 55402, 55403 and 55404, have required that community college districts maintain educational master plans for each college within a district and for the district as a whole. The regulations do not stipulate the methods college staff use to create master plans or the contents of educational master plans as they relate to facilities. However, there is a need for consistency within the system as well as the need to relate educational master plans with facility needs. In an effort to assist districts with their planning, the following chapter has been created as an advisory and contains suggestions on how best to develop effective master plans.

2.2 Master Plan Elements

The College Master Plan (Master Plan) is defined as a comprehensive planning document encompassing all functions of the college or district. Districts with more than one instructional site should develop Master Plans that identify the relationships of all of their sites as well as development of individual Master Plans for each site. For the purposes of this chapter the use of “college” will apply also to district recommendations for Master Plans. Given the complexities of most communities, the master planning process is not a step-by-step, linear process but a dynamic process consisting of a mixture of methods. Information and ideas are exchanged at every level, combined and recombined, until a particular approach emerges as a good choice.

The preferred approach is developed, often leading to new ideas and combinations, until a feasible plan is constructed and accepted. The plan must be idealistic enough to inspire improvement and change, and realistic enough to be implemented successfully over time. This chapter is intended to serve as an “interim guideline” for the development of the Master Plan.

Common elements of Master Plans:

- Statement of purpose
- Description of the community and regional context
- Analysis of community and regional needs
- Projection and analysis of future enrollment changes and economic trends and workforce development

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- Description of the educational philosophy of the college
 - Brief description of the scope and emphasis of existing educational programs and related services in relationship to the college's purpose and philosophy
 - Identification of the needs of educational programs, student services, other services and activities, justified in terms of the previous information
 - Identification of any potential or existing public/private educational partnerships
 - Formulation of long term educational goals and short term objectives to meet these goals
 - Analysis of resources, available and needed, to implement these objectives
 - Implementation plan including tasks, timelines, and accountability mechanisms
 - Preparation of a campus design
 - Development of a Facilities Master Plan to achieve the goals of the Educational Master Plan
 - Formulation of an implementation and funding plan, subject to periodic evaluation and revision

2.3 Managing the Master Planning Process

Colleges which have developed effective Master Plans have found it essential to be clear in advance about the desired outcome and to have that outcome be one that has immediate appeal to all of those whose cooperation will be needed. Most colleges, or districts, set up an 'master plan committee' to represent each major college constituency, e.g., administration, faculty, student services, students, facilities, finance, and human resources. This committee is responsible for developing a statement of educational philosophy and college priorities satisfying all the constituencies. Working alongside the Academic Senate, the curriculum committee, and/or a committee established specifically to address such issues, the institutional planning committee's main focus is on communal and regional issues and the implications of the educational planning on the overall development of the college during the educational planning process.

In addition, or as a part of the institutional planning committee, many colleges find it essential to create or to maintain a 'community liaison committee' to assist them in the planning process on a periodic or on-going basis. Such a committee typically has

representatives from education, business, government, and service organizations to the extent that their participation is relevant.

Consideration should also be given to utilizing professional planning consultants to facilitate the development of the Master Plan.

Colleges which have been most successful in achieving Master Plans that best meet the foreseeable needs of their communities, are agreeable to all constituents, provide an effective basis for gaining the necessary resources, and are achieved by a process that does not put undue strain on the colleges resources, have found certain elements to be essential to the process:

- They make sure that the requirements of the accrediting commission, of the district, and of the state are each accounted for, as necessary
- They select a team that understands and respects the culture and concepts of higher education, works effectively with its many constituencies, and relates these to sound concepts in fiscal management and capital outlay planning
- They include faculty representatives on the team

It is essential that the roles of the various staff and units involved are clear and that the shared governance provisions of the district are fully honored, especially as these relate to the reliance upon faculty for educational direction of the college. It is this inclusive process that assures each of the following steps:

- 1) Coordination of the work of institutional planning, accreditation, curriculum committee, academic senate and other college wide groups; divisions, and departments; and existing or ad-hoc industry and community advisory committees, representatives or members
- 2) Update the California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) Master Plan for the college
- 3) Analysis of college and community fiscal, demographic, economic, social, and academic projections, opinion surveys and other sources of information regarding the needs, concerns and priorities of the various constituencies
- 4) Integration of local needs and plans with those of the region and the state, including especially those of other segments of public education
- 5) Development of a draft Master Plan including statement of mission, goals, educational plans and plans for related services and facilities
- 6) Concurrence on the final version of the Master Plan, from all constituencies and adoption by the Board of Trustees

The outcome of a master planning effort will vary depending on the college. Some colleges produce general, long range plans, others produce detailed plans with both long- and short-term objectives. Some colleges produce a separate educational master plan and facilities master plan that are related to the other plans required for accreditation; others pull all of the parts together into one document. In any case, a Master Plan adequate to direct and justify the investment by the state and the college of human and material resources, and the expenditure of funds on capital outlay projects, must include at least the following three components, among others:

1) An educational plan that:

- Adequately explains the college's overall purpose, community context, educational philosophy, alternative delivery systems, distance learning, curriculum and educational programs and related support, student services, administrative and categorical programs (such as EOPS, DSPS and matriculation);
- Describes and justifies the intended future of the college; and
- Identifies needs and makes a convincing case for new resources to meet these needs.

2) A facilities plan that evaluates existing land, infrastructure, facilities and systems in relationship to the colleges' purposes, plans, and needs, specifying the capital outlay projects necessary to meet these needs.

3) A resource plan showing how the human, financial, and material resources will be provided to implement the objectives in the educational and facilities plans.

Well-conceived and well-justified capital outlay projects are one outcome of a sound college master planning process. A proposed capital outlay project must fit within the overall context of a college's Master Plan before funding can be considered. The Chancellor's Office uses the district's Master Plan to justify state project funding to the Board of Governors, the Department of Finance, the Governor's Office, the Legislative Analyst's Office, and the Legislature.

2.4 Components of Master Plans

2.4.1 Statement of Purpose

The college's interpretation of its purpose sets the parameters for master planning. The purpose must fall within the state and California Community Colleges parameters and

any regional agreements with other districts, California State University (CSU), and University of California (UC). The statement of purpose should define the basic service, the service area, and the population to be served.

The purpose may be interpreted broadly or narrowly; and, may be perceived as what the community needs or what the college can best provide. However, it is interpreted, the purpose is the underlying reason for future capital outlay projects and should be stated in the Master Plan and restated in the annual Five-Year Construction Plan and all Final Project Proposals.

2.4.2 Describe the Community and Regional Context

The description of community context is the key to a Final Project Proposal. Funds are provided to higher education for the basic purpose of increasing the skill and education level of all Californians. Education is considered the key to California's economic stability and success. An effective facility project will:

- Provide the means to accommodate a program that is a priority need as identified by a significant or particularly under-served portion of the population,
- Increase or maintain economic opportunity in the area,
- Support the regional cooperation of the other segments of public education, or
- Realize the most efficient use of resources already invested in and unique to the area.

The community context is described by contrasting the history of the community with current circumstances in the community and its likely future, based upon current trends and projections, especially those shaping the educational environment years ahead when the building will come “on-line.” Currently unmet needs and emerging circumstances dictate the types of education that the college must be prepared to provide. The extent to which these emerging circumstances vary from existing and past circumstances dictates the need for changes and additions in programs and facilities.

Characterizations of future circumstances must prove a basis for determining whether the unmet educational needs that generate the demand for new or remodeled facilities will continue, diminish, or increase. State funded capital outlay projects typically take five to eight years to plan, budget, fund, and complete; and, once completed, these projects remain to be used-and maintained for 50 or more years. There must be

reasonable certainty that the project will still be needed when it is completed and well into the expected life cycle of the building.

The description of community context sets the stage by generally establishing that:

- There is a need for a new type of program that requires new facilities or repurposing of existing facilities
- The enrollment in a program(s) and service(s) has grown or will grow beyond the capacity of the existing facilities
- Current facilities, if they exist, have been, or will become, physically or programmatically inadequate
- The driving need for the project is expected to continue well into the future
- The project can support other significant needs should the driving need diminish

A concise but convincing statement of the community context and needs should be written into the Master Plan, the Five-Year Construction Plan, and each Final Project Proposal as the following examples illustrate:

“Our college began forty years ago as a suburban campus for young, transfer students from the local area, but is now in the center of new urban development center with a large commuter population in need of developmental and computer skills for business”

“Our college has a history as a job training center for disadvantaged populations and is now providing support for several immigrant populations and a burgeoning sector of entrepreneurs”

“Our college has traditionally focused on preparing students for certain regional defense industries. Now with those industries gone, the region is in considerable flux and our students need extensive training in platform skills for transitioning into a variety of jobs”

“Our college is well established as the main transfer institution in this region, with strong ties to its nearby UC and CSU colleges, and a long-standing reputation for providing exceptionally well-prepared students in the sciences and performing arts. For us to continue to assure the currency of our students in these disciplines, we are substantially redesigning our core courses in both of these curricular areas with plans to upgrade our facilities wherever necessary to support the update.”

2.4.3 Analyze Community and Regional Needs

Wherever possible, the description of community context should be backed up by data and analysis. Factors to be considered are:

- Demographics
 - Census, Chancellor's Office, county, city or other population studies
 - Population breakdown by age, gender, race/ethnicity, education, vocation, culture, etc.
- Economic and job market forecast
 - Employment statistics
 - Status of major employers in the region
 - Workforce development programs
 - Veterans education programs
 - Job market trends
- Community educational issues
 - Educational level and learning proficiencies in the population
 - Multi-lingual and cultural issue
 - Needs of transfer students
 - Educational access for disadvantaged populations
 - Educational direct and indirect costs
 - Societal educational need e.g., drugs, health, mediation, environment
 - Political educational need e.g., common language, citizen rights, voting
- Educational programs in the community
 - Programs that work with particular segments of the community
 - Benefits from pilot and non-profit programs
 - Other colleges, private, CSU, and UC
 - High school and adult education
- Area community plans
 - Community development plans
 - Planning and zoning
 - Sustainable public economics and services

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- Enrollment analysis and projections
 - Capacity of local environment and resources
 - Enrollment analysis and projections
 - Chancellor's Office projections and capacities
 - Current enrollment patterns
 - Analysis of institutional facilities and their relation to regional educational needs

2.4.4 Discuss and Analyze Future Trends and Developments

Discussion, brainstorming or other techniques can be used to discover what types of programs and delivery methods have potential to provide for the educational needs of the community, business, and industry. What kinds of traditional and alternative approaches will improve facilities utilization and access, enrollment, program scope and quality, delivery, learning matriculation, transfer, and employment? Which ones are within the purpose of the college? Which one(s) does the college choose to pursue?

2.4.5 Describe the Educational Mission of the College

The educational approach is the college's interpretation of its purpose and role in meeting the community's need for education. The fundamental purpose might be to “develop core competence applicable to future employment,” “impart knowledge as a base for further education,” “develop natural talent to benefit society,” or “assist every student in reaching their full potential.”

The purpose and context come together into a basic approach for providing education to the community. This approach drives the need for programs and facilities. For example:

“Our college is focusing on employment for disadvantaged students using realistic job settings both on campus and in partnership with local business. Our classrooms are located around the community at work study sites with video links to the instructors on campus.”

“Our college believes that students can best achieve their potential through mentored individual study programs supported by access to extensive video libraries. We use a lot of small conference rooms for mentored study teams in conjunction with state-of-the-art video production capability.”

“Our college emphasizes platforms skills such as problem solving, communication, and collaboration in an open experiential setting. Our rooms are flexible, combining labs with lecture and study areas, open round the clock.”

“Our college is geared to respond quickly to the changing needs of the community. We use a lot of rough, open space with extensive, mobile equipment so instructors can be creative. We provide our more basic courses over the local cable TV channel with study groups and testing on campus.”

“We will be phasing out some of our classroom programs over the next ten years in preparation for the next generation of students, gradually converting 40% of our programs to a more experiential, multi-media approach and 20% to self-guided study with mentors. These goals will be modified each year in response to current trends and resource availability.”

“We are committed to the development of an open, learning community over the next 20 years. Our basic, knowledge based classes, (about 30% of the program), will be converted to video and available over pay cable. Our advanced, analytical classes, (20%), will be smaller, more collaborative, working on-site and at select community sites. These courses will be supported by 24 hour drop-in, supervised labs. Fifty percent of our program will remain more traditional, relying on student-teacher contact and expertise.”

2.4.6 Identify the Needs of Educational Programs & Student Support Systems

Although the evaluation of programs is beyond the scope of the Manual, the identification of the needs of educational programs, student services, and other activities drives facility decisions and must include the information to make those decisions.

At a minimum, the identification of the needs of programs, services, and other activities should include:

- A list of current educational programs (that is, degree, certificate and transfer programs), student services and other activities (library, etc.)
- The expected life span of each educational program and student service/instructional support activity
- The current and projected enrollment (FTES), faculty (FTEF), and staff by educational program
- The learning goal created by each program

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- The learning environment needed for that experience
 - All space, equipment, or systems required for each program and other activity
 - The student services programs

The list of programs and activities should include all functions on and off campus. Every function that uses space, equipment, or systems should be on the list — food service, library, distance learning programs, facilities maintenance, etc. The programs and activities should be described quantitatively in terms of their current and projected life span, weekly student contact hours (WSCH), full time employee, location, and hours of operation.

A consistent method must be established for quickly describing the learning experience. For example:

- Classroom instruction by faculty
- Laboratory instruction by faculty
- Collaboration in student groups
- On campus, self-guided experiential learning
- Community experience
- Accessing information
- Individual contact between students and mentors
- Exercises for individual development (tutoring, etc.)
- Participation in campus lifestyle and activities
- Personalized service sought by individual

A consistent method must be established for quickly describing the learning environment. For example:

- A type of room (e.g., lecture, laboratory, study, office) with certain characteristics (e.g., small, large, quiet, impervious to messes, lots of electronic hookups), and certain equipment (e.g., Bunsen burners, computers, tools, etc.)
- A type of information (e.g., books, tapes, videos, broadcast, online courses, etc.)
- Access to an electronic interaction telecommunication system (e.g., interactive video, student network, virtual reality)

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- Outdoor space (e.g., athletic fields, gardens, amphitheater)
 - Access to a community setting (e.g., field trip, work, service, study abroad)
 - Access to equipment for use at home or several campus locations
 - Access to an open, museum or workshop
 - Some combination of the above

If the information is known, then specific requirements must be included such as:

- A classroom for 50 students,
- A type of technology to be utilized,
- A special type of equipment, etc.

2.4.7 Formulate Long-Term Goals

The time frame for the Master Plan should be as long term as possible. State funded capital outlay projects normally take 5 to 8 years to complete, longer if funding is not readily available. Phased infrastructure and systems projects may have to be implemented over 10 or 15 years. The facilities and systems themselves need to be relevant over their life span, perhaps 50 years or longer. The Master Plan is of greater value to the institution when it is comprehensive and considers the long-term educational goals and the life cycle of the facility.

Long-term goals allow more time for fund-raising campaigns and developing financing and support for large capital outlay projects that do not qualify for state funding.

A long-term educational goals approach is also helpful in applying for state capital outlay funds. A consistent approach over a period of years, gradually improving the campus, has a lot of credibility. Credibility remains high even if circumstances change and the approach must be modified, so long as the modifications make sense within the larger context.

2.4.8 Define Short-Term Objectives

The inclusion of shorter-term strategic objectives helps define and support capital outlay projects. For example:

“The campus needs grounds, pathways, and lighting improvements to increase night enrollments by 20% over the next two years and better utilize existing facilities.”

“Our rural campus has aged and lost its appeal for our increasing suburban population. Landscaping, lighting and parking are needed to attract and accommodate an increase of 5000 students by 2020.”

“To insure that our students can compete in a highly technological job market, we are instituting a five year plan to upgrade all our equipment and telecommunications.”

“Science enrollment is expected to increase by 50% over the next 8 years, requiring retrofit of the horticultural building by 2023 and an addition of 20% to the science capacity by 2027”

“With advancing technology and limited resources, the district is instituting systems to serve students with a variety of new accessible computer equipment and telecommunications.”

2.4.9 Analyze Resources

From the point of view of capital outlay projects, the evaluation of resources includes:

- Forecasting feasible local, district and state funding sources for capital outlay projects
- Setting appropriation amounts and schedules for the projects
- Projecting future staff and operations costs for building projects (Total Cost of Ownership)
- Determining downstream operations or capital outlay savings for cost efficiency projects

2.4.10 Develop the Implementation Plan

The timetables and accountabilities associated with the Master Plan may be part of an administrative plan for implementation of the Master Plan. It is important that an administrator be responsible for following through with specific dates for reports or accomplishments. This is particularly important for capital outlay projects which must be started many years before they are completed and become available for classes.

2.4.11 Identify Facilities Needs

Typically, colleges combine their most intensive evaluation and planning efforts with the preparation for accreditation self-studies and in response to the recommendations of accreditation teams. Capital outlay plans and proposals that are responding to the self-study and/or recommendations of accreditation teams should be emphasized when seeking state funding.

Campus facilities must function well to enable and/or support the college's educational programs. Facilities are capital assets representing years of growth and investment. As such, they need to be properly maintained and upgraded over time. The facilities evaluation analyzes:

- 1) Capacity
- 2) Condition
- 3) Adequacy
- 4) Cost efficiency of existing assets and sets forth objectives for keeping them functioning at an optimum level over the next few years

Districts have been participating in a facilities condition assessment program conducted by the Foundation for Community Colleges since 2002. The assessment data is contained in the FUSION database and reports the condition of all buildings listed in the districts inventory. Analysis of this data can assist in developing the priorities for the Facilities Master Plan.

2.4.11.1 Capacity

“Capacity,” for the purposes of the state capital outlay program and this manual, is the term used to express the level of enrollment that can be accommodated by a specific amount of space.

California adopted space standards in the California Code of Regulations, (Title 5 Sections 57020 through 57033) for higher education in 1955. These standards are based upon facility space capacity allocations in existence at that time and are updated from time to time (*California Community Colleges Board of Governor's Policy on Utilization and Space Standards*). For a more in depth description of how space is treated in the California Community Colleges see the [California Community Colleges Space Inventory Handbook](#).

Determining capacity is a slightly complicated process. First, enrollment is divided by programs. This is then translated into “**weekly student contact hours**” (**WSCH**) — the average number of hours of student instruction conducted in a week in a primary term of an academic year (**WSCH = FTES x 15 hrs x 35 weeks; FTES = 1 student attending 15 hrs/week for 35 weeks.**). Space is defined in terms of “**assignable square feet**” (**ASF**) and is inventoried by room and categorized according to an established taxonomy of programs (TOP). Capacity, then, is determined by a ratio of WSCH to space — a number of ASF per 100 WSCH. For example, 235 ASF of biology laboratory space is the standard amount allotted for every 100 WSCH of biology laboratory enrollment. If the campus has less space available for a program than the standard allotment for every 100 WSCH for any TOP code of space, a capital outlay project may be justified for that specific TOP program.

WSCH and ASF are analyzed by the program and the space standards set for each of the major categories of space (classroom, laboratory, office, library, and AV/TV). This analysis occurs annually and is used to determine whether there is an overall need for space (i.e., larger campus), only a programmatic need for a particular usage of space (i.e., science lab space), or no current need for additional space. This analysis is presented as capacity load ratios (Cap Loads) in FUSION and is used by the state to justify district growth projects.

2.4.11.2 Condition

The condition of existing facilities is a major indicator of facility needs. Campuses and buildings age; and, facilities and infrastructure have reached the end of their useful life-cycle spans. Capital outlay funds are used for demolition, utility systems, building replacement and reconstruction.

Demands from aging are compounded by changes in facilities codes and regulations. Regulation changes for asbestos, PCBs, seismic retrofit, Americans with Disabilities Act (ADA) access, etc., require constant addition or change to facilities and in many cases shorten the effective life span of a facility. Demands go beyond the capability of operations and maintenance departments and require phased capital outlay improvement projects.

2.4.11.3 Adequacy

When the initial space standards were developed in 1955, a “standard” classroom, lab, or workshop with basic equipment was considered sufficient. Now, with technological

changes and instructional delivery systems rapidly evolving, facilities must be designed to evolve with them to permit optimum effectiveness over the long term. Designs must be educationally adequate for the specific learning outcomes that they are to enable.

Facilities must evolve right along with curriculum and instructional methods and student services delivery and modalities and services. This evolution of space must have sufficient flexibility designed into it that it can adapt to changes in program technology and delivery as well as supplanting of programs in the designated space.

The effectiveness of educational and service delivery methods and learning environments must be factored in. As programs and course curricula are increasingly developed around more varied and appropriate learning experiences, facilities must be able to support these experiences. If the facility cannot support the required educational delivery method, it is inadequate. In the short-term this means the educational program is compromised. In the long-term, the facility must be changed, the program must be changed or the program must be abandoned in favor of one that can be taught effectively by contemporary standards.

2.4.11.4 Cost Efficiency

With a broader definition of capital outlay, new possibilities arise with regard to cost efficiencies. It may be appropriate to provide the funds for a one-time capital outlay project, if there is an ongoing reduction in operations cost or financial risk. It also may be appropriate to provide funds for installation of an electronic delivery system in lieu of building construction.

The most obvious example of cost efficient projects is energy conservation projects. Improving lighting, fans, and controls, or refitting the central plant for thermal storage or cogeneration can reduce utility costs to produce a 'payback' of the project cost in a few years. For every year of operation after the payback of the up-front construction costs, there is a clear reduction in annual operating cost.

This same reasoning might be applied to a project which provides a video production studio for distance learning at home in lieu of incurring the continuing costs of on-campus facilities, staff, and operations; or a campus security project in lieu of increased insurance and liability.

The addition of 'cost efficiency' as a category of need to capacity, condition, and adequacy allows for greater innovation to cope with the reduction in both operations and

capital outlay funding and to make more effective use of public funds overall. However, cost efficiency must be applied to a technology with demonstrated cost savings.

2.4.12 Source Information for Evaluation of Facility Needs

The base document for the analysis of facility needs is the Space Inventory. The inventory lists the building, its construction type, year constructed, gross square footage, condition, and ownership. The rooms in the building are then listed by number in terms of program, use, assignable square feet, and number of stations. The condition of the building is described in terms of conformance to the current building code, extent of the need for renovation, and the need for demolition or termination of the space. The need for renovation is a judgment call by the college.

The college maintenance and operations Master Plan, scheduled maintenance, and energy assessment reports contain additional information used to evaluate facilities. If these documents with the Space Inventory provide all the necessary information then no further work is needed. Often, however, these documents are not inclusive of all the facilities on the campus. The inventory process is described in detail in the Space Inventory Handbook.

To fully analyze the condition, capacity, and adequacy of existing capital assets, it is helpful to consider facilities as systems (not in priority order):

- The use and health of the natural land systems, e.g., soil, drainage, and natural reserves
- The age, condition, and capacity of utilities, e.g., water, gas, electric, central heating and cooling, energy and water conservation, sewer, waste, telecommunications, lighting, and security
- The age, condition, and adequacy of the transportation systems, e.g., roads, pathways, parking, loading areas, emergency access, handicap access, construction staging, and evacuation area
- The age and condition of landscaping and sprinkler systems as they relate to campus appearance, noise reduction, shade, outdoor activities, etc.
- The effectiveness of health and safety systems, e.g., security, fire, disaster preparedness, emergency communications, hazardous materials containment and removal
- The need for maintenance and operations areas, e.g., workshops, storage, and service yards

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- More detailed analysis of building conditions in relation to new safety and environmental regulations, changing climatic conditions and seismic safety
 - Equipment repair and replacement schedules for both educational equipment and building systems equipment e.g., heating, ventilation and air conditioning (HVAC), steam, air, water, and waste (Review of FUSION assessment data)
 - The need for telecommunications and information technology systems upgrades. This includes building, local area and wide area networks
 - The consideration of centralized, interactive service systems and office

The capacity of existing land, buildings, equipment, and systems is determined by state space standards, by building code occupancy classification, or by common usage figures or by common sense. A more detailed discussion of capacity is included in the Five-Year Construction Plan section of this manual and in Chapter 4 of this Manual.

Evaluating the adequacy of a building or space as a learning environment is difficult. Feedback is needed from faculty who use that space to determine whether a particular space is too noisy, or cold, or lacking hookups for equipment, in need of better equipment, or requiring remodeling due to changes in delivery methods or technology.

Evaluation of cost efficiency is done by reviewing the operations budget for areas where conservation might be effective and by reviewing future enrollment increases to see where other options such as an electronic educational delivery system might be substituted for a building project.

Specific factors that must be considered when evaluating facilities are (not in priority order):

- Structural and seismic stability
- Changes in building code
- American's With Disabilities Act (ADA)
- Energy and water conservation
- Use of hazardous materials
- Use of indoor volatile organic compounds
- Use of regulated compounds, refrigerants, etc.
- Adequate protection of fiber optics systems and components

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- Use of telecommunications infrastructures
 - Increased electrical infrastructure loads
 - Increased utility costs and fees
 - Storm water discharge
 - Replacement of underground tanks
 - Removal of hazardous substances, including asbestos
 - Total cost of ownership review
 - Consideration of security issues

When the evaluation of existing facilities is complete, it provides the information to determine:

- The operations and maintenance budget including deferred/scheduled maintenance and special repairs, architectural barrier removal, and hazardous substances removal
- Methods for more efficient allocation and utilization of existing facilities
- Identification of the need for capital outlay improvements
- Definition and scope of individual capital outlay projects

In addition, the information is useful for preparation of the Five-Year Construction Plan, the Space Inventory, deferred/scheduled maintenance plans, preventive maintenance programs, insurance forms, and other reports.

2.4.13 Prepare a Campus Design

The Master Plan often includes a revised design for the campus that shows how the capital outlay objectives can be achieved. The need for a design depends on the numbers of new facilities and systems that are proposed. If a campus is going to remain physically the same, with emphasis on improving programs and equipment, a redesign is not necessary.

If there are changes in land use, roadways, open space, and buildings proposed in the Master Plan, a design is needed to see how well they might fit together into an overall plan of the campus. The design process will confirm the feasibility and cost of the improvements and help to determine the best way to proceed with capital projects.

The design begins with the preparation of a current land use plan which includes topography, active slopes, soils, drainage, vegetation, flood plains, natural reserves, environmental analysis, and existing improvements. The environmental analysis must include all the factors required by the California Environmental Quality Act (CEQA).

2.4.14 Campus Physical Systems

Building massing and circulation patterns are studied to establish an overall campus build-out plan based on maximum enrollment. This is coordinated with all the campus physical systems and possible capital outlay projects:

Natural systems

- Land: topology, soils, seismic, drainage
- Ecosystem: creeks, wetlands, wildlife, plant life
- Micro-climates: wind, air quality

Examples of projects: habitat restoration, impact mitigation, erosion control, natural preserves, environmental classrooms

Utility systems

- Water, gas, electric
- Central plant, cogeneration, photovoltaic, heating, cooling
- Energy and water conservation
- Sewer, drainage, toxic waste
- Telephone, TV, telecommunications
- Lighting, security, warning systems

Examples of projects: cogeneration plants, solar panel fields, electrical capacity upgrade, telecommunications infrastructure, energy conserving lighting, variable speed fans, energy management systems, thermal storage

Transportation systems

- Public access: roads, parking, bus, shuttle, light rail, bicycles, pedestrians, wheeled pedestrians, disabled
- Staff access if different

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- Service access: roads, parking, loading areas, garbage removal, maintenance and construction staging
 - Emergency and security access: fire roads, evacuation routes

Examples of projects: ADA improvements, signs, parking structures, storage yard

Landscape systems

- Campus atmosphere: greenery, entrances, plazas, sculptures
- Environment: shade, noise reduction, wind breaks, way finding, lighting
- Activities: signing, gathering, forums, sports, drama, sculpture, outdoor classrooms

Examples of projects: drought resistant planting, sprinkler systems, athletic fields

Health and safety systems

- Toxins removal: asbestos, fume hoods, drains, neutralization, storage, underground tanks
- Emergency: phones, lighting, warnings
- Seismic: building upgrades, warnings, evacuation areas
- Fire: sprinklers, access
- Security: building locking

Examples of projects: seismic upgrade, tank replacement, hazardous chemicals storage building

Maintenance and operation systems

- Workshops, service yards, custodial rooms, rolling stock storage, vehicle access

Examples of projects: maintenance building, central warehouse building

Building systems

- Lecture classrooms, labs, studios, shops, offices, support services

Examples of projects: new buildings, additions, renovations, multi-building upgrades

Equipment systems

- Building systems equipment e.g., steam, water, gases, educational equipment

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- Support equipment
 - Service equipment

Telecommunication systems (detailed telecommunication plans should be developed)

- Computer networks within buildings
- Television, broadcast, interactive and conference studios

Examples of projects: Local area networks, wide area network connections such as microwave and satellite up and down links (internet, CSU/CCC statewide network)

A campus design includes all the campus systems and brings them together into a series of campus plans. Often these become part of the published Master Plan showing future building sites and possibly footprints of future buildings with perspectives of building designs. If the plan is used for fund-raising or redevelopment considerations, the costs of the buildings and fund raising goals may also be included.

Before publishing land use plans, proposed sites and buildings, the college must check the feasibility of funding, environmental regulation, surrounding area general plan, community reaction, and any other factors that might be crucial. Any phasing must be compatible with funding priorities and schedules.

2.4.15 Master Plan Environmental Impact Reports

If a land use plan is developed as part of the master planning process, the college should do an environmental study of the plan. If the plan is for a new campus or a large undeveloped portion of an existing campus, then an environmental impact study or report is required as part of CEQA. If the district is considering seeking the passage of a local GO Bond, then a Master Plan EIR covering the full campus and all proposed changes *is highly recommended*.

2.4.16 Implement Methods for Periodic Evaluation and Revision

The Master Plan should be reviewed annually to determine if its goals and stated objectives should be changed. For those plans that are more visionary, there may be no changes to the written plan; however, related plans might have to be revised. For those plans that list specific objectives with timetables, a revision will probably be required every year or two.

It is important that changes be made in the facility Master Plan as circumstances change. These changes should be reflected in the Five-Year Construction Plan, which is updated annually, and submitted to the Chancellor's Office on July 1 of each year. Going ahead with a project which is no longer needed, or letting needs sit without indicating their presence, works against future district applications for capital outlay funds and is an inefficient use of state and local bond funds. The former indicates lack of accountability and the later indicates poor planning and makes future requests seem unnecessary.

Similarly, Master Plans and Five-Year Construction Plans that never change become suspect over time as changes take place in education in California communities. Annual updates may be needed to explain why the community needs are not changing.

Annual updates will have greater credibility if they are based on some kind of empirical feedback process. For example, the college might have an annual community survey or internal evaluation. The annual Space Inventory update is part of that feedback loop for facilities (see the Space Inventory Handbook for details). It might be supplemented by various facilities systems reviews or some other management reports.

The following reports may supplement the Master Plan on an annual basis:

- Technology Plan
- Staffing Plan
- Program Review
- Energy Assessment Plan
- Financing Plan
- Space Inventory
- Space Utilization Plan
- Deferred/Scheduled Maintenance Plan
- Maintenance and Operations Plan

2.5 Time Frame for the Master Plan

The time frame for the comprehensive Master Plan depends upon how the plan is conceived. A “visionary” Master Plan will cover a long time frame, at a very general level, setting a broad context for a series of more specific plans that are regularly

updated. In this case, the working documents are the Space Inventory, Deferred/Scheduled Maintenance Plan, Five-Year Construction Plan, and Energy Assessment Plan. On the other hand, where the Master Plan itself is the working document for the entire campus, it may address a shorter time frame, be more detailed, and itself need to be updated more frequently.

In many ways, the Master Plan is more useful as a long-range umbrella document. From a facilities perspective, keeping in mind that buildings take upwards of 10 to 17 years to plan, budget, and build, and building life spans are 50 years or longer, master planning tends to be more long-range in nature. If the Master Plan is done as a long-term document, it must reference other documents that provide the shorter-term objectives that insure implementation.

2.5.1 Coordination with Statewide and Regional Master Plans

There is a growing recognition that regional planning is a necessary component in increasing efficiency, reducing costs and facilitating student progress, especially between segments and in relationship to employer needs. The impetus for regionalization is evident in the expectation that colleges and schools in a given region will share facilities as fully as possible, especially those that involve investment in specialized and expensive equipment. If these kinds of projects are presented for funding without regional planning, the project may be delayed while the project is coordinated with other segments or entities in the region.

Typical projects that fall into this category are:

- Radio and television production and broadcasting
- Extensive multi-media computer and learning resource centers
- Projects in support of specialized regional programs
- Projects for development of new centers or colleges

Since funding is limited, these kinds of projects should not be duplicated within a region or area. The plan must indicate the best location for the project and explain any agreements for joint use by community college districts or other education entities in the region.

Moreover, the regional plan should explain the project's position in the higher education community, K-12 middle school needs, any telecommunication network linkages, distance education agreements, or other factors relevant to a regional approach.

Any project that can be shown to be a cost-efficient solution to significant need within several districts is more likely to become part of a statewide plan.

2.6 Suggested Methods of Master Planning

The Master Planning process includes many critical components and a detailed discussion is beyond the scope of this manual. However, to aid districts in understanding the master planning process, two methods of master planning are discussed below to provide a sense of how processes can be designed and how they can influence the results, particularly with regard to capital outlay improvements. Both are presented with emphasis on the components that influence the definition and justification of capital projects; and, both work for either new Master Plans or revisions to existing Master Plans. Both methods have their advantages and disadvantages, and districts often combine them in an effort to address the concerns of their various constituencies.

For convenience, the methods are titled “Master Planning Method A” and “Master Planning Method B” and are presented in a step-by-step thought progression. The differences between the two methods are primarily ones of starting points, assumptions, emphasis and sequence rather than content.

Master Planning Method A emphasizes the college — its purpose, capabilities, and resources — and is organized around its structures, i.e., the units of organization. Facilities and related support systems are viewed as physical support for the educational program. This method works best when the college and community support the current college’s vision and mission statements. Method A may be easier to understand and to plan.

In Master Planning Method B, facilities and related student support systems are viewed as educational delivery systems and the current mission and structure of the college is taken less for granted. Method B emphasizes the community — its strengths and needs. Method B may place less stock in the historic relationship of the college to the community, and more in the potential of the college to serve in new and unprecedented ways, for populations or needs not previously associated with the colleges operations. Such an approach is especially appropriate to the rural or urban college whose role, or

potential, as the center of inspiration and development in the community will be far greater than in other settings. For the college whose community is changing rapidly or suffering greatly, the need to look deeper at how they might serve is paramount. Similarly, for the college that has lost its way, gone stale or is no longer animated by its old sense of mission, Method B may prove the preferable method.

While the choice of method primarily reflects the college's 'culture' and the style of leadership, Method A might be more suitable for the college that is well established while Method B, which requires additional resources of time and creativity, is typically more suitable for a college that has not previously undergone the Master Planning process.

As long as the method used by a college is consistent with principles of shared governance and fiscal responsibility and results in an educationally defensible plan that fully justifies the capital outlays requested, no particular planning method is required by the Chancellor's Office and both methods could be considered. The success of any method is dependent on broad, multi-level participation at the college — from the top down and from the bottom up. The more transparent the process, the more possibilities will be explored and the greater will be the opportunity to achieve an innovative, responsive and balanced plan that all stakeholders strongly support.

2.7 Mastering Planning Method A

Master Planning A is conventional and has the advantage of being well understood. The educational plan precedes and drives the facilities plan. The resulting facilities plan can be easily used to identify capital outlay projects and produce the Five-Year Construction Plan.

The word “program” is used broadly here to include basic skills, student services, and all other college activities.

The steps in master planning Method A are:

1) Developing the Educational Plan

- Alignment with state, California Community Colleges (Board of Governors), and regional educational policy and objectives
- Definition or validation of the college educational philosophy and mission
- Analysis of the current program scope and quality in relation to the mission

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- Discussion of ways to improve programs (e.g., program review, program delivery)
 - Survey community and college needs and demands for current and proposed programs
 - Demographic study and forecast
 - Economic and job market forecast
 - Area college and university plans
 - Area community plans
 - Project future enrollment in current and proposed programs
 - Develop program objectives including:
 - A list of current and proposed programs with projected life spans
 - Objectives for reduction, conversion, and phase out of programs
 - Objectives for improving, expanding, and adding programs
 - Provide the information necessary to develop the facilities plan:
 - The learning experience and environment associated with every program
 - Any specific educational delivery systems required by program
 - Any comments about the programmatic adequacy of current facilities
 - Level of support/student service needs
 - Provide the information necessary to develop the resource plan
 - Possible revisions in staff associated with program revisions
 - Any special costs associated with revisions in programs
 - The resource plan is reasonable, affordable, and prudent

2) Developing the Facilities Plan

- Inventory all owned facilities e.g., site, buildings, equipment, systems
- Evaluate the physical condition and projected life span of all facilities
- Incorporate all offsite outreach centers and their associated programs
- Research new and upcoming regulations and trends affecting facilities
- Prepare a plan to correct current and upcoming physical and regulatory deficiencies

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- Identify physical and regulatory deficiencies that require facility and system improvements
 - Evaluate the program use and adequacy of facilities
 - Evaluate the capacity and utilization of facilities
 - Review the educational plan for changes in programs and program requirements.
 - Prepare a plan to improve assignment, adequacy, and utilization
 - Identify inadequacies and capacity deficiencies that require facility/system improvements
 - Combine the lists of facility and educational delivery system and evaluate physical, financial feasibility
 - Prepare a physical design of the campus
 - Propose a prioritized list of projects showing time frames and magnitude of cost

3) Developing the Resource Plan

- Evaluate current and future human, financial, and material resources
- Review the feasibility of program changes in the education plan
- Review the feasibility of capital outlay projects in the facilities plan
- Show proposed district, state and alternative funding sources and schedules for capital outlay projects
- Indicate project feasibility in terms of downstream operational funding

4) Combining the plans into the comprehensive plan

- Reconcile any conflicts between the educational, facilities, and resource plans
- Prepare a description of purpose, community context, and educational approach
- Describe long term goals
- Describe shorter term objectives
- Set timetable and accountabilities for the objectives
- Produce the Master Plan document

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- Review and approve the Master Plan document (approval procedures should include the educational program and academic senate representatives, faculty staff and college/district management)

5) Follow through

- Monitor objectives, timetables, and accountabilities
- Make program improvements and changes within the context of the plan
- Plan and develop the Five-Year Construction Plan, Final Project Proposals, and Initial Project Proposals within the context of the plan
- Prepare annual feedback and revisions

2.8 Master Planning Method B

The Master Planning B is a systems-based method. The educational program and educational delivery system are integral with one another, established based on community focus and need. The word “need” is used broadly to mean need, desire, want, or demand.

The steps in master planning Method B are:

1) Setting the planning parameters

- Alignment with state, California Community Colleges (Board of Governors), and regional educational policy and objectives
- Definition of the service area(s)
- Definition of the service population

2) Determining the community “need” for education and support needs

- Demographics
- Economics and job market analysis
- Analysis of community educational issues and benefits
- Evaluate college role in any community Educational Master Plan
- Community input

3) Establishing a collaborative approach to meet community need

- Meeting with other districts, CSU, UC and private colleges
- Meeting with vocational schools and training programs

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- Meeting with high schools and adult schools
 - Meeting with business, economic sector
 - Meeting with non-profit, service, government sector
 - Meet with local veterans programs
- 4) Collaborative discussion of ways to effectively meet community needs
- Extent to which need can and is being met by the college and other institutions
 - Ways the college and other institutions might improve programs and delivery
 - Suggestions for joint programs and/or shared delivery systems
 - Concurrent Internal Evaluation of College Effectiveness in Meeting Community Need
- 5) Evaluation of current programs
- Review of program scope, quality, cost, and effectiveness
 - Review of program accessibility, enrollment and contacts
 - Suggestions for program improvements
 - Suggestions for improvement of learning environments
 - Suggestions for improvement of educational delivery systems
 - Suggestions for improvement of student support systems
- 6) Evaluation of the condition of existing facilities
- Inventory all facilities e.g., site, buildings, equipment, systems
 - Evaluate the physical condition and projected life span of all facilities systems
 - Research new and upcoming regulations and trends affecting all facilities systems
 - Prepare a plan to correct current and upcoming physical and regulatory deficiencies
 - Identify physical and regulatory deficiencies that require facility/system improvements
- 7) Evaluation of the adequacy of existing facilities
- Evaluate use and adequacy of educational delivery systems

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- Location and access
 - Safety and security
 - Environment, e.g., appearance, noise, light, sun, temperature
 - Interior and exterior space, horizontal and vertical
 - Equipment
 - Telecommunications, information systems linkages (Technology and Telecommunications Plan)
 - Evaluate effectiveness as learning environments
 - Student feedback
 - Student utilization
 - Identify inadequacies that require capital outlay improvements
 - Suggest ways to improve adequacy
- 8) Evaluation of the capacity of existing facilities**
- Calculate physical space capacity per building codes
 - Calculate capacity by using space standards
 - Compare with current and future WSCH
 - Suggest space reassignments, increased utilization strategies
 - Identify significant deficiencies requiring added space and capital outlay improvements
- 9) Evaluate facilities role in shared programs and/or delivery systems as appropriate within district policy**
- Evaluate the feasibility of shared programs and delivery w/ existing facilities
 - Suggest ways to accommodate shared programs and delivery
 - Identify any capital outlay improvements that will be needed
- 10) Combine lists of capital outlay improvements**
- Suggest a list of projects
 - Check the physical feasibility of the projects
 - Prepare a physical design of the campus
 - Estimate the magnitude of project cost

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- Consider chronological order of sequencing projects to lessen impact on instructional delivery
 - Prioritize the suggested projects

11) Evaluation of current and potential resources

- Evaluate current and future human, financial, and material resources
- Review the feasibility of the suggested program improvements
- Review the feasibility of the suggested capital outlay projects
- Show proposed funding sources and schedules for capital outlay projects
- Indicate project feasibility in terms of downstream operational funding (TCO)
- Evaluate the feasibility of shared programs and delivery
- Suggest tradeoffs between resources, facilities, and programs to increase feasibility
- Suggest any additional possibilities for shared programs and/or delivery

12) Reconciliation of collaborative and internal suggestions into a Master Plan

- Intensified brainstorming, discussion, and proposals
- Preparation of a tentative program plan
- Description of the delivery system proposed for each program
- Description of the resources proposed for each program
- Description of joint program and delivery plans
- Coordination into a long term general plan
- Prepare a description of purpose, community context, and educational approach
- Describe long term goals
- Describe shorter term objectives
- Set timetables, and accountabilities for the objectives
- Produce the Master Plan document
- Coordinate the document with other community plans
- Review and approve the Master Plan document (include all parties)

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- Contribute as necessary to a community educational Master Plan

13) Completion

- Prepare Five-Year Construction Plan, Initial Project Proposals (IPPs) and, Final Project Proposals (FPPs)
- Monitor objectives, timetables, and accountabilities
- Monitor effectiveness in the community
- Continue to make program improvements within the context of the plan
- Plan and develop capital projects within the context of the plan
- Prepare annual feedback and revisions

Master Plan Method B is dependent on the local Board's governing policy and on collaboration between the educational, student service, facilities, and resource sectors of the college and the greater community. Method B has the advantage of fostering new outlooks and solutions and the disadvantage of fitting less easily into the existing state capital outlay process. Method B's greatest advantage may be as a vehicle to begin developing alternative educational delivery methods during times of low capital outlay funding.

Alternatives that colleges are currently using:

- Using schools, shopping centers, and other neighborhood buildings to provide more accessible classes and locations for distance education
- Increasing the scope of their programs by using distance education between campuses
- Using distance education to transfer pathway classes with CSU
- Coordinating programs regionally, each college providing a unique combination of programs and delivery systems accessible to students from the entire region
- Developing small, interactive classes on personal development, communication, collaboration, creativity, cognition, etc. (called high touch) to counterbalance electronic information and delivery systems
- Developing campuses into learning communities with extensive self-guided labs, museums, simulations, multi-media computer programs, and video libraries — providing individualized, mentored programs to assist students in developing individual talents

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- Distance Learning: Using computers to deliver classes, counseling and advising to homes and centers away from main campus

2.9 Summary

The two master planning methods described here are extensive and may seem to require excessive time, money and effort. In practice, however, many of the steps listed in both methods occur as part of the accreditation process and the existing procedures for curriculum and program review, Technology and Telecommunications Plan, Space Inventory Report, Five-Year Construction Plans, Deferred/Scheduled maintenance planning, Board of Governors Energy & Sustainability policy and energy assessment planning. The Master Plan process is the means by which all of these processes are brought together into an integrated whole to yield a coherent and persuasive plan for the entire college.

Generally, a strong master planning effort may take up to 18 months and is updated as needed, often annually. A good Master Plan clarifies direction and revitalizes the college. A Master Plan that is short-term, vague, contradictory, lacking objectives, or otherwise flawed, does not provide clear and concise direction and quite possibly, is not worth the time, money and effort. It may also cause problems for the college during the accreditation review process. The methods presented here are rigorous to ensure that the most critical success factors are considered and the resulting Master Plan is a strong document with clear, credible capital outlay program objectives.

CHAPTER 3: PROJECT PRIORITIES AND SELECTION

3.1 Overview

3.2 Steps in the Capital Outlay Process

3.3 State Funding Configurations

3.4 Priority Criteria for Capital Outlay

3.5 Types of Projects

3.6 Community College Capital Outlay Budget Calendar

3.1 Overview

A capital outlay project begins with the creation of a district educational master plan and ends when the Division of the State Architect certifies the construction process as complete and the district files its project closeout documents with the Division of the State Architect and the Chancellor's Office. Chapter 3 is an overview of the community college capital outlay process for those projects seeking state funding.

3.2 Steps in the Capital Outlay Process

The California Community Colleges Capital Outlay Program follows these steps:

- Develop district/campus master plan (see Chapter 2 for detail)
 - Academic, facilities, financing
 - Enrollment projections
 - Capacity/load ratios
- Annual Capital Outlay Submittals
 - District/campus five-year construction plan and proposals for both state and non-state projects over 7 years (1 prior year actual, current year, and 5 projected years)
 - Space inventory — due annually in October, reflects inventory through December of the same year
- Initial Project Proposal (IPP) — concept paper
- Final Project Proposal (FPP) — **contractual** grant application from district
 - Project scope
 - Analysis of Building Space Use and WSCH — JCAF31
 - Cost Estimate Summary — JCAF32
 - Quantities and Unit Costs supporting the JCAF32
 - Board of Governors Energy and Sustainability Policy
 - Justification (SAM Narrative)
 - CEQA
 - Analysis of Future Costs
 - Pre-Schematic Plans — includes campus plot, site, and floor plans and exterior elevations

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- Guideline-Based Group 2 Equipment Cost Allowance — JCAF33
 - Justification of Additional Costs exceeding Guidelines (as needed)
 - Detailed Equipment List — submitted when the plan year for requesting CE funding is due
 - Certifications — Approval Page with original signatures; Project Terms and Conditions
 - Capital Outlay Budget Change Proposal (COBCP) — budget document prepared by the Chancellor’s Office
 - State Governor’s Budget
 - Department of Finance approval
 - Legislative Analyst Office review
 - State Legislature review and approval
 - Governor signs the budget bill
 - Release of state appropriations (via form DF-14)
 - Design
 - Preliminary plans
 - Working drawings
 - Completion of Quarterly Reports (completed regardless of expenditure source)
 - Construction
 - Bid & Bid Award
 - Project management
 - Construction management
 - Completion of Quarterly Reports (completed regardless of expenditure source)
 - Equipment
 - Group 2 — Movable Equipment
 - Quarterly Reports
 - Closeout
 - DSA certification
 - Designate project “online” in FUSION

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- District project closeout
 - Chancellor's Office project closeout & final FUSION Closeout

IPP submittals are due on July 1st, two years prior to the budget for which the submittals are made. This time frame is necessary given the number of reviews that occur in the budget process, the large number of districts and the number of proposals under consideration. The Chancellor's Office must review the 5YCPs, screen the IPPs, approve those IPPs to be developed into FPPs, work with the districts to develop the FPPs, prepare the community colleges budget program, obtain the Board of Governor's approval and prioritization of projects, and prepare Capital Outlay Budget Change Proposals. The Chancellor's Office on behalf of the districts advocates and negotiates the proposed list of projects with the DOF, the LAO, and the Legislature.

It is incumbent that districts provide well developed projects, consistent with state priorities, with the appropriate backup, so the Chancellor's Office can set clear priorities and successfully advocate on behalf of a district and their respective project throughout the state's annual budget process (capital outlay process).

3.3 State Funding Configurations

- 1) Preliminary plans (P)
- 2) Working drawings (W)
- 3) Construction (C)
- 4) Equipment (E)

In 2009, the state changed the bond drawdown process. Bond funds are now sold twice annually to cover capital outlay costs; and, PW is submitted in budget year one with CE submitted in budget year two. Districts submit only one FPP for each new project. The FPP addresses all stages of a project (P, W, C, and E, when included). In the unlikely event that changes in expected scope or cost incur, districts are to submit a new FPP. Site acquisition is not currently funded by the state and is, therefore, not covered in this manual.

3.4 Priority Criteria for Capital Outlay

The Board of Governors (Board) developed criteria for prioritizing projects in September 1996 and were further refined in November 1999 (see Appendix B for more information on project categories). There are six Board priority-funding categories:

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- Category A: Life and Safety
 - Receives up to 50% of total available funds annually
 - Category B: Growth — Instructional Space
 - Receives 50% of funds remaining after Category A projects are funded
 - Category C: Modernize — Instructional Space
 - Receives 25% of funds remaining after Category A projects are funded
 - Category D: To Promote a Complete Campus Concept
 - Receives 15% of funds remaining after Category A projects are funded
 - Category E: Growth — Institutional Support
 - Receives 5% of funds remaining after Category A projects are funded
 - Category F: Modernize — Institutional Support
 - Receives 5% of funds remaining after Category A projects are funded

3.4.1 Category A — Life and Safety

Projects in Category A are the state’s highest priority projects because they address life and safety issues. Category A projects are ranked according to the number of people threatened or affected by the condition of a facility or site. Each proposal must be the least cost permanent solution to the problem and provide no change in program function or increase in space. Category A project criteria includes, but is not limited to, the following:

- FPP shall be accompanied by a third-party study/report that validates the findings and justifies the conclusions reached in the FPP
 - This study must be performed by an independent, professional who is certified or licensed to perform the relevant study and shall include possible mitigation measures; or
 - Evidence of regulatory agency cites such as Cal OSHA or local fire marshals identifying and documenting severity of issue.
- Project scope is designed to permanently mitigate the problem with the least cost solution.
- Category A-1: Imminent danger to the life or safety of building occupants — The lack of compliance with existing code is not considered sufficient justification to warrant classification of an issue as a critical life-safety issue.

Space expansion (gross square feet and/or assignable square feet) is permissible to address code compliance issues only.

- Category A-2: Not used by the state at this time.
- Category A-3: Seismic Deficiencies — Space expansion (gross square feet and/or assignable square feet) is permissible to address seismic solution or code compliance issues only. No additional scope allowed other than the work required for seismic solution or code compliance mitigation **regardless of funding source**.
- Category A-4: Immediate infrastructure failure — This category shall not to be used for addressing non-urgent non-code compliant issues. The absence of code compliance shall not be the sole requirement for this category.
- No Group 2 Equipment allowances shall be budgeted as part of project costs. Please see Appendix B for details.

3.4.2 Categories B — Growth Projects (increase instructional capacity)

Projects are categorized as B because they increase site capacity (gross square feet). These projects provide for reconstruction of existing space, construction of new space, and purchase of equipment to meet existing enrollment and provide for increased instructional capacity in classrooms, laboratories, libraries/learning resource centers and instructional audio and visual services. Only projects with the preponderance of space type at or below 100% capacity-to-load ratio upon project completion qualify to compete for funding within this category. Completion of previously funded Category B projects will have the highest priority for funding in this category.

3.4.3 Categories C — Modernization Projects (modernize instructional space)

Projects are categorized as C because they provide for reconstruction or replacement of existing space and purchase of equipment to improve instructional programs and/or service delivery in classrooms, laboratories, libraries/ learning resource centers and instructional audio and visual services. Age of the building is the critical prioritization factor for this category of project. Projects in this category increase instructional efficiency and/or enhance instructional delivery systems through changes in teaching methods, improved technology and other infrastructure changes. Solutions need to provide for no expansion of space (gross square feet) except to comply with existing

regulations and building codes. Projects in this category cannot cause or increase the overbuilt status (high capacity to load ratios) of a site. Completion of previously funded Category C projects will have the highest priority for funding in this category.

3.4.4 Category D — To Promote a Complete Campus Concept

Category D projects include physical education, performing arts, child development and facilities not covered by other categories, but are necessary to promote a complete campus. Projects that introduce never before available basic services to complete a campus are given preference for funding over projects that replace or add to an existing facility of similar use. Completion of previously funded Category D projects will have the highest priority for funding in this category.

D-1 — Physical education, performing arts, child development facilities, and other capital projects necessary to promote a complete campus but not funded under other categories.

D-2 — Cafeterias, maintenance shops, warehouses and capital energy projects

3.4.5 Category E — To Increase Institutional Support Services Capacity

Category E projects provide for reconstruction of existing space, construction of new space and purchase of equipment to meet existing need and provide for increased capacity for administrative, instructional, student and other support services. Only projects with the preponderance of space at or below 100% capacity-to-load ratio upon project completion qualify to compete for funding within this category. Completion of previously funded Category E projects will have the highest priority for funding in this category.

3.4.6 Category F — To Modernize Institutional Support Services Space

Category F projects provide for reconstruction or replacement of existing space and purchase of equipment to improve program and/or service delivery in administrative, instructional, student and other support services. Age of the building is the critical prioritization factor for this category. Projects in this category increase non-instructional efficiency and/or enhance non-instructional operation through changes in physical space layout, improved technology and other infrastructure changes. Solutions need to

provide for no expansion of space (gross square feet), except to comply with existing regulations and building codes. Projects in this category cannot sustain or increase an overbuilt status (high capacity to load ratios) of a site. Completion of previously funded Category F projects will have the highest priority for funding in this category.

3.5 Types of Projects

Currently, the types of projects in the community colleges are:

- Infrastructure, utilities and site development
- Buildings
 - Classroom
 - Laboratory
 - Office
 - Library
 - AV/TV
 - PE
 - Multi-functional (Classroom, Laboratory and Office)
 - Other
- Fixed equipment (Group 1)
- Movable equipment (Group 2)

3.5.1 Systems

Due to the new forms of technology and increased concern with infrastructure and environment, there is a trend towards defining projects in terms of “systems” instead of just space. State funding policies have not caught up with this trend at this time, but it is important that the districts begin to think in systems, if they are not already, because justification of projects will most likely be by systems analysis.

Any project can be defined as a systems project if the campus is thought of as a series of systems with varying capacities. These trends towards a systems approach such as integrated curricula, collaborative instruction, 'hands-on' work in real world settings, the blending of student services and instruction through new technology for service delivery, and the almost universal use of computers and information systems are changing the definition of capital outlay projects. What used to be thought of as land, utilities, roads,

buildings, and equipment is now thought of in terms of “facilities systems,” e.g., space, heating and cooling, utilities, pedestrian access, tele-communications, etc. The Chancellor's Office is already requiring a systems analysis for telecommunications and learning resource center projects.

By contrast, the long-standing definition of capital outlay still in use in the State Administrative Manual for the State Capital Outlay Budget is:

SAM, Section 6532. Capital outlay includes purchases of land and costs related thereto, including court costs, condemnation costs, legal fees, title fees, etc., and construction projects, including preliminary planning, working drawings, and equipment related to a construction project regardless of cost or timing. Construction projects include new construction, alteration, and extension or betterment of existing structures. Capital outlay projects must be for owned properties and facilities and must improve the facility beyond its present use or designed levels.

The limitations of this definition from an educational perspective can be seen if it is contrasted with the emerging view of facilities as “educational delivery systems” or “learning environments,” i.e., combinations of space and equipment. For example, lecture classes are increasingly supplanted or supplemented by assignments and classwork that use varying combinations of small groups working collaboratively, often at computerized learning stations. The “lab,” “shop” and “studio” are becoming the central rather than the peripheral model for instruction.

The definition used by California Community Colleges for a capital outlay project reflects the state definition — a new construction, alteration, extension, or betterment of existing structure in excess of \$634,000. However, to accommodate, for example, an additional 300,000 students and the potential for meeting this need through a variety of new instructional methodologies (including distance learning technologies such as telecommunication networks and television broadcast stations with cable hookups), community colleges interpret the definition of capital outlay more broadly. The definition is extended to all forms of “educational delivery systems” where a site, building, equipment, or physical system is required.

3.6 Community College Capital Outlay Budget Calendar

The California Community Colleges Capital Outlay Budget Calendar depicts the milestones of the Capital Outlay Five-Year Plan submission process. See Appendix C for more information on the Capital Outlay Budget Calendar.

CHAPTER 4: FIVE-YEAR CONSTRUCTION PLAN

- 4.1 Overview**
- 4.2 Master Plan Summary**
- 4.3 List of Projects in Order of Priority**
- 4.4 Cumulative Capacities and Loads for each Space Type**
- 4.5 The Capacity of Existing On-Campus Facilities**
- 4.6 Individual Project Descriptions and Space Changes Affected by each Proposal**
- 4.7 Submittal and Review of the Five-Year Construction Plan**

4.1 Overview

The Five-Year Construction Plan (Five-Year Plan) is an annual summary of current and proposed capital outlay projects. A Five-Year Plan in reality covers seven years; the past year, current year and five future years.

The Five-Year Plan gives the Chancellor's Office a complete picture of the district's capital improvement needs and projects at the college(s), enabling the Chancellor's Office to make informed decisions regarding project priorities for state funding. The Five-Year Plan may be the only document that the Chancellor's Office sees pertaining to the capital outlay needs of the district. As such, the document must convey the master planning context, decisions, and outcomes along with current capital outlay needs and objectives and the list of proposed projects.

The Five-Year Plan includes:

- Master Plan, Energy Plan and Facility Plan Summary
- List of all projects in a district's order of priority
- Cumulative capacities and loads for the five types of space
- The capacity of existing on-campus facilities
- Individual project descriptions and space changes affected by each proposal

The list of projects and the cumulative capacities and loads for the five types of space summarizes current and projected facilities capacity, condition, adequacy, and cost efficiencies and lists short-term capital improvement objectives and projects to meet the need. The individual project descriptions give readers of the Five-Year Plans improved understanding about each project and provide the Chancellor's Office the data needed to determine the sites most in need of additional space and/or modernization.

The Five-Year Plan is created in the FUSION web-based database. The district's annual enrollment forecasts are uploaded by the Chancellor's Office just after the first of the year. Districts then distribute the enrollment data between their approved education sites and further break the distribution down to on-campus and off-campus allocations. The Weekly Student Contact Hours (WSCH) are then divided between lecture, laboratory, and on-campus PE.

4.2 Master Plan Summary

The Master Plan summary serves as the introduction to the Five-Year Plan. The Master Plan summary includes the community context, educational approach, and long term goals, and capital improvement objectives from the comprehensive college Master Plan. The Master Plan summary must succinctly convey the master planning context, decisions, and outcomes so that facility planners in the Chancellor's Office fully understand how each district project relates to the comprehensive Master Plans. The Master Plan summary must include the following elements:

- District name, campus locations, sizes, and current enrollment
- Statement of purpose
- Community context
- Educational approach
 - Long-range goals
 - Short-range objectives

The summary, in two pages or less must provide basic information about the district and its educational approach. The summary must describe campus ages and capacities, a history of improvements, and an evaluation of current circumstances, needs, and each facility's objectives.

The District and Campus Energy Plans summary in accord with the *California Code of Regulations*, Title 5, sections 57050 through 57055 can be presented in the Five-Year Plan after the Master Plan summary. Finally, a general analysis of the district's current facilities and capital improvement needs which summarize campus facilities capacity, condition, adequacy, cost efficiencies and district project priorities can be presented.

4.3 List of Projects in Order of Priority

When identifying projects in a district's order of priority, districts must consider the following for each project:

- Project scope
- Proposed budget
- Anticipated time schedule

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- Justification for the project given condition, capacity, adequacy, and cost-efficiency
 - Source of funding

The list of district projects in priority order has two purposes:

- 1) It establishes the basis to justify the projects for which Initial Project Proposals (IPPs) and Final Project Proposals (FPPs) are being prepared
- 2) It provides the Chancellor's Office with an understanding of the overall need for each project

Evaluating the need of all of the districts enables the Chancellor's Office to determine future priorities and funding eligibility. Information contained in the prioritized list of projects is used to determine if a project is reasonable and consistent with state-fundable objectives. The total community college need for capital improvements is compiled from the district's Five-Year Plans annually and delivered to the Legislature in the California Community Colleges Five-Year Capital Outlay Plan.

4.4 Cumulative Capacities and Loads for each Space Type

The purpose of the cumulative capacity load analysis is to determine the impact each project will have in each type of space analyzed, both in terms of assignable square feet and weekly student contact hours (WSCH). "Capacity" is the capability a facility has to generate WSCH and "load" equates to the current or projected enrollment levels. This ratio is stated as a percentile. The calculation is actual/projected WSCH divided by the WSCH capacity of the campus for a specific room use type of space, e.g., lecture or laboratory. If capacity remains constant (i.e., a new project is not built) and load (enrollment) increases, the capacity load ratio will lower. Hence, during increasing enrollments, an analysis of cumulative capacities would be expected to show declines in capacity load ratios if no new projects are built and increasing available space.

It is critical that data contained on these pages is accurate because eligibility of new or renovation construction is based upon the capacity load ratios of a specific type of space at a specific site at the first year of occupancy.

4.5 The Capacity of Existing On-Campus Facilities

The Five-Year Plan presents a summary of the existing capacity of on-campus facilities. These amounts should be identical to the most recently certified space inventory. Changes made between terms to the amount of space dedicated to specific

instructional programs may change a site's ability to generate WSCH. Since these figures are the basis for all calculations and analyses made by the Five-Year Construction Plan, it is critical that they are accurate, too.

4.6 Individual Project Descriptions & Space Changes Affected by Proposal

At the end of the Five-Year Plan, each project proposal is presented in detail. The project description page gives the district the opportunity to present the anticipated time schedule and explain why each project is needed. It also analyzes the lecture, lab, office, library, AVTV, and other space affected by a project and any secondary impact directly addressed in the proposal. The analysis of space is made both in summary and by specific educational program TOP code area.

This information is used by the state to determine the eligibility of each specific project. As Initial Project Proposals (IPPs) and Final Project Proposals (FPPs) develop, the expectations are that the project descriptions in the Five-Year Plans would be modified to parallel the space, cost, and construction schedule presented in corresponding IPPs and FPPs.

4.7 Submittal and Review of the Five-Year Construction Plan

Districts annually submit **one signed hard copy to the Chancellor's Office and electronically submit** their Five- Year Construction Plan in FUSION by **July 1**. Copies of each district's Five-Year Plan are made available to both the Department of Finance and the Legislative Analyst Office.

The Chancellor's Office combines and analyzes the data from the 72 districts' Five-Year Plans in a manner consistent with Sections 81820 through 81823 of the *California Education Code* and publishes the statewide Community Colleges Capital Outlay Plan. This statewide plan is used by the State Legislature and several state agencies, including the Department of Finance and Legislative Analyst's Office, to help identify short-term and develop long-range capital outlay needs for the community colleges and the combined higher education system in California.

CHAPTER 5: CAPITAL OUTLAY PROJECT PROPOSALS

5.1 Overview

5.2 Preparation of Capital Outlay Project Proposals

5.3 Initial Project Proposal

5.4 Final Project Proposal

5.5 Chancellor's Office Project Design Objectives

5.6 Technical Format of the Final Project Proposals

5.7 Checklist for Preparing a Final Project Proposal

5.1 Overview

The state's capital outlay program is zero-based budgeted each year, requiring state departments to submit annual Capital Outlay Budget Change Proposals (COBCPs) for projects seeking state funding consideration. The capital outlay program for community colleges starts with the district's submittal of an Initial Project Proposal (IPP) with the district's annual submission of their Five-Year Construction Plan. Once the IPP is reviewed and approved by the Chancellor's Office, the district develops the IPP into a Final Project Proposal (FPP) for submittal in the subsequent fiscal year to the Chancellor's Office. FPPs approved by the Chancellor's Office are refined into COBCPs for submittal to the Department of Finance for review/approval and potential funding.

5.2 Preparation of Capital Outlay Project Proposals

An Initial Project Proposal (IPP) presents an overview of each capital outlay proposal seeking to become a Capital Outlay Budget Change Proposal (COBCP). The IPP form works in concert with the district's Five-Year Construction Plan (Five-Year Plan) to provide information needed to determine a project's eligibility for proposed state funding.

A COBCP is composed of two components: a Final Project Proposal (FPP) and a Project Summary. The IPP, FPP, and the Five-Year Plan are prepared by the district, and the Project Summary is prepared by the Chancellor's Office.

As outlined at the end of Chapter 3, districts submit one copy of each IPP to the Chancellor's Office by July 1. The Chancellor's Office uses selection criteria to screen and designate which IPPs could qualify for further development into FPPs. Factors used as selection criteria for IPPs to become FPPs include, but are not limited to, the following:

- Amount of capital outlay funds projected to become available
- Number and dollar cost of projects expected in higher priority categories
- Need for space on the site of each project
- Scope and impact on space of each project

Districts should be aware of upcoming critical life/safety projects which may reduce the need to develop FPPs for growth-oriented projects.

The Chancellor's Office issues an annual Capital Outlay Proposal and Five-Year Plan memorandum. The annual memorandum notifies all interested parties of the following:

- The due date (July 1) of IPPs, FPPs and Five-Year Plans
- Funding for future projects
- Capital Outlay Proposal Requirements
 - California Construction Cost Index
 - Equipment Price Index
 - Current inspection allowance
- List of "IPP-approved" projects (projects eligible to be developed into FPPs in the next submission cycle)
- Action/Date requested
- Contact information

Districts must develop and submit their FPPs and IPPs electronically in FUSION and mail 2 signed copies of each FPP, 1 signed copy of each IPP, and 1 signed final version of the Five-Year Construction Plan by the following July 1 to the Chancellor's Office. Districts who want to submit FPPs for projects that are not on the list of "IPP-approved" projects are strongly advised to contact their Chancellor's Office Facilities Planning Specialist as soon as possible. Following a review of FPPs by the Chancellor's Office and revisions as necessary by the districts, the final version of each FPP is submitted to the Board of Governors for approval.

Districts should consider the following questions when preparing IPPs:

- Is the site eligible for the project?
- What exactly are the needs to be satisfied?
- Do all the needs have priority with justification?
- Can the needs be met through more efficient assignment and utilization of existing space or systems?
- Is a capital outlay project required to provide new space, reconstructed space or systems?
- What other facility and systems alternatives might be considered?
- How would such a project relate to other projects and objectives on the campus?

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- What is the scope and estimated cost for such a project?
 - What is the anticipated schedule?
 - Is the project feasible given current funding sources, regulations, location, physical conditions, etc.?

5.3 Initial Project Proposal

The purpose of the IPP is to introduce the concept and impacts on space intended by each project proposal so that efforts can be made to determine which projects should continue into more detailed planning and development. Additional information may need to accompany the IPP to evidence such conditions as life-safety concerns, infrastructure failures, or other sources of funding besides State bond funds to be used to develop the project. As detailed in Chapter 3, IPPs are due no later than July 1.

The IPPs should be based upon and supported by the district's educational and facility master plans and the Five-Year Plan. The primary objectives of an IPP is to establish the institutional needs for the project, investigate available alternatives and develop a project that will best meet the stated needs to determine a project's eligibility for potential state funding before districts make significant investments of staff and consultant time and financial resources into preparing comprehensive FPPs.

Before submitting one signed hard copy of the IPP to the Chancellor's Office for review and approval, the district and/or district's principal planner should secure project scope and cost consensus from instructional, student services, faculty, facility planning, operations and maintenance, and business office representatives. Once the project is selected for development as a FPP, the Chancellor's Office expects only refinements of the project proposal, but not major changes in scope or cost.

5.3.1 Preparation of the Initial Project Proposal

5.3.1.1 Project Identification

Complete all items to aid in identification of each proposal's eligibility for funding. The cost estimate for the IPP should be based on the best available costs for a project. The suggested reference for these costs is the "Building Unit Cost Guidelines" located in the JCAF31 in FUSION. The cost guidelines were calculated for fiscal year 1995-96 and inflation requires that costs for any subsequent year be adjusted to the appropriate index. Districts may use local construction cost estimates, cost estimating software or

other acceptable means to obtain cost estimates; however, the Chancellor's Office will use the maximum "Building Unit Cost Guideline" allowance in the JCAF31 as the basis for the costs of any potential state-funded project.

The Chancellor's Office will select projects based on their merits provided the costs are an efficient use of funds and are consistent with "Building Unit Cost Guidelines." It is possible for a proposal to exceed the State cost guidelines if the district is willing to provide other, non-state capital outlay funds to support the project and identifies such support in the IPP.

5.3.1.2 Project Description

The project description includes the Weekly Student Contact Hour (WSCH) capacity and growth, scope, cost, and schedule as currently planned. If significant site studies, programming, and analysis are pending, which may change the scope, cost, or schedule, indicate the level of certainty of the current figures.

For example:

"This request is for \$12.9 million to reconstruct 25,625 ASF of a 30-year old library to serve as a regional technology and information center with campus and regional telecommunications systems to communicate information and distance learning and student services programs to and from nearby colleges, the CCC information system and UC and CSU systems."

It is in the district's best interest to be candid with the Chancellor's Office about any uncertainties. If the IPP is approved for FPP development without the Chancellor's Office being apprised of possible changes, and the project is discovered to be significantly more costly or different than described in the IPP (i.e., scope change), the Chancellor's Office may have difficulties continuing to sponsor the project.

5.3.1.3 Relationship of the Project with the District's Master Plan and Five-Year Construction Plan

The Five-Year Plan specifically addresses each proposed project's intent and scope. Information contained on these pages is used to calculate the impact of the project on a site's space capacity and enrollment load and a project's eligibility for State funding. Hence, information in the Five-Year Plan should be modified as each proposal changes so that it remains as accurate as possible.

The specific needs and objectives of the colleges' educational master plan that justify the proposed project should be summarized in easily understood and objective terms. This is best done by carefully explaining the educational program and services that benefit from the project and the programs and services that may suffer for not having the project. Moreover, capital outlay proposals should be focused on facilitating teaching and learning systems rather than being narrowly focused on building (brick and mortar) projects

For example:

“Our college is proposing a regional technology and information center with local, regional and wide area telecommunications networks phased over three years to: 1) reconstruct our existing 60,000 gross square foot library building; 2) provide voice, data and video production capability; 3) provide regional telecommunications to five nearby community colleges and wide area network connections to the UC/CCC network and Internet links to CSU and UC libraries; and 4) allow for the local area network connections of 1,000 computer stations on the campus. Without this project, it will be impossible to keep our college students abreast of the technological skills needed for employment or the research skills needed for transfer and successful matriculation.

A telecommunications project will greatly improve our vocational job skills and transfer programs, upgrade our information systems capability, and at the same time, further expand distance education programs in the region. This should also eliminate the need for construction of \$20 million of additional space within the region over the next ten years.”

This example provides educational and student service program reasons and cost-effective uses. The explanation of a real project would contain more specific information about the program and the proposed improvements.

Regional and college master planning is very important to this type of justification. If the program is regional, unique, a pilot program, a program tailored to a severe need or if the program serves several districts or a large population, it is easier to demonstrate its justification.

Projects that may be given priority without regard to educational, student services and facility master plans:

- Fire and life safety hazards
- Seismic and other structural safety problems

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- Building and environmental code corrections that reduce or eliminate significant liability or litigation costs
 - Energy and water conservation projects
 - Projects to address Federal access requirements for disabled persons (Americans with Disabilities Act, Civil Rights Act, other federal regulations)
 - Utility replacement and retrofit projects with a short payback (under five years) in utilities operation costs

If such projects do not fully use available funds or are not considered higher priority by the Board of Governors, districts have opportunities to justify projects based upon arguments presented in the IPP. The Chancellor's Office may request the following documentation to support such arguments:

- A published regional or college mission or master plan statement
- Statistics on expected student outcomes, e.g., matriculation, equity, access
- Accreditation standards or recommendations
- District or community studies or recommendations
- Documentation of a specific community need
- Documentation of applicability to a specific job market
- Capacity, adequacy, condition or cost effectiveness benefits

In every case, the justification for a project should include:

- Documentation of any unsafe or unacceptable condition with such items as inspection reports, photographs, copies of mandates, expert evaluations, and/or testing reports
- Discussion of alternatives with time frames and cost estimates
- Reasons why the project is the best alternative

If there is a significant unsafe or unhealthy condition, the district should provide interim measures to eliminate the hazard or close the facility. The cost of the interim measures may be included in the total cost of the project, including the cost of moving programs to other locations.

5.3.1.4 California Environmental Quality Act (CEQA) Status

The IPP should contain a discussion of the status of the campus' and project's conformance with CEQA requirements. This will avoid serious problems, delays and additional costs because of insufficient attention given to CEQA requirements during the project planning phase. See Chapter 6 for more detail on CEQA.

5.3.1.5 Type of Project and Qualifying Information

Answer all questions so that more complete information is available to determine each project's category of eligibility.

5.3.1.6 Capacity Justifications

Capacity-related projects are normally justified based on the Board of Governors space standards and the capacity load ratios in the Five-Year Plan. There are exceptions:

- 1) Where the space standard conflicts with the building code, the building code supersedes the space standard. The code must be cited with calculations of the space.
- 2) Where the space standard does not work due to the unusual intended use of the space. Calculations should be presented with an argument for using a revised standard.

Revenue generating facilities such as parking lots, bookstores, dormitories, student unions, and athletic stadiums (except physical education facilities) are excluded from State funding (*California Code of Regulations*, Title 5, Section 57001.5(d)). Generally, the Chancellor's Office considers IPPs eligible to compete for scarce capital outlay funding and to be developed into FPPs based on the following guidelines:

IPPs for growth projects (Category B and E)

- Preponderance of space is less than 100% at the end of construction
- Non-primary space is less than 110% and/or less than 30% of total assignable square feet at the end of construction
- New or expanded public safety training centers typically fall under Category B - Growth.

IPPs for modernization projects (Category C and F)

- Project cannot sustain or increase high capacity load ratios at the end of construction including the overbuilt status of a site

IPPs for Category D — to promote a complete campus

- D-1: includes physical education, child development centers, performing arts and capital projects that are necessary to promote a complete campus but not covered under other categories. For example, if an educational center grew (achieved accreditation) into a college requiring a student services center, one-stop student services center etc.
- D-2: include Cafeterias, maintenance shops, warehouses and capital energy projects

The Chancellor's Office approves the IPP in FUSION, i.e., the status of the IPP is changed from "IPP-submitted" to "IPP-approved," and alerts the district which projects may be developed into FPPs. Recognizing this, many districts include the following in the project proposal to bring their campus ratios after project completion to below 100%:

- Plans to vacate surplus space
- Removal of surplus space from the inventory
- Demolition of old, obsolete space

A construction schedule does not need to be included in an IPP, only an estimate of the number of months for construction. The number of months of construction gives the Chancellor's Office information about the relative size and complexity of each project and assists with scheduling projects in the budget cycles.

5.3.1.7 Additional Forms/Pages Enclosed

Each IPP relies upon the district's Five-Year Plan for critical capacity load, cost and schedule information. The cost estimate on the first page of the IPP does not need to be accompanied by supporting documentation, but if a district elects to submit such detail, note the inclusion of it in this section.

5.4 Final Project Proposal

The FPP establishes the project justification, *final scope* and estimated costs for implementation of all acquisition, infrastructure, facility and systems projects. Appendix E details the specific FPP forms for providing this granular information. Computer generated copies of these forms may be used, but they must be consistent with the formats provided. Two copies of each FPP should be submitted to the Chancellor's Office by July 1. Contents of the FPP are:

- 1) Approval Page

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- 2) Project Terms and Conditions
 - 3) Analysis of Building Space Use and WSCH (JCAF 31)
 - 4) Cost Estimate Summary and Project Time Schedule (JCAF 32)
 - 5) Quantities and Unit Costs Supporting the JCAF 32 (Architect's Detailed Cost Estimate)
 - 6) Board of Governors Energy and Sustainability Policy
 - 7) Responses to Specific Requirements of the State Administrative Manual (SAM)
 - 8) California Environmental Quality Act (CEQA) Final Notice of Determination
 - 9) Analysis of Future Costs
 - 10) Diagrams: plot and site plans, floor plans, and elevations
 - 11) Guideline-Based Group 2 Equipment Cost Estimate (JCAF 33)
 - 12) Justification of Additional Costs Exceeding Guidelines (if applicable)
 - 13) Detailed Equipment List (required before the capital outlay project proposal requesting equipment funds will be transmitted to the Department of Finance)

Coupled with the district's Five-Year Plan, the FPP is used in the annual state budget process as a capital outlay budget request document by the Chancellor's Office, California Community Colleges Board of Governors, Department of Finance, the Legislative Analyst's Office, and the Legislative budget committees. Accordingly, it is critical that the FPP designate the most current design and cost estimates and be consistent with the most recently submitted Five-Year Plan.

In developing the FPP, the college and district must clearly demonstrate that the proposed request is based upon needs and justifications established in the college's educational, student services, and facilities Master Plans which are carried forward in the district's Five-Year Plan. A meaningful discussion of alternatives is important, too.

Approval of an FPP by the Chancellor's Office and the Board of Governor's confirms that the project proposal has met all the criteria for state-funding support and advocacy. Due to the limitations on state financing of community college capital outlay projects, the Chancellor's Office annual spending plan is developed using a "zero-based" budgeting method in which all eligible "new start" proposals (FPPs) compete each year for available funding. FPPs that do not receive an appropriation in a given fiscal year have no special standing in subsequent budget years; the FPPs must re-compete for future funding consideration. This "zero-based" budgeting evaluation ensures that the highest priority projects are included in the state's annual capital outlay plan.

5.4.1 Preparation of a Final Project Proposal

The FPP must reflect the final scope, cost, level of quality and schedule for the complete project. All feasibility, special designs and engineering studies, and space systems and equipment plans must be reflected in the FPP. The initial studies (i.e., structural, soils) should also be completed in order to provide reliable estimates of costs for site development, foundations and structural elements.

Once an FPP is submitted and approved for budgeting, it will be carried forward by the Chancellor's Office through the end of the Legislative budget cycle. Consequently, the district must make no changes in the project scope or cost (other than CCI changes) unless such a change is fully justified and agreed upon, in advance, with the Chancellor's Office, the Department of Finance and, if necessary, by the State Public Works Board. Changes in scope are defined as:

- Reconfiguration of room spaces
- Reassignment of room functions between space types
- Changes in program purposes
- Changes in project cost other than CCI adjustments

The Chancellor's Office will remove an FPP from the budget cycle if evidence indicates that the district has not yet completed its conceptual design of a proposal. FPPs for individual projects estimated to cost under \$634,000 will not be classified as major capital outlay projects. However, districts may submit a single FPP for "renovation for efficiency" projects consisting of a group of small, related projects which can be executed concurrently and which, in combination, exceed \$634,000.

An updated FPP should be submitted if delays have occurred between the funding of phases (construction and/or equipment) of a project.

When preparing an FPP, the following items should be considered:

- Any departure from the approved district's Five-Year Plan, previous FPP or COBCP, must be called to the attention of the Chancellor's Office
- Each project must be located on a site eligible for State capital outlay
- Ongoing communication should be maintained with the Chancellor's Office throughout the course of development of the FPP

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- Ensure that all secondary effects of the project are included in the project description
 - Identify any secondary effects (but do not include cost of secondary effects project)
 - Site, utility, and landscape sheets of the plans should be developed to the extent that scope and cost of the project is accurately portrayed
 - A checklist should be included to ensure the completeness of the FPP
 - Be sure that the requirements of the CEQA will be met prior to request for Preliminary Plans approval

Once approved, the forms listed above are combined with a Project Summary form prepared by the Chancellor's Office and transmitted to the Department of Finance and other state agencies as a 'capital outlay budget change proposal' (COBCP) for submission into the state budget process.

5.4.2 Approval Sheet

The FPP Approval sheet provides general information about a project and certifies that the proposal has been approved by the district chief executive officer and board of trustees. The Approval sheet and the Project Terms and Conditions form is the legal basis behind the district's proposal. Once funds are approved by the Governor, the district and State are expected to implement the terms and conditions. This sheet is not required for an IPP, but is required for an FPP.

The FPP must be signed by the chief executive officer of the district or an employee of the district with binding financial authority.

5.4.3 Project Terms and Conditions

The Project Terms and Conditions set forth general provisions regarding State capital outlay appropriations. The District Board of Trustees Certification section of the Approval Sheet must be completed or the FPP will be returned to the district for completion.

5.4.4 Analysis of Building Space Use and WSCH (JCAF 31)

The Analysis of Building Space Use and WSCH (JCAF 31) is used to tabulate assignable areas and show congruence with the district's Five-Year Plan. Assignable

areas must be calculated from wall surfaces and not from wall centerlines. The entry for outside gross square feet (GSF) shall be supported by a Schematic of Drawings. Where applicable, keep reconstruction and new construction Assignable Square Feet (ASF) separate.

Itemized below is a guide for computing the GSF for buildings:

- Outside GSF is measured for every floor level, using outside face of exterior walls, excluding fins, pilasters, and other projections beyond the face of the wall, to arrive at a total
- Mezzanines, stacks, and interior balconies are included in the total but only for the floor area they represent
- Stair, elevator, utility core and similar shafts are considered as floor area at each level
- A room extending through more than one floor is counted only once at the level on which the floor is located.
- Exterior covered areas, attached and/or related to the building, of one foot or more, should be counted at one-half value. All overhangs of one foot or more from the outside face of the building should be counted at one-half value.

5.4.5 Cost Estimate Summary and Anticipated Time Schedule (JCAF 32)

An accurate completed Cost Estimate Summary (JCAF32) indexed to the appropriate time period, including the “Quantities and Unit Costs Supporting the JCAF32” (QUC) is required for all projects. All costs should be estimated at the CCI specified in the Call Letter; the Chancellor’s Office will escalate costs to the mid-point of construction using Department of Finance approved methodology. In addition, date all cost estimates showing month and year and give a clear accounting of all State and non-state funds involved, including non-state supportable funds, too.

Supporting data is required for all utility, site development, and new building reconstruction costs. Contractors' overhead and mark-up costs should be included in the system cost and not be added to the end of the supporting data as a lump sum.

5.4.6 Preliminary Plans and Working Drawings Costs and Fees

Costs incurred during the development of preliminary plans and working drawings are summarized in part 2 of the JCAF32. Costs included in this component are:

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- Architectural Fee for Preliminary Plans
 - Architectural Fee for Working Drawings
 - Project Management Costs
 - Office of the State Architect Plan Check Fee
 - Community College Plan Check Fee
 - Preliminary Tests (such as soil tests)
 - Other Costs (identify and substantiate)

Per Section 6553 of the State Administrative Manual, architectural and engineering fees:

“are those fees charged for architectural and engineering work. Item include professional charges for A/E construction management support, construction inspection, travel, bidding expenses, drawings, etc. that are project related. Such fees typically do not exceed 13 percent of the proposed construction contract amounts depending on the nature of the project.”

Chancellor’s Office funds architectural fees at 8 percent of total construction costs for new construction and 10 percent for remodeled spaces. The fee is broken down into three component parts:

- Thirty-five (35) percent of the architect's fee is for preliminary plans (design development)
- Forty (40) percent of the fee is for working drawings (contract documents)
- Twenty-five (25) percent is for architectural oversight during construction of the project

The Division of the State Architect's (DSA) plan check fee is allowable. The DSA charges 0.7% (.007) of the first \$1,000,000 in construction costs plus 0.5% (.005) of costs over \$1,000,000. The minimum fee is \$250. Only projects which require DSA approval should have a fee in the cost estimate. For example, most site development and warehouse projects do not require approval of DSA; therefore, a fee for these items should not be included in the cost estimate.

The plan check fee for the physically handicapped (Government Code, section 4454) should be added to DSA plan check fee. This fee is as follows:

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- Projects with an estimated construction and site development cost of up to \$500,000, the fee shall be two-tenths of 1% (.002) of those costs.
 - Projects with an estimated construction and site development cost over \$500,000 up to and including \$2,000,000, the fee shall be equal to \$1,000 plus one-tenth of 1% of (.001) of that portion of the cost over the first \$500,000.
 - Projects with an estimated construction and site development cost greater than \$2,000,000, the fee shall be \$2,500 plus one-hundredth of 1% (.0001) of that portion of the costs over \$2,000,000.
 - The minimum fee shall be \$200.

For the purpose of determining the plan check fee, the term “project” shall be defined as any one building or other structure, together with the development of its site. In the event the plans and specifications submitted with the application do not provide for the construction, addition or alteration to a building or structure, then it shall be for each facility proposed for development in the application.

The Chancellor's Office plan check fee shall be charged at a straight two-seventh of 1% (0.28571) on total construction cost.

Other costs are allowable including the cost of geological and engineering studies and investigations. Please be sure to specify category.

5.4.7 Construction-Related Allowances and Fees

In addition to estimates of site development, infrastructure and building construction costs, the following costs (per the allowances below) should be included in the estimate:

- Contingency — 5% of construction contract costs for new projects or 7% for reconstruction projects
- Tests — 1% of construction costs
- Inspection allowance — current inspection allowance issued in the Chancellor's Office annual Capital Outlay Proposal and Five-Year Plan memorandum
- Construction Management — 2% of contract amount

5.4.8 Anticipated Time Schedule

The anticipated time schedule should be as realistic as possible and include the following:

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- Start of preliminary plans
 - Start of working drawings
 - Completion of working drawings
 - Complete DSA approval
 - Bid advertisement for construction
 - Award of construction contract
 - Bid advertisement for equipment
 - Complete project and activate facilities

5.4.9 Quantities and Unit Costs Supporting the JCAF 32 (Architect's Detail Cost Estimate); Elements of Cost

The detailed architect/engineers cost estimate by building system is to be attached to the JCAF 32. Components of cost to consider when developing cost estimates are listed below. (These costs are not all inclusive nor are they always state supportable.)

Site Acquisition (Acquisition Component) — Site acquisition is not currently funded by the State

- Purchase price
- Appraisals
- Escrow costs
- Surveys
- Relocation costs

Planning through Preliminary Plans (Planning Component)

- District project administration/management (not State supportable)
- Project/construction management (only if solely dedicated to project)
- Programming (architect or programmer)
- Architect and engineering design fee (schematic, design development)
- Value engineering/independent review
- Environmental documents (CEQA)

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- Other

Site Investigation (Planning Component)

- Land survey
- Geotechnical report
- Hazardous materials survey
- Code/structural survey

Construction Documents (Working Drawing Component)

- Project administration/management (district)
- Project/construction management (only if consultant)
- Architect and engineering fee for construction documents
- Special consultants
- DSA plan check fees
- Community college plan check fee

Site Clearance (Construction Component)

- Identification of underground utilities and obstructions
- Demolition
- Tree and landscape removal or relocation
- Soil removal or relocation
- Toxic materials removal, including underground tanks
- Salvage of items (signage, lighting, etc.)
- Grading (rough and finish)
- Security and barricades

Exterior Utilities (Construction Component)

- Utility trenches
- Water
 - Fire
 - Domestic

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- Recycled gray water
 - Irrigation
 - Hot and chilled water
 - Steam and condensate
 - Sewer
 - Sewage ejection
 - Force main
 - Main capacity
 - Storm drain
 - Storm pumps
 - Electrical
 - Facility to transformer
 - Transformers (above and below grade)
 - Hookups and fees
 - Communications (telephone, information systems, fire alarm)
 - Cable
 - Conduit
 - Gas
 - Facility to main
 - Hookups and fees
 - Laboratory and medical Gas
 - Bulk oxygen and nitrogen
 - Vacuum
 - Wastes
 - Waste compaction
 - Hazardous waste treatment
 - City tie-in fees
 - Off-site extensions (specify)

Site Development (Construction Component)

- Landscape

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- Retaining
 - Irrigation
 - Walks
 - Roads
 - Surface parking areas and parking accessories
 - Curbs
 - Fences
 - Site lighting
 - Exterior signage
 - Borrow fill
 - Striping
 - Signals
 - Site amenities (site furniture, planter, canopies, bike racks, etc.)
 - Development of “open space”

Building Construction (Construction Component) listed by CSI division

- General requirements
- Site work (not applicable, see above)
- Concrete
- Masonry
- Metals
- Wood and Plastics
- Thermal and Moisture Protection
- Doors and Windows
- Finishes
- Specialties
- Group 1 Equipment (building fixtures and service systems)
- Furnishings (not applicable, see below)

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- Special Construction
 - Conveying Systems
 - Mechanical
 - Electrical
 - EIR mitigation

Construction Administration (Construction Component)

- Construction administration (district)
- Construction management (consultant)
- Construction administration (architect and engineer)
- Testing and inspection

Secondary Construction Costs (Construction Component)

- Moving costs
- Leasing temporary space (not state supportable)
- Demolition of a building on-site
- Reconfiguring surge space before and after use

Group 2 Equipment (Equipment Component)

- Furnishings and modular systems
- Program equipment
- Telecommunications
- Storage

5.4.10 Responses to Specific Requirements of the State Administrative Manual (SAM)

Districts are required to submit the following information in the FPP to conform to requirements for Capital Outlay Budget Change Proposals (COBCP) established by the Department of Finance in the *State Administrative Manual (SAM)*. *State Administrative Manual, Section 6818*, titled “Capital Outlay Budget Change Proposals” requires that:

The COBCP must define the problem, project justification, discuss all reasonable alternatives, recommend a solution, provide detailed project costs, and address how the project supports the district's educational and facilities master plans.

“For new or remodeling capital outlay projects proposed for inclusion in the next Governor’s Budget, the following information is required to be contained in the Capital Outlay Budget Change Proposals:

- 1) Problem statement based on program needs.*
- 2) Alternative solutions.*
- 3) Complete description of the project. This must include proposed size (number of stories, gross square feet, etc.), special features (food service, auditoriums, child care facilities, etc.), type of materials to be used, and any other items that will allow full understanding of the proposed project.*
- 4) Specific location of the project. Include a vicinity map that adequately describes the area served, and include Congressional, Senate and Assembly district numbers.*
- 5) Purpose. Cite all code requirements and generally describe the reason the project is necessary. In addition, information shall be included to identify all reasonable alternatives and justify the purpose and alternatives of the proposed project.*
- 6) Capacity expressed in terms of patients housed, student stations or other appropriate factors. All capacity figures shall be from enrollment or growth projects prepared by the Population Research Unit of the Department of Finance or other approved organizations.*
- 7) Occupancy or usage of facilities expressed in terms of patients housed, student stations, or other appropriate factors. Occupancy factors must be by discipline type and by assignable square feet or other space standards applicable to the type of occupant.*
- 8) All special purpose rooms and offices must be fully described by purpose, square footage and must be justified.*
- 9) All factors influencing site selection must be fully justified. Alternative sites considered must be identified and reasoning behind the site selected must be provided.*

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- 10) *Approximate cost indicating basis upon which the estimate was prepared (e.g., LSI, ENR, and other indices), and a proposed funding source must be identified.*
 - 11) *A complete funding history, including all previous submissions (regardless of whether the project was denied), priority of the project in relation to all other projects listed in the department's Five-Year Plan, and all other data to completely describe the past and future funding requirements. All prior funding history must be detailed by amount, date, and appropriation sources. All future funding requirements must identify a proposed phase, source of funds and estimated dates of need.*
 - 12) *Each project description must include a complete economic analysis that specifies, as a minimum, future maintenance and operation costs (in BY dollars and personnel years) and any potential revenues that will be generated because of these modifications. The proposed source of future operation and maintenance costs must be identified, as well as the disposition of any anticipated revenues.*
 - 13) *Proposed plans to satisfy any environmental requirements of the California Environmental Quality Act of 1970 and subsequent environmental legislation and the regulations adopted with respect thereto by the Secretary of the Resources Agency and any probable environmental opposition to the project along with a synopsis of the plan to meet the opposition successfully. (See SAM Sections 1000–1099.)*
 - 14) *Agency's proposal for obtaining clearance from appropriate planning agencies, e.g., Coastal Commission, local jurisdiction general plans, etc.”*

Example of a description of a project:

“Vocational/Technical Center. The proposed 50,780 ASF high technology laboratory project includes 29,500 ASF laboratory space, 12,000 ASF lecture space, 5,280 ASF office space, and 4,000 ASF supporting space. The project will house an expanded fabrication technology program, a new industrial waste training center, and relocate existing HVAC and environmental technology programs.

Full teleconferencing capabilities will be provided. Also 42,000 ASF of obsolete space will be demolished. Estimated future construction costs are \$13,153,000, including \$11,980,000 (CCCI XXXX) for construction contracts (building cost is \$10,059,000); \$600,000 for contingency; and \$573,000 for contract administration, construction management, testing and inspection. Preliminary Plans will be completed by January

20XX. Working Drawings will be completed by November 20XY. Construction will be completed by February 20XZ.”

Per *Section 6680 of the State Administrative Manual*, all requirements of CEQA must be completed before approval of preliminary plans by the Public Works Board (State funded PW) or approval to go to bid (locally funded PW) will be granted. (Refer to Chapter 6, Section 6.10 for a detailed discussion of the California Environmental Quality Act.)

Districts within the Coastal Commission's jurisdiction or within the jurisdiction of any other agency which requires environmental approval, must receive final approval from the appropriate agency prior to allocation of funds by the Public Works Board.

5.4.11 Outline of Specifications

Detailed descriptions of construction specifications may be needed for the following components:

- Testing
- Site work
- Construction
- Mechanical
- Electrical
- Utility services

5.4.12 Federal Funds Detail

Title 5, section 57015(b) of the California Code of Regulations (CCR) provides that the review and evaluation of a FPP for a project by the California Community Colleges shall include:

“Determining the amount of federal funds available for the project and taking appropriate measures to ensure that the project will qualify for the maximum amounts of federal funds practicable under the circumstances.”

CCR, Title 5, section 57015(c) provides that the colleges shall determine the total cost of the project and reduce the same by the amount of federal funds. The district should, therefore, submit a statement indicating the following:

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- Name of project (as listed in federal application)
 - Date of application
 - Source of funds
 - Amount of funds made available
 - Date of approval
 - Amount approved

5.4.13 Analysis of Future Costs

The California Community College Budget and Accounting Manual requires that districts record expenditures for the following activities: instructional, administrative and instructional support, and operations and maintenance (including buildings and grounds maintenance and repairs, custodial services and utilities).

SAM, Section 6621 requires that Capital Outlay Budget Change Proposals include a complete economic analysis of future revenues and costs that will be generated by a completed capital outlay facility project. Include in the analysis the effects on instructional, administrative and support, and maintenance and operations. Include personnel years and costs by specific activity. This analysis also should show the personnel years and cost associated with new instructional courses and programs that may involve review by Chancellor's Office Curriculum and Instructional Resources staff.

5.4.14 Pre-Schematic Plans

Pre-schematic plans include site/plot plans as well as building plans.

5.4.14.1 Campus Plot Plan

The campus plot plan should be drawn to scale on 11" x 17" paper. It should clearly show the location of the proposed construction in relation to other campus buildings. Each building should be identified by name or function as shown in the facility inventory.

5.4.14.2 Schematic Drawing

For building projects, the schematic drawings shall include, but not necessarily be limited to, a site plan, architectural floor plans showing major dimensions, elevations, and a typical cross-section of each building. The site plan must show all utilities, drainage, etc.

The drawings should be to scale as drawn by the architect for the project (1/8" = 1" preferred), clearly dimensioned and labeled to indicate room number, purpose and use of all rooms and attendant areas. Reduced drawings are acceptable; however, dimensions and areas will be checked to verify the relevant data entered in the reconciliation with final working drawings.

All floor plans must be clearly coded or shaded to assure proper identification of renovation, new construction, and assignable area not in the project (i.e., space not being financed as part of the approved project).

5.4.15 Guideline-Based Equipment Cost Estimate (JCAF 33)

The definitions of Group 1 — Fixed Equipment and Group 2 — Movable Equipment are discussed in detail in Section 7.9, "Equipment Planning." To summarize those discussions, the definitions are restated below.

"Group 1 — Fixed Equipment" (otherwise known as building fixtures and service systems) has the following characteristics:

- It is securely attached to the facility.
- It functions as part of the building.
- Removal of the equipment results in visible damage to the building or impairs the designed use of the facility.
- The equipment is generally interpreted to be real property rather than personal property.
- Once installed, the piece of equipment loses its identity as a separate unit.

"Group 2 — Movable Equipment" is the designation given to equipment not identified as Group 1 — Fixed Equipment. Such equipment usually can be moved from one location to another without significantly changing the effective functioning of facilities at either location. If appropriate, existing equipment for an active program should be transferred into remodeled or expanded space before new equipment is considered. The need for new Group 2 Movable Equipment and its related cost request should be reduced as much as possible through the transfer of any existing equipment.

5.4.16 Completing the Group 2 Equipment Cost Estimate Form

The JCAF 33 uses cost allowances per ASF from the Instructions for Preparing 1995-96 Capital Outlay Budget Change Proposals, September 1993 to estimate equipment costs for Group 2 — Movable Equipment only. Group 1 — Fixed Equipment costs are estimated based upon designed needs described in the working drawings and specifications for the project. The cost of Group 1 Fixed Equipment is included in the construction component of the FPP.

Currently, funding may be requested for Group 2 — Movable Equipment in space dedicated to new programs and in net expansion space in existing programs. The expansion space limitation is somewhat easy to understand. For example, an automotive technology course (without curriculum changes) moving to a new facility would not be entitled to an equipment allowance unless there is an expansion in the assignable square footage dedicated to the program in the facility. The new program aspect is more difficult to determine. An educational program is defined in the California Code of Regulations, Title 5, Section 55000 as follows:

(b) “ ‘Educational program’ is an organized sequence of courses leading to a defined objective, a degree, a certificate, a diploma, a license, or transfer to another institution of higher education. [CCR T.5 §55000.]”

The definition of a program is further separated into these components for operational purposes. An educational program: 1) awards a degree or certificate, 2) has a specific set of required courses, and 3) has stated goals and objectives. For a program to be considered new, it must have changes in one of these components. For example, equipment needed to support a technological upgrade in a program is generally not allowable unless it can be demonstrated that the change is so significant that it constitutes a change in stated goals or objectives, or the new technology will result in changes in the courses that make up the program. For a detailed discussion of new programs and related issues, refer to Section 5, Approval of New Degree and Certificate Programs in the Curriculum Standards Handbook published by the Chancellor's Office Curriculum and Instructional Resource Division.

The cost estimate form requires that total project ASF be compared with existing program ASF and expansion space/new program space ASF. The gross allowable cost is a product of expansion space/new space ASF times the guideline allowance for the type of space to be equipped. Districts should clearly identify new program space and expanded program space in the FPP. Districts should take special care to investigate

the probability of equipment funding from other sources besides State capital outlay during the early stage of design, since the lack of adequate funds will have considerable effect on the ultimate usage of the facility in the years immediately following project completion.

5.4.17 Justification of Specific Costs Exceeding Guidelines

Special attention should be given to those equipment costs which exceed the normal cost guidelines in a particular area. Activities and items that commonly cost more than guidelines and need justification include extra site testing, special consultants, non-typical inspections, special construction techniques, special design features or specialized equipment. In addition, technological developments in the educational area in telecommunications and other areas have occurred so quickly that cost guidelines have not yet been developed for such equipment. As a result, costs for telecommunications and other recently developed high technology equipment and extra costs for special design features and inspections should be itemized and justified and, if possible, included in the initial cost estimate in the IPP. Thorough preliminary testing is encouraged and has been shown to reduce the need for expensive negotiated change orders during construction.

5.4.18 Detailed Equipment List

While the cost of equipment in an IPP can be based on per-square-foot cost guidelines, a detailed list of Group 2-Movable Equipment must be submitted and included in a FPP to request equipment funding before it will be submitted to the Department of Finance. Requests for funding of Group 2-Movable Equipment should include the following:

- Project description, building name, ASF to be equipped, general description of the equipment type
- Calculation of estimated Group 2-Movable Equipment: testing, training, shipping and other associated costs (exclude sales tax). Cost requests should be net of current replacement cost of existing equipment on hand which will be used in the project
- Reliable justification for any single unit of equipment costing more than guidelines, any unusual quantity of one type of equipment

Equipment needs that appear to be technological upgrades without the introduction of new program space or the expansion of existing program space must be submitted

separately with the general understanding that these need cannot be supported through the state capital outlay budget.

5.5 Chancellor’s Office Project Design Objectives

5.5.1 New Building Construction or Reconstruction

- A new or reconstructed building should be designed to have a basic structural life cycle of about 80 to 100 years.
- Electrical and mechanical systems should be designed to have a life cycle of about 25 years.
- If the cost of reconstructing an existing building exceeds 75% of the cost of constructing a new replacement building, the Chancellor's Office may recommend a “drop and replace” project, where the existing building is torn down and a new building is constructed in its place. In these instances, the district may be required to pay the excess cost if it chooses to remodel the existing building. (Historical buildings have different parameters.)

5.5.2 Other Project Types

The following project types involve scopes that are generally supportable with State funds when included within the scope of a building reconstruction or new construction project, but are not generally supportable for State funding if submitted as a separate project:

- Architectural Barrier Removal
- Energy Conservation
- Site Development and Infrastructure
- Telecommunication
- Land Acquisition

Exceptions to the general policy; however, may occur. For example, a critical life-safety project may only require repair or replacement of a fire alarm system. Hence, to maintain the least-cost solution policy, a project that just addresses the infrastructure repair/replacement would be allowable.

5.5.2.1 Architectural Barrier Removal

Architectural barrier projects have been separated into Phase 1 (basic access) and Phase 2 (full compliance with ADA). The Chancellor's Office is no longer accepting new Phase 1 projects, but will seek funding for those projects previously approved by the Board of Governors. The scope for Phase 2 projects supportable with State funds has not yet been defined; therefore, the Chancellor's Office is not accepting Phase 2 proposals at this time.

5.5.2.2 Energy Conservation

It is necessary for the FPP to contain the following information:

Assurance that the project will be designed according to the California Code of Regulations, Title 24, "Energy Standards for Nonresidential Buildings," or be designed to not exceed the energy consumption requirements of those standards.

The latest copy of the standards may be obtained from the California Energy Commission, Publication Office.

Demonstrating the Need for Energy Conservation Projects

For those districts requesting a state supported energy conservation project, a summary of the local district's Energy Conservation program adopted by the Board of Trustees shall be a part of the annual district Five-Year Plan and FPP. The FPP also shall contain evidence of an approved energy audit on file with the California Energy Commission. See Appendix R for California Energy Commission contact information.

A clear, detailed statement shall be provided to describe the scope and intent of the energy conservation measure project, which describes what the project is to accomplish in terms of changes or modifications as the project applies to energy conservation.

Three general types of project orientation are: the general mechanical system modification, control system installation or modification, and solar energy generation as a recognized element of energy conservation.

Energy Conservation Loans

In the interest of using state energy conservation funds to the extent possible and to maximize State capital outlay funds, all districts should provide an economic analysis of all energy systems contained in proposed projects that will potentially generate energy savings. Specifically, this analysis should address economic life-cycle costs and

potential energy savings for all feasible alternative systems for lighting, heating and cooling, energy management, co-generation and other energy systems.

The analysis should also address alternative funding sources, such as state energy conservation loans and grants, and third-party financing available from the Office of Energy Assessment in the Department of General Services, the Energy Conservation Commission, commercial bond brokers (third party), and other sources. Information, loan and grant application guidelines may be obtained from the Office of Energy Assessment. See Appendix R for Department of General Services and Office of Energy Assessment contact information.

5.5.2.3 Site Development and Infrastructure (Including Telecommunications Networks)

The proposals for site development infrastructure projects (both off-site and on-site) must include the following information:

- Master Plan and Five-Year Plan basis for the project
- Separate detailed descriptions of each element of the site development and the infrastructure project, including specific justification, scope, cost and timing factors for:
 - Roads, parking lots (not state supportable), entrance improvements including traffic signals, campus lighting
 - Electric, water, gas and drainage systems
 - Telecommunications networks, both local area networks and wide area networks, microwave and satellite transmitters and receivers
 - Central plants for heating and cooling of facilities

Infrastructure project planners must combine all infrastructure projects into concurrent facility project proposals for instructional or student services facilities in order to qualify the combined proposal as a “B” category project.

All infrastructure projects must include coded line diagrams of utility items (on 11" x 17"). Clear graphic data is a key part of the capital outlay budget change proposal for this type of project. Use the same key throughout; that is, if a water line is called item (a) in the budget, it should be called item (a) in the description and in any keys used in the drawings.

Planners must carefully reconsider submitting individual proposals for new central plant projects for State funding. Due to the difficulties encountered in securing funding for individual central plant projects, facility planners should first consider providing all future facilities with “self-contained” heating and cooling systems in order to ensure that the facilities are ready to operate when the proposed instructional or support facilities are completed.

5.5.2.4 Telecommunications

The district may be required to provide a campus telecommunications infrastructure plan that is coordinated with the Chancellor's Office Statewide Telecommunications Plan. This is the bases for proposed telecommunications infrastructure projects and facility projects that sequence internal networks and connections to local area networks and wide area networks.

5.5.2.5 Land Acquisition

The proposals for land or site acquisitions must include the following information:

- Master Plan and Five-Year Plan basis for the project.
- Description of the acquisition project including total acreage of proposed site, net usable acres available, county assessor's parcel numbers, improvements, environmental problems and a map showing the site.
- Appraised value of the proposed site. Include any unpaid utility-type bonds (drainage, street bonds, etc.) as part of cost and identify amounts involved by type. If appraisals are not available, then the best possible evidence must accompany the project application. Such evidence might consist of records of land sales, statement of reputable Realtors, values placed by county assessor, and the like, and statewide significance. Appraisals must be provided by appraisers qualified by the Office of Real Estate Services, Department of General Services.
- Site improvement cost factors, i.e., on-site grading excavation or fill, special soil conditions affecting footings, drainage systems, demolition of existing construction, removal of hazardous wastes, special problems in obtaining utility services, need for special off-site work, etc. Also, identify (by item) the cost of any “off-site” (i.e., off-district property) utility or other development costs. If a project is in an “Alquist-Priolo Special Seismic Study Zone” indicating that a seismic fault line may be nearby or on the site, a complete seismic study must be made available.

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- Time schedule for site purchase, development of plans, and date of occupancy. Acquisitions for proposed new institutions, campuses, and/or centers must meet requirements of the California Postsecondary Education Commission and the California Environmental Quality Act (CEQA) (Title 5, Section 57100) and show the source of funding. If, in the opinion of the district governing board, supplying certain information would tend to adversely affect the proposed project (i.e., escalation of costs, condemnation, severance, etc.), please so indicate.

Acquisition project planners should be familiar with all the provisions in Chapter 10 that address the procedures for land acquisitions and approval of new centers and campuses.

If an acquisitions project proposal is concurrently undertaken with development of an instructional or student service facility proposal, both proposals should be combined in order to qualify as a “B” category project. If not, the acquisition project will qualify as a “C” category project and may not be funded along with the instructional or student service project.

5.6 Technical Format of the Final Project Proposals

All material, with the exception of plans (submitted on 11" x 17" form), must be in 8 1/2" x 11" form (Do not use ring binders). Please leave at least a one-inch left-hand margin on all pages. Make certain that the project title agrees exactly on all related documentation with that title listed in the current district Five-Year Plan. Remember to use the same title throughout the FPP.

Please do not bind the transmittal letter inside the documentation unless it contains pertinent information you want to send to the Department of Finance — in which case the information would be better incorporated into the text.

5.7 Checklist for Preparing a Final Project Proposal

Appendices E, F, G and H provide quick reference documents detailing the process and information needed to prepare an FPP.

CHAPTER 6: PROJECT MANAGEMENT

- 6.1 Overview**
- 6.2 Phases of a Capital Project**
- 6.3 Project Management Team**
- 6.4 Selecting Design and Construction Professionals**
- 6.5 Project Delivery Method**
- 6.6 Developing a Work Plan**
- 6.7 Project Management Tools**
- 6.8 Control of Scope, Cost, and Quantity**
- 6.9 Regulatory Requirements**
- 6.10 California Environmental Quality Act Regulations**
- 6.11 Project Status Report**

6.1 Overview

One of the key roles in project management is the Project Manager (PM). The PM is the person responsible for leading a project from its inception to execution. This should include the planning, design, construction, and completion of the project. The PM is also responsible for ensuring clear communication between all of the project management team and stakeholders. The Project Manager is in overall charge of the planning, execution and managing of the people, resources and scope of the project.

While project management begins with master planning typically, a project manager and/or management team is not put in place until a potential project is identified and the initial project proposal is started. This chapter offers guidance for the manager and/or team to optimize the quality of a high-performance building project. Project Management is the application of knowledge, skills, tools and techniques to meet project requirements.

Effective project management is achieved through a structured process and includes multiple phases:

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

The process balances the key project constraints and provides a tool for making decisions throughout the project based on stakeholder values, performance metrics, established procedures and project goals.

Successful project management includes strategies, tactics, and tools for managing the design and construction delivery processes and controlling key factors ensuring the district receives a facility that both matches their expectations and functions as intended. Improvements in building quality directly contribute to reduced operational costs and increased satisfaction for all stakeholders. Successful project delivery requires the implementation of management systems that control changes in the key factors of scope, schedule, budget, resources, and risk to optimize quality and, therefore, the investment.

Districts without project managers on staff, or that are inexperienced with managing their own capital outlay projects, should consider hiring an experienced professional to manage the project, keeping in mind that the role of project management changes during different phases of a project. When structuring the terms and conditions of an agreement with a project manager, there should be sufficient legal review to ensure that the form and content of the agreement clearly expresses the rights and obligations of both parties relative to scope, time and compensation.

The role of the project management team is to keep the project moving forward, while simultaneously adhering to state and local reporting requirements, following procedures needed for state funding and assuring compliance with environmental regulations, building codes, and other mandates.

It is also essential that the project manager or management team communicate regularly with district personnel on project progress, milestones, budget and any issues or risks encountered or anticipated. District staff or the project manager, with written district approval, must regularly contact the Chancellor's Office staff regarding these same issues.

All phases of a project should be managed without losing sight of the initial educational objectives of the project. A project should be continually monitored to assure that it still meets those objectives or, if the objectives are changing, that the project has enough flexibility to meet new objectives without affecting scope or budget parameters.

The importance of quality project management in the face of all these competing objectives cannot be overstated. Quality project management, whether supplied in-house by the district or by a consultant will:

- Keep all the stakeholders aligned with clear, appropriate objectives throughout the project
- Organize and manage all the in-house staff, consultants, tasks, budgets and schedules
- Coordinate submittals, reviews and approvals
- Maintain scope, cost, and quality criteria and controls
- Maintain clear organizational systems and records
- Facilitate the communications, meetings, discussion and decision-making of the stakeholders

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- Provide problem-solving, decision-making and direction to keep the project on track
 - Provide the leadership with the necessary analysis and control measures to produce a high-quality project within a complex “system”

6.2 Phases of a Capital Project

There are numerous phases to a capital project. Each phase must be properly managed for a successful project. A capital project begins when a need is determined in the master planning process; and, each state-funded capital project must show a direct link to the district’s master and/or educational master plan (see Chapter 2 for details). Once need has been documented, a district can move forward with an initial project proposal (see Chapter 5 for details). A management team is established, the scope of work is determined, construction drawings are prepared followed by bidding, construction, certification, occupancy, and project closeout.

6.2.1 Project Organization

Project organization is the establishment of the project management team and plans for managing and preparing the programming and design. Efforts made during this phase include selecting design and construction professionals; selecting a project delivery method; developing a work plan; setting up scope, cost and quality controls; reviewing applicable regulatory requirements; and setting up reporting methods.

6.2.2 Programming

Once the approval of an initial project proposal is obtained from the Chancellor's Office, the programming phase begins. This phase involves review of previous planning and the development of more detailed programming of the project in preparation for starting the design phase. Site analysis, initial environmental studies, program development, regulatory and code analysis, and feasibility reviews as needed occur during this phase.

6.2.3 Schematic Design

Schematic design, prepared by the architect, engineer or other design professional is completed by creating and evaluating alternative design approaches to the project until a single design has been selected, illustrated and approved by the faculty, staff, students, and administration.

6.2.4 Design Development

Design development is the continued development of the chosen design, incorporating elements, systems, materials and details until all significant design decisions are resolved and approved. This phase involves detailed analysis of alternative systems including life-cycle costing.

6.2.5 Preliminary Plans

Preliminary plans, (see Chapter 7 for details) often considered the same phase as design development, involves the completion of environmental requirements and preparation, submission, and approval of preliminary plans by the Division of State Architect, the Chancellor's Office, and the State Public Works Board.

6.2.6 Construction Documents

Upon approval of the preliminary plans, the construction document phase begins. It involves translation of the design documents by the architect, engineer or other design professional into construction drawings and detailed specifications for use by the contractor for the construction of the project.

6.2.7 Bidding and Award

The bidding and award phase includes submittal of the construction documents to the Chancellor's Office for approval, the approval to bid, the bid process, submittal to the Chancellor's Office for approval to award, and the award of the contract to the contractor.

6.2.8 Construction

Construction of the project must be completed as defined in the contract documents and any formal changes to the contract. The construction process includes equipment and system activation, commissioning and post-occupancy evaluations.

6.2.9 Project Closeout

State administrative regulations require that all projects financed with state bonds comply with **Project Closeout** procedures. The Project Closeout procedures on state funded projects continue to be administered through the FUSION system. See Chapter 7, Section 7.7.2.2 for more information on Project Closeout.

6.3 Project Management Team

Districts are encouraged to form a project management team prior to programming; however, expenditures incurred at this stage of the planning process are at district expense. The makeup of the project management team usually matches the overall strategy for funding and delivery of the project. There may be a single person filling several roles or a manager with a group of people filling separate roles. Positions may be filled by district personnel, consultants or committees. End users of the project often are fully integrated into the process to assure facilities are built which satisfy the educational intent and requirements. One method used successfully by districts is to have a member of staff appointed as the “single point of contact” (SPOC) for the project team and other interested parties such as faculty.

The tight coordination and cooperation of the project management team is essential to the success of the project. The fewer persons involved the easier the process. All team members should have clear responsibilities and the authority, information, resources, and time to fulfill those responsibilities. Where a committee is used, it would be more effective if a committee chair or administrator was ultimately responsible for making the final decisions in the event of committee deadlocks or defaults. An effective method to maintain progress is to have periodic “sign offs” of document agreements and approvals by participants along the way.

The project development team typically has several roles that need to be fulfilled:

- 1) Project manager(s) — This is a person with planning, design and construction experience who has:
 - The authority to make administrative and management decisions
 - The authority to make financial control decisions
 - The ability to manage the team and the process
 - The resources to operate effectively as an extension of staff
 - The responsibility to implement the project

Project management is normally carried out by a single project manager who acts as a clear point of coordination and decision-making for the project. If the project manager changes at the end of a phase, continuity should be maintained through careful records and orientation with the incoming manager, especially any outstanding action items and/or documented lessons learned.

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- 2) Educational representative(s) — This is an educational planner, department representative, or user committee responsible for the educational objectives of the project. This person makes certain that the educational objectives are appropriate, clear, feasible, and adequately met as the project progresses through programming and design. If the project is not directly educational, infrastructure or support, then the appropriate support department would be represented.

Many districts have an established building committee that fills this role. It normally consists of faculty, staff, and student representatives from the user department(s); the chief business officer and representatives of the total campus. Some districts also include one or more community representatives on their building committee. Where the committee is large, a core committee can do the ongoing work and involve the larger committee at crucial points in the process.

- 3) Facilities planner — A planner, programmer, or architect who develops and translates the project program into a space plan and budget in accordance with State guidelines.
- 4) Operations representative — Usually a small committee of operations and maintenance staff that monitors technical decisions during the project for appropriateness and consistency with campus systems and ease and cost of maintenance.
- 5) Architect and engineer — a licensed Professional(s) who provide programming, design, document production, estimating, construction administration, and other services to the extent of their contract. The design professionals are selected, contracted, and held responsible for the design quality.
- 6) Construction manager — The owner's representative for the administration and coordination of the owner's interests during the construction of the project. The construction manager begins work during design, checking the design decisions, documents, and costs for viability during construction. This person could be the project manager or a professional construction manager and may, under special circumstances, have some of the responsibilities of a general contractor.

6.3.1 Single Point of Contact

A single point of contact (SPOC) is a person or a department serving as the coordinator of information between the Project Management Team and district management. The district assigned SPOC may also be a member of the Program Management Team. A SPOC is recommended where information is time-sensitive and accuracy is important.

Assigning a SPOC is a way to streamline project management so the district/campus (and the public): 1) receive necessary and timely updates, and 2) receive consistent information/data one time.

The Project Manager and/or Project Management Team is expected to keep the SPOC up-to-date at all times.

6.4 Selecting Design and Construction Professionals

Consultant selection is a critical step in any project. All projects reflect the capabilities and motivation of the persons working on them, and consultants typically provide a large portion of the work. Consultants are approved by the district board in accordance with procedures set up at the district.

The basic steps for retaining consultants are:

- 1) Determining which parts of a project may need to be done by consultants
- 2) Determining the scope of the consultant's work
- 3) Determining the process for monitoring the consultant's work
- 4) Selecting the consultants for the project
- 5) Contracting with the consultants
- 6) Formally appointing the consultants, if required

There are many different kinds of consultants that may be used on a project, as illustrated by the list at the end of this section. The district needs to evaluate:

- What kinds of expertise will be needed to do the project properly
- At what point in the project each type of expertise will be needed
- Whether the required expertise is available in-house and whether those persons will be available to work on the project
- What expertise is required from consultants
- Whether to hire a prime consultant with sub-consultants or several separate consultants
- How to pay for the consultants within the budget

6.4.1 Statutory Requirements Regarding Consultants

Architectural and engineering services are procured by a qualifications-based selection, not a bidding process. Although a bidding process is **not** required, the process must be open and competitive in accord with State law. The public agency shall adopt guidelines governing the procedures for contracting for these services. The standard for award of such contracts shall be based upon the demonstrated competence and qualifications of the individual or firm for the services to be provided and the price of the services shall be fair and reasonable to the public agency. These provisions are also applicable to the selection and retention of a construction manager.

6.4.2 Affirmative Action

California Code of Regulations (CCR) Title 5, §59500 allows each district shall have flexibility to determine whether or not to seek participation by minority, women and disabled veteran business enterprises (M/W/DVBEs) for any given contract.

6.4.3 Equal Opportunity

The following is a sample statement of equal opportunity as provided in the request for proposal or qualifications.

“From among appropriately comparable firms, using a process which is consistent and understandable, the Community College District will select the most qualified design professionals. No person employed by or seeking employment with the Community College District shall be discriminated against because of race, color, religion, marital status, national origin, ancestry, sex, sexual orientation, physical or mental handicap, medical condition as defined in Section 12926 of the California Government Code; status as a Vietnam-era veteran or special disabled veteran; or, within the limits imposed by law, because of age or citizenship.”

6.4.4 Selection of Consultants

The process for selection of consultants is fundamentally the same as the process used to hire other staff. The following items are considered:

- Required education, degrees, certifications, and licenses
- Related experience or transferable experience and learning curve
- Past community college project experience

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- Financial, insurance, information and sub-consultant resources
 - Project management, decision-making and communication skills
 - Special creativity, problem solving, technical talents
 - Satisfactory past performance
 - Real time capability in terms of staff, equipment or processes
 - Availability to the project
 - References
 - Compatibility with the client, approach and team
 - Fees and contract terms

The usual steps in the selection process are:

- 1) Public advertisement of a request for qualifications or proposal
- 2) Screening of responses by a screening committee
- 3) Development of a short list of candidates
- 4) Any requests for additional information from the candidates on the short list
- 5) Interviews by a selection committee
- 6) Rating and ranking of the short list
- 7) Negotiation with the highest-ranking candidate
- 8) Agreement with the highest-ranking candidate, or
- 9) Negotiation with the next highest candidate until an agreement is reached
- 10) Approval by the Board

It is recommended that candidates passing the screening committee be ranked by qualifications before there is any consideration of fee.

6.4.5 Selection of Architects and Design Professionals

The process for selecting an architect or design professional is fundamentally the same as the process used to hire other staff.

6.4.5.1 Advertisement

Advertisement is optional. Ordinarily, however, it is done the same way as advertisement for bid. Advertisements are typically placed in newspapers of general

circulation in the region and in the journals of minority, women, and disabled veteran's design professional organizations where such journals exist. Other media resources such as district & industry association websites should also be considered. See Chapter 8.3.12 for more information. The advertisement normally includes:

- Type of design professional required
- Title and type of project
- Size of project
- District and name and address for responses
- Date for responses
- A statement that each candidate firm will be required to show evidence of its equal employment opportunity policy or affirmative action program and its commitment to use qualified minority, women, and disabled veteran consultants

6.4.5.2 Screening

The purpose of screening is to determine which of the candidates are qualified and, if several candidates are qualified, which candidates have superior qualifications and should be finalists. The members of the screening committee need to have the technical and field experience to know when an architect is qualified.

The screening committee normally considers:

- Responsiveness to the qualifications or proposal request
- The design team's experience on projects of comparable function, size, complexity, and cost in terms of project management, programming, design, and construction administration
- Any additional expertise required for the project, e.g., proposal preparation, DSA certification procedures and California Building Code knowledge as it pertains to community college construction (see section 6.10.1 for details)
- The design team's experience or expertise and success in incorporating the following into project design using latest design technology: energy conservation, water conservation, solid waste management, sustainability, maintainability, environmental quality, total cost of ownership and adaptability
- The design team's experience or expertise and success with the elements of project management: staying within budget, staying on schedule within an

academic environment, claims avoidance, quality control, value management, and life-cycle costing

- Prior experience with the community college state capital outlay process
- Overall functioning of the design team: the sub-consultants, organization, communication, coordination, and previous record as a team

6.4.5.3 Selection and Contract Terms

The selection committee explores the qualifications of the short-listed candidates in depth, checking references, visiting past projects, visiting the firm's office, interviewing, or asking for additional information. The selection committee may be the same as the screening committee, but is usually a less technical committee with greater participation by the users of the project. It usually includes the client or user, the project manager, and other members of the project team.

In addition to reviewing the same information as the screening committee, the selection committee might consider:

- The candidate's design approach to the project
- The candidate's team composition, sub-consultants, and expected level of service
- The candidates fit with the rest of the project team and the client
- The candidate's approach to the management and control of the project
- References and review of past projects

Negotiation of the contract provisions and fee with the highest ranked candidate can be expedited by providing all candidates with a sample contract and expected fee level. Time limits can be placed on negotiations after which, the district will discontinue negotiations and move to the next candidate. Contract provisions for architects are discussed later in this section.

6.4.5.4 Selection of the Construction Manager

The selection process for a construction manager is the same as that for an architect except the selection criteria are different. The construction manager may be selected early to provide project management services, or may be selected during design to participate in value engineering and constructability reviews. Hiring a construction manager at the beginning of construction is generally considered too late to get the full benefit of the construction manager's expertise.

Before starting the selection process, the district needs to be very clear about the scope of services to be provided by the construction manager, the responsibility and authority to be delegated to the construction manager, and the district's means of controlling and monitoring the construction manager.

Screening and selection criteria for a construction manager might include:

- Experience with the architectural process, if the construction manager is going to provide project management during the design phase
- Experience with current design technology
- Value engineering, life-cycle analysis, total cost of ownership, constructability, and document checking experience
- Experience with alternative project delivery methods
- Equivalent experience to that of a general contractor
- Experience with electronic delivery methods, if one is to be used
- Management, leadership, communication, recording skills
- Cost control methods and price negotiation skills
- Schedule control and coordination skills
- Quality control methods
- Knowledge of construction inspection
- Claims prevention and resolution experience
- Experience with equipment and systems design, procurement and commissioning
- Fees, liability, bonding and insurance
- Experience with the type of construction, materials and methods of the project
- The construction manager can provide project management during project closeout and certification.

In California, construction managers cannot guarantee a maximum cost of construction without being considered contractors subject to competitive bidding regulations. The construction manager cannot guarantee the schedule either. The only controls on the construction manager's performance are those in the construction management contract.

If the construction manager fails to perform, leading to delays, change orders and construction claims, the district may have little recourse in negotiations with the contractor.

In addition, districts should be aware that a construction manager's efforts to control the cost and schedule may or may not be successful. A poor construction manager, can add to the administrative and cost burden on the project exposing the district to construction claims. A good construction manager can be of immense help in managing the project and may suggest ways to save on construction costs.

6.4.5.5 Contract with the Architect or Engineer

When writing architect's agreements, the district should be careful to include:

- The architect team including the name and specialty of sub-consultants
- The full scope of the architect's services and responsibilities during programming, schematic design, design development, construction documents, bidding, and construction
- Statement on expectations of current design technology use and deliverables
- The exact deliverables required from the architect at each phase
- The architect's participation in reviews and approvals, e.g., value engineering
- The architect's responsibilities with regards to code compliance and other regulations including energy use standards
- Expectations with regards to cost and any redraw clauses if estimates or bids are over budget
- Clear explanation of the architect's role during construction in relation to the owner's representative, the inspector, and the contractor
- The architect's responsibilities with regards to construction submittals, clarifications and changes
- The terms under which the district can request extra work from the architect
- The district's responsibilities to provide a program, site information, general conditions or any other documents. The individual responsible for overseeing the architect
- The architect's payment process including payment for extra services and reimbursable expenses

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- The required level of insurance, liability clauses, termination clauses and all the safeguards in the event that the architect or district fails to perform
 - The Architect can provide project management during project closeout and certification.

6.4.5.6 Contract with the Construction Manager

Items to be included in a construction management contract include:

- Required insurance and bonding
- Method and timing of payment
- Responsibilities prior to and after construction for document review and checking, project closeout and certification
- Construction responsibilities: the scope of work, relationship to the architect and inspector, level of authority, threshold for cost decisions, extent of reporting to the district, etc.
- Expectations for cost control and change order and claims negotiations
- Expectations for schedule control with weekly reports to the district
- Expectations for quality control with reporting on crucial items
- Claims procedure to be followed
- Extent of direct district involvement in construction. Designation of a district' staff person to be the point of contact with the construction manager
- Responsibilities during the equipment and post-construction phases
- Expectations for record keeping and copies to the district and DSA
- Termination clauses and other safeguards in the event of failure to perform

6.5 Project Delivery Method

The delivery method for a project affects budget, schedule, team and consultant selection, quality control, and all the other elements of the project management process. The delivery method should be decided early, during planning or programming, and **must be included in the FPP.**

The most common delivery method for Community College projects is design-bid-build. Variations on design-bid-build, phased projects and contracting with multiple prime contractors may be used **if approved by the Chancellor's Office.** Other methods,

such as design-build, should be discussed with the Chancellor's Office prior to FPP submittal.

Special financing and delivery methods such as turnkey, lease lease-back, joint-venture, leasing, and lease purchase are defined here and will be expanded in a future version of this chapter. These financing methods may be used by the district on district-funded projects if the district board approves them; however, they are currently unavailable for State-funded projects.

If a district has the ideal project for an alternative delivery method, saving significant cost over the usual method, the project should be discussed with the Chancellor's Office to see if an exception can be negotiated. This discussion should occur before submittal of the FPP and will likely continue during the review process after FPP is submitted to the Chancellor's Office.

6.5.1 Coordinating Delivery Method with State Funding Configuration

The majority of community college projects have been design-bid-build with initial appropriations for Preliminary Plans and Working Drawings, and subsequent appropriations for Construction and Equipment (PW in year 1 and CE in year 2).

This funding schedule causes some concerns since a typical project often takes 5 to 8 years with delays for reviews and approvals. At a 4% inflationary increase per year, a three-month delay on a \$10 million project amounts to a cost increase of \$100,000. The extended time also makes projects vulnerable to scope changes, portions of the project becoming outdated before or shortly after construction due to technological change and shifts in educational program needs.

The district should be careful on choosing a delivery method that is compatible in time and cost with the budget process since the Chancellor's Office policy is no augmentations.

6.5.2 Types of Delivery Methods

A number of options are available for capital project construction.

6.5.2.1 Design-Bid-Build — Standard Method

The traditional delivery of a state-funded construction project under state bidding laws is design-bid-build. The project is fully designed, put out to be bid by general contractors, and built by the successful bidder.

6.5.2.1 Design-Build — Requires Chancellor’s Office Approval

Design-Build changes some fundamental relationships between the community college district and the designers and builders. A Design-Build entity includes an architect and contractor, so only one contract exists between the district and the Design-Build entity. State funded Design-Build projects will only be considered for districts that have successfully completed a locally funded Design-Build project.

Specifically, Design-Build is:

- An alternate project delivery method where community college districts may select a Design-Build entity to provide design and construction services under one contract
- A method for community college districts to communicate performance criteria for the completed project as opposed to prescribing products and methods
- A means to pre-qualify and select a Design-Build team based on factors other than price alone
- An opportunity for community college districts to allocate risks to those parties most capable of handling those risks
- A different method for completing a project that requires a different approach and level of involvement by community college districts in order to realize the possible benefits of the Design-Build process

6.5.2.3 Phased Projects — Requires CO and DOF Approval

Phased projects involve multiple designs and bids for different phases, which are all part of the same total project. Phased projects can be structured as a series of small projects or as one sequenced project with multiple sub-bids over time.

Significant savings can be realized by phasing a remodel project, using the first phase for demolition and abatement, uncovering all the existing conditions, and the second phase for the new construction. Foundations are often phased to occur early, due to weather conditions.

Phased building shell projects, construction of shell space followed by finishing at a later date, have historically remained unfinished due to lack of funds. If, however, funding was clearly committed by the district for finishing, a building shell project might be acceptable. On highly technical building projects, construction of the shell while designing the technical systems may be the best way to keep systems from becoming prematurely outdated.

6.5.2.4 Multiple-Prime Contractors — Requires CO and DOF Approval

Multiple contracting with prime contractors is an alternative bidding and construction method. A construction manager is hired in lieu of a general contractor. The construction manager coordinates multiple contracts for portions of the project; each bid is contracted separately. For example, there may be separate bid packages for:

- Demolition and site preparation
- Foundations and structure
- Long-lead items, e.g., elevators, cooling towers
- Exterior enclosure
- Major mechanical and electrical systems
- Interior wall systems
- Casework

The advantage of this approach is that the district can select their own construction manager. Also, the subcontractors must be bonded, eliminating many of the problems with subcontractor performance. The disadvantages are increased coordination and management requirements with the risk that the construction manager might not be able to perform to expectations or that multiple contracts may result in some items falling between the cracks.

Care should be taken to make an early determination on how the project will be insured should it be covered as part of the CM contract or through the owner controlled insurance program (OCIP). See Section 6.5.3 for details on OCIP.

6.5.2.5 Joint Venture and Shared Facilities

Joint venture and shared facility projects are developed on a case-by-case basis with other agencies and private industry. They normally involve very creative and complex financing, and should not be attempted without expert advice.

6.5.2.6 Leasing, Temporary, Modular Buildings

The district may also increase space through leasing of permanent space, or leasing or purchase of temporary or modular buildings. Districts should be aware of Field Act (Education Code §§17280-17317 and 80030-81149) regulations requiring that leased and temporary space be brought up to code within three years, unless an extension is granted.

6.5.2.7 Field Act (Education Code §§17280-17317 and 80030-81149)

The Field Act established the Office of the State Architect (now Division of the State Architect or DSA) which develops design standards, quality control procedures, and requires that schools be designed by registered architects and engineers.

6.5.3 Construction Insurance

Although not a project delivery method, the district must be properly insured during construction regardless of project delivery method. With multiple prime contractors, the district divides a project into two or more parts and then enters into a separate contract for each part. The most frequent use of multiple prime contracts is for phased construction, in which contracts are awarded sequentially for each phase. Multiple prime contracts require careful coordination because several contractors are involved, and no single contractor is responsible for the entire project. There are multiple insurance programs available to the district.

- An owner controlled insurance program (OCIP) is an insurance policy held by a property owner during the construction or renovation of a property, which is typically designed to cover virtually all liability and loss arising from the construction project (subject to exclusions). The policy package usually contains Commercial General Liability Policy, Workers Compensation policy with employer's liability and depending on the project or program in place there are specific forms outlining coverage via forms endorsement.
- A Contractor Controlled Insurance Program (CCIP) is similar to an OCIP except that the General Contractor or Construction Manager sponsors the insurance program. OCIP and CCIP can be combined where both the district and the General Contractor share in the savings or additional cost if losses are higher than expected on the primary insurance program.

6.6 Developing a Work Plan

A work plan for a project, prepared by the project manager, defines what has to be done, who is to do it, what each step will cost, and when it will be done.

The first work plan for the project establishes a baseline of a preferred schedule from which to evaluate the progress of the project taking into careful consideration state-funding timelines. At any point in the project thereafter, there are three indicators — the baseline prediction of progress, actual progress, and a current prediction of future progress. If the baseline, actual, and current prediction are close to one another, the project is on track. If not, **corrective action must be taken**.

The more realistic the initial work plan, the more likely the project is to progress smoothly with few delays, out-of-sequence activities, inappropriate personnel, or inappropriate tasks. This smooth progression translates into less time and effort, and probably into a better-quality project at a better value.

A typical work plan consists of a list of tasks and team assignments with a schedule and budget. It reflects the program, delivery method, and quality assurance plan for the project. Normally the plan is done using project management software which can be easily updated.

6.6.1 Project Schedule

It is critical that the project manager schedule and predict as accurately as possible the time needed for each step in the project and the interrelationships between tasks arranged in a sequence.

A common pitfall in scheduling occurs when the project manager starts by putting down the most rigid deadlines and then sandwiches all the tasks in between, without regard for the real time required for the tasks. If the time allotted is short, the tasks may get done, but there is a high probability that they will not be completed as thoroughly as they should be. If the time is too long, conditions and politics will change, disrupting the flow of activities. Also, overly long schedules may delay construction, causing inflationary increases in the cost of the project. As stated previously, a three-month delay on a \$10,000,000 project at 4% inflation is a loss of \$100,000 dollars.

The ideal project schedule will show a steady, even flow of activities with no delays and no need for accelerations. Accelerating a project requires extra time and effort by the project manager to rigorously monitor project progress against a timeline. Acceleration

increases administrative costs and requires rapid, clear decisions from clients. If not done well, acceleration results in mistakes, omissions, confusion, and inefficiencies. If a project must be accelerated some tactics which can be used include:

- Reducing the scope of the project within the critical deadlines or dividing the project into phases
- Simplifying the project by standardizing portions of it, e.g., typical laboratory designs or floors
- Simplifying management of the project by delegating greater control to the project manager and reducing the number of decision-makers and committee members
- Using a critical path method of scheduling and prioritizing the tasks so that at times when not everything can be done, the crucial items on the critical schedule will get done
- Overlapping phases of the project by using an alternative delivery method
- Simplifying the construction by using standard, readily available materials that can be put together easily
- Paying a premium for overtime work from the design and construction teams or providing incentive for early completion

Advisory: In some circumstances, a contractor can claim “constructive acceleration” and related costs of the acceleration. Generally, constructive acceleration occurs where: (a) an event occurs justifying an extension of the contract time; (b) the contractor makes a request for extension of contract time in conformity with applicable contract requirements; (c) the owner, without appropriate justification, denies the request for time extension; and (d) the project schedule is not adjusted to reflect the additional time necessary due to the delaying event. Districts are to be sensitive to this area of potential claims and take appropriate measures to avoid conduct which can be deemed to have constructively directed the contractor to accelerate the time schedule. (No additional state funds are budgeted for these circumstances.)

In order to be accountable, the project manager must have the power to control the process identified in the work plan. The district and project team must be cooperative and assist in keeping the project on track. The work plan must be reasonably accurate, allow for contingency, be regularly monitored, and be revised as necessary to allow for changing circumstances.

6.7 Project Management Tools

Beyond Gantt charts, which illustrate the start and finish dates of project milestones, there are multiple project management tools available to districts whether or not they use their own personnel or hire a project manager. Not all project management tools are appropriate for every project and careful consideration should be taken regarding time and cost when a management tool is considered.

The following is not an exhaustive list of tools and is meant as a starting point for the district considering a capital project.

6.7.1 Project Management Software

There are many software options available to assist in the management of a project or program of work. A key point in making a selection is ease of use—some programs are designed to handle very complex situations while others are more straightforward and user-friendly. Keeping in mind the end-user and information required to be generated will help in selecting a system that is scaled appropriately for the project at hand. Generally, all will require a Work Breakdown Structure (WBS) to be created within the system, breaking down the entire project or program into manageable pieces. The WBS can be customized to suit the agency's needs, and should be consistent across budgeting, scheduling and construction management.

6.7.2 Building Information Modeling

Building Information Modeling (BIM) is the process of generating and managing building data during its life cycle. Typically, BIM uses three-dimensional, real-time, dynamic building modeling software to increase productivity in building design and construction. The process produces the Building Information Model (abbreviated BIM), which encompasses building geometry, spatial relationships, geographic information, and the quantities and properties of building components. Utilizing BIM has the potential to save project time and cost and increase overall productivity of construction and delivery of building projects with less rework, design, and construction errors. Essentially, BIM builds the project electronically and notifies the modeler in advance of potential spatial problems.

BIM may offer the following advantages over the traditional design and construction process:

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- BIM design efficiency may reduce the cost of design and preparing contract documents.
 - BIM base information is uniform and can be shared with all participants.
 - BIM three dimensionally identifies physical conflicts between elements prior to construction, potentially reducing construction delay, and additional expense. The impact of proposed changes is immediately apparent, subject to evaluation and reconsideration.
 - BIM three dimensionally assists in sequencing and constructability reviews.
 - BIM modeling can provide construction details and fabrication information.
 - BIM can link information to quantify materials, size and area estimates, productivity, material costs and related cost information.

BIM does have some disadvantages that should be considered:

- Requires more effort at the beginning of the project to establish the future framework of the project model.
- Use of BIM can increase the amount of labor needed to enter and update data
- BIM allows for easy changes to the project to be made so stakeholders can make changes late in the design process.
- Requires a collaborative effort on the part of the design team and the general contractor & subs to meet the projects intended design outcomes.

Overall, the BIM digital model can help identify conflicts and their resolution before actual construction dollars are spent.

6.7.3 Building Commissioning

Building commissioning is a quality assurance process for achieving, verifying, and documenting that the performance of facility systems and assemblies meet the defined objectives and criteria for the project. It is a systematic process of ensuring that building systems perform interactively and effectively according to the design intent and the owner's operational needs.

This goal is achieved by documenting the district's requirements and assuring those requirements are met throughout the entire delivery process and involves actual verification of systems performance; comprehensive operation and maintenance documentation; and training of the operating personnel and implementation of long term

trending and data logging to optimize operation. Building Commissioning Services may include Commissioning Plans, Total Building Commissioning, Systems Commissioning, Pre-installation Performance Testing/Commissioning, Re-Commissioning, Retro-Commissioning.

6.8 Control of Scope, Cost, and Quantity

Management of scope and cost is important in all projects; however, it is critical in state-funded projects. Once a project has been approved for state funding, no substantial change may be made without risk of losing the funding and/or project. Scope changes require Department of Finance approval; and, any cost increase must be paid with district funds.

6.8.1 Scope

Project “scope” is expressed as a combination of the educational or support program objectives and the square footage or systems required to meet those objectives. Project scope is defined by the district and the Chancellor's Office in accordance with state standards. The official scope is expressed in the final project proposal, the Capital Outlay Budget Change Proposal (COBCP) and the budget language associated with Legislative approval of the project. Once the scope is approved, the district is responsible for assuring that the scope is consistent throughout the project with no significant changes.

California Government Code (CGC), Section 13332.11(b) requires that:

“No substantial change shall be made from the preliminary plans or working drawings as approved by the State Public Works Board and the Department of Finance without written approval by the Department of Finance.”

Changes (changes in program space, increases/decreases in capacity related areas, architectural design changes that will result in increased costs (above appropriation), etc.) must be approved by the Department of Finance prior to commencing work on the changes to working drawings or preliminary plans. If major changes are being considered by the district, the Department of Finance may require notification to the Legislature and request approval of revised preliminary plans by the State Public Works Board.

The Chancellor's Office has interpreted a significant change of scope as:

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- A 5% change in project cost above the amount appropriated
 - A 5% or more change in assignable square feet within each functional area or room type
 - A 5% or more change in gross square feet
 - A significant change in facility design or functional use of building space

The Chancellor's Office, per CGC, Section 13332.11(b), cannot support any significant changes in scope after preliminary plans are approved unless the Department of Finance authorizes such changes. The district is advised to be absolutely certain of the scope prior to submitting preliminary plans. Accordingly, no significant changes should be made prior to bidding the construction contract without first informing the Chancellor's Office of the change.

6.8.2 Budget

The budgeted amount for the project conforms to the scope of the project. It is also defined by the district and the Chancellor's Office using space and cost guidelines. The official budget is in the COBCP, project appropriation, and supplemental report language. It is the district's responsibility to stay within budget.

If the project has an inadequate budget for the scope, there are very few options for cutting cost. Project management and design costs may be reduced, but only at the risk of problems on the project. Construction cost consists primarily of labor, materials, and contractor overhead. Labor costs per hour are set by prevailing wage rates. Materials costs are fairly consistent. Construction cost can only be reduced by working faster or by eliminating the profit margin from the overhead costs. Neither strategy is likely to save large amounts of money.

Value engineering may work in some projects to assist in lowering the project construction costs. Types of material and installation methods initially chosen for the project can be reevaluated to determine if alternate materials or finish may provide the same quality of performance while reducing costs. There may also be alternative methods of installation that could bring cost savings without diminishing the end product quality.

With the scope of the project locked in, the design quality of the project is the only area that can be readily cut by specifying less expensive materials and systems. It is also the least desirable area to cut as it affects the value and life of the project. After the

construction is complete, it's the quality that will impact the district usually for several decades.

Any excess funds shall be reverted by the Chancellor's Office. If the project has more budget than required for the scope, other district's projects receive less money or none at all and public funds are not being used efficiently.

It is incumbent on the district to set an accurate scope and budget and then exercise control during the project in accordance with the final project proposal and the budget language. Districts must manage their projects so that:

- The design reflects the established scope and budget
 - If at any time during design the estimated construction cost is expected to exceed the budget, the district should employ value engineering to reduce the cost and complexity of the project (see value engineering above). The cost effectiveness of each building system should be reviewed to find alternative designs and materials to reduce overall project costs to a prudent level consistent with the budgeted amount, without affecting scope or overly reducing quality.
- The pre-bid estimates are realistic and within budget
 - Estimates should be realistic, including all the factors with the correct CCI adjustments to the mid-point of construction as approved by the Chancellor's Office. Estimates should be based on documents that are complete and have had a careful constructability review. Wherever possible, estimates should be double-checked by a third party estimator.
- The project is progressing on schedule
 - Delays in the project cause unnecessary inflationary increases in the project cost.
- Deductive alternates are used to assure that the bid will be within budget
 - Deductive alternates should be developed as part of the construction documents to provide options to reduce project costs if bids come in over budget. Additive alternates to add project features if bids come in low are also acceptable. Both additive and deductive alternates must be reviewed by the Chancellor's Office and the Department of Finance prior to bidding. Deductive alternatives cannot impact the approved scope of the project. If the district elects an additive and/or deductive alternate, the additive and/or deductive alternate becomes part of the official scope of work and the district is responsible for completion of the elected alternate(s). There are no exceptions.

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- Construction change orders are to be kept within the construction contingency
 - During construction, the districts should closely control construction change orders so as not to exceed the construction contingency. Change orders should not be used for project additions that are not essential. On state funded projects, the number and costs of change orders needs to be entered in the FUSION Quarterly Reports.
 - Construction claims are prevented
 - Construction managers should be alert to potential contractor claims and take steps to avoid such claims. Special attention should be placed on the construction schedule to avoid delay claims by the contractor. Contracts should be carefully reviewed to avoid claims which could result from unclear wording.
 - Cost overruns are counterbalanced by reductions
 - If the district discovers a cost increase that may exceed the budget, the district should identify possible savings elsewhere in the project. Using a value engineering process, the district should analyze possible savings and the impact of those savings.

6.8.2.1 Recognized Deficits

If savings cannot be accomplished to bring the project within budget, the district should notify the Chancellor's Office of a potential budget problem. The Chancellor's Office will review the value engineering cost analysis with the district. The Chancellor's Office may support a scope or budget change or request DOF to approve a "recognized deficit." If the project has not yet had construction funds appropriated, a request for a scope or budget change to the Chancellor's Office and Department of Finance may be needed. If not, consideration will be given to using deductive alternates as a possible solution.

6.8.2.2 Augmentations

While authority exists for the Public Works Board to approve augmentation for a project when there is a compelling need, the Chancellor's Office has a long-established NO augmentation policy. Districts have the responsibility to maintain projects within the approved cost and scope. If the bids come in over the established budget limits, a project may be changed and rebid, or require additional district funding to move the project forward.

6.8.2.3 Reversions

If a project is estimated to be over budget, the project may be discontinued and funds reverted to the bond source from which they came. The Chancellor's Office will work with the district and DOF to reduce the scope and cost of the project if possible so that it may continue with available funds and/or district may be asked to meet the additional cost with district funds.

If a project experiences bid savings (construction bid is lower than budgeted), the surplus funds will be reverted, typically at time of bid award. Any other use of bid savings will require advance approval from the Chancellor's Office and the Department of Finance.

Appropriated funds can also be reverted when a project fails to meet the established timeframes for satisfying Section 1.80 of the annual Budget Act. Specifically, (1) the preliminary plans (P) must be approved and working drawing (W) funds must be released by June 30 of the initial funding fiscal year for PW and (2) the approval of working drawings and proceed to bid must be approved by June 30 of the initial funding fiscal year for Construction.

6.8.3 Quality Assurance Plan

In addition to controlling the scope and cost, the district must control the quality of the project. The first step in this process is writing a quality assurance plan, which establishes the quality levels for the project. The plan serves several purposes:

- It requires the project participants to come to agreement on quality standards and criteria
- It provides consistency among different reviewers by setting the criteria for internal reviews
- It provides the criteria for the evaluation of design alternatives
- It establishes clear checkpoints and controls to assure that the desired quality is achieved

There are several types of quality to be considered:

- Staying within scope and budget parameters
- Conformance with state and local statutes and regulatory requirements
- Staying on schedule to avoid escalation and meet move-in dates

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- Development of a good quality program
 - Meeting the objectives of the project program
 - Development of a good quality design
 - Production of clear, complete, error-free contract documents
 - Provision of good quality construction
 - Appropriate choice of materials and systems
 - Prevention of construction problems and disputes
 - Problem-free commissioning of equipment
 - Timely correction of any post-construction problems

6.8.4 Long-Term Quality

There are two types of quality that deserve special mention: the design quality and the construction quality. If the design or construction is poorly done, the district will create a long-term problem. There may be a problem with the use of the space, the quality of the space, the flexibility of the space, the acoustics, light or equipment, or an ongoing maintenance problem such as roof leaks or high energy costs.

Construction quality is controlled by the contractor, the construction inspector, and the construction manager based on the drawings and specifications. While the contractor may attempt to do a reasonable job, the subcontractors may try to substitute cheaper grade materials. If the inspector and manager are alert, these kinds of problems can be caught and corrected. Problems with the design, however, are likely to be built into the project, unless they are found prior to bid or the construction manager issues changes to the construction contract.

Assuming that the planning and budget parameters are reasonable, it is the design quality that drives the success of the project. The way the architect interprets the program, the layout of the site, the design of the teaching and learning environments, the “fit” with the campus, the choice of materials and systems, the architect's cost assumptions, and so forth are all crucial to the project.

The district should be very careful selecting an architect, participate in the design decisions, and review the architect's work in detail. The best projects are realized when the owner has a strong presence throughout the design. For complex and costly

projects, the district may want to get a higher level of confidence by having a third-party architect review the work of the design architect.

6.9 Regulatory Requirements

This section discusses the California Building Code and other federal, state, and local regulations which affect community college capital outlay projects. The California Environmental Quality Act (CEQA) is discussed in the next section. This section lists most of those regulations, but may not cover the exact regulations for a given project. This section also discusses some probable future regulations. The district must meet current regulations and, whenever possible, anticipate future regulations.

6.9.1 California Building Code

Title 24 of the California Code of Regulations (CCR) includes the California Building Code (CBC), the Field Act requirements (in 2006, Assembly Bill 127 (AB 127) was passed, giving Community Colleges the option of choosing to design and construct under local building departments or under the Field Act), and a set of amendments to the Uniform Building Code (UBC). These codes, in turn incorporate other codes by reference, including the Uniform Fire Code (UFC), the Uniform Mechanical Code (UMC), the Uniform Plumbing Code (UPC), and the National Electrical Code (NEC).

The Division of the State Architect updates or changes Title 24 on an 18-month cycle. Information can be found at: <http://www.dgs.ca.gov/dsa/Programs/progCodes.aspx>.

Several state agencies share in the responsibility to administer building codes:

- California Building Standards Commission (BSC)
 - Application — State buildings of all occupancy types
- California Energy Commission (CEC)
 - Application — all occupancies
- Division of State Architect (DSA)/Access Compliance
 - Application — All buildings, structures, sidewalks, curbs and related facilities where public funds are used, including alterations, additions or structural modifications to publicly funded buildings
- Division of State Architect, Office of Regulatory Services

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- Application — All essential services buildings such as hospitals, public safety, schools and their utility systems
 - Occupational Safety and Health Standards Board (OSHA)
 - Application — Places of employment
 - Office of Statewide Health Planning and Development (OSHPD)
 - Application — Clinics, hospitals and health facilities
 - Office of the State Fire Marshall (SFM)
 - Application — All state-owned and/or occupied buildings
 - State Historical Buildings (SHB) Code Advisory Board, Division of the State Architect
 - Application — Qualified historical buildings and their structure, and their associate sites
 - California State Department of Fish and Game
 - Application — Where a project affects any endangered species

6.9.2 Approval by the Division of the State Architect (DSA)

At a minimum, Community College projects must comply with the codes by sending completed construction documents to DSA for approval. DSA coordinates compliance with structural safety, accessibility, and fire-life safety regulations per CCR, Title 24.

The Chancellor's Office with DSA has developed a concurrent code review procedure to speed up plan reviews. This procedure is discussed in the design section of this manual.

6.9.3 Other Jurisdictions

Other jurisdictions may have the right to review the project and approve or disapprove aspects of the project:

- Air Quality Control District (AQCD)
 - Application — Dust and airborne pollutants during construction; discharges by the completed project.
- California Environmental Protection Agency (CEPA)
 - Application — All projects having an environmental impact

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- California Department of Transportation (Caltrans)
 - Application — Projects that have vehicular access to state highways that border or cross railroad right-of-ways, that introduce public transportation onto the site, or that have private aircraft facilities.
 - California Coastal Commission
 - Application — All projects within one-quarter mile of the coastal shoreline, within the coastal flood plain, or in areas otherwise deemed to have impact on coastal water and shoreline.
 - Department of Health Services (DHS) Licensing and Inspection
 - Application — Inspects and certifies health care facilities
 - California Geological Survey (CGS)
 - Application — Applies CGS Note 48 by reviewing geologic engineering and seismology reports for the project site
 - US Army Corps of Engineers (Corps)
 - Application — All projects within the controlled flow waters, navigable water or flood plains
 - Federal Aviation Administration (FAA)
 - Application — Projects on airport flight approach paths and all buildings and structures over 600 feet tall
 - American Assoc. for the Accreditation of Laboratory Animal Care (AALAC)
 - Application — Voluntary accreditation program for lab animal care facilities
 - Local City/County Engineering Departments
 - Application — Projects which conduct storm water off-site (either surface drainage or storm pipe); projects which significantly alter natural grades and/or require the import or export of fill; and projects which have vehicular access to adjacent public roads. Projects which connect with city and county road, curb, walkways, or other systems.
 - Local Fire Department
 - Application — Coordination of hydrants, sprinklers, and other fire systems with local fire district to assure adequate fire protection and emergency access for fire vehicles.

6.9.4 Utilities

In addition, public utilities may need to review the project with respect to access, easements, and utility hookups and consumption, including:

- Water districts
- Sewer (sanitary) districts
- Electrical power company
- Natural gas company
- Telephone company
- Waste removal company

6.9.5 Community Review

A district may, as a courtesy, allow review of the project by community groups. Many of the districts have a standing committee composed of community members that reviews projects for conflicts with community interests.

6.9.6 Cost Impacts of Regulations

Not all of the above code and other jurisdictions apply to a given district or project. It is evident, however, that meeting regulations is a complex task. Districts should be aware of several cost impacts associated with various regulations:

- Increased management time to coordinate submittals and reviews
- Review fees charged by various agencies
- Hookup and increased usage fees for utilities
- Fines for delayed or non-compliance with regulations
- Increased abatement and construction costs for delayed compliance

6.9.7 Regulatory Trends

Environmental regulations in California will continue to evolve due to health concerns and population stresses on the environment. Areas typically under the most scrutiny and, therefore, most likely to see regulatory change are air and water quality, soil and ecosystem preservation, garbage reduction, prevention of indoor pollution (air, sound, etc.), prevention of outdoor pollution (light, air, sound, etc.), elimination of volatile

organic compounds (VOCs) in construction materials, and energy and water conservation.

Districts should expect, and plan for, new social regulations as well. The Americans with Disabilities Act (ADA) guidelines should be minimum design standards. The best way to anticipate new regulations is to design with the best interests of as many people as possible in mind. Designs should provide safe, accessible, and quality environments for all people regardless of abilities.

Safety regulations are continually increasing. Regulations regarding seismic safety, emergency signage, safety areas, evacuation plans, and campus parking lot and pathway lighting have changed in the recent past. Districts should expect this to continue.

It is to the district's advantage to be able to anticipate regulations and incorporate them voluntarily into the design of projects. Voluntary compliance prior to a regulation can save a great deal of money. For example, avoiding potentially hazardous building materials can be a very effective approach to reducing costs associated with future environmental regulations. Another effective approach is to remove hazardous materials as soon as they are determined to be a problem, before the removal process becomes mandated and expensive.

6.9.8 Reference Standards

In addition to DSA and jurisdictional agencies, there are several organizations which help write sections of the codes, review and interpret the codes, and perform physical tests for code compliance. These organizations often have influence over building projects:

- American Society of Testing and Materials (ASTM): establishes and tests performance standards of materials, material finishes and assembly components
- American National Standards Institute (ANSI): establishes code requirements for fire protection and life safety
- Factory Mutual (FM): tests performance for strength and fire resistance
- International Conference of Building Officials (ICBO): Umbrella organization for many building codes, interprets codes, recommends revisions and tests building component assemblies

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- National Fire Protection Association (NFPA): writes and interprets code for fire protection and firefighting
 - Society of American Engineers (SAE): establishes standards for operating equipment and machinery
 - Underwriters Laboratories (UL): tests performance for fire protection resistance. There are a number of other industry organizations that provide reference standards, code data, and on-site review

6.9.9 Code Analysis

The project manager, through the architect, must be aware of current code and other regulations. It is recommended that the district read Part 1 of Title 24, the Building Standards California Code of Regulations. The project manager should require a code analysis from the architect early in the project, and it must be updated as the project develops.

6.10 California Environmental Quality Act Regulations

The California Environmental Quality Act (CEQA), Public Resources Code, Section 2100, is intended to:

- Maintain a quality environment as a matter of statewide concern
- Insure that state government takes steps to safeguard the environment
- Assure that all agencies whose actions impact the environment or who regulate the activities of individuals, corporations or other public agencies that are found to affect the environment shall give major consideration to preventing environmental damage

When interpreting CEQA regulations, the district staff should consult a knowledgeable expert who is aware of updates in the process and applicable case law regarding similar circumstances. It is common practice to hire experienced consultants to prepare Environmental Impact Reports (EIRs). Some districts have citizen community advisory committees that help buffer community reactions to campus development.

6.10.1 CEQA Process

Compliance with CEQA requirements involves:

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- Reviewing the proposed project to determine if it is subject to CEQA requirements
 - If a project by its nature or purpose is exempt from CEQA requirements, prepare a Notice of Exemption
 - If a project is subject to CEQA requirements, complete an initial environmental study to determine if an Environmental Impact Report (EIR) is necessary
 - If an EIR is required, prepare a draft EIR for public review
 - Prepare a final EIR, including responses to public comments received on the draft EIR and any necessary additional environmental analysis
 - Obtain certification of the final EIR by the responsible agency (usually the district's Board of Trustees), including actions that will mitigate adverse environmental effect and adoption of the Mitigation Monitoring Program

A project is defined as:

- An activity directly undertaken by a public agency, including public works construction activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and adoption and amendment of local general plans
- An activity supported, in whole or part, through public agency contracts, grants, subsidies, loans, or other assistance from a public agency
- An activity involving the public agency issuance of a lease, permit, license, certificate, or other entitlement for use by a public agency

6.10.2 Statutory and Categorical Exemptions

To determine whether a project is subject to CEQA, review the statutory exemptions for emergency repairs and feasibility studies and review the categorical exemptions for:

- Operation, repair, maintenance, or minor alterations of existing structures or facilities not expanding existing use (*California Code of Regulations*, Title 14 [CCRT14] Section 15301)
- Replacement or reconstruction of existing structures or facilities on the same site (CCRT14 Section 15302)
- Construction of limited small new facilities, installation of small new equipment and facilities in small structures, and conversion of the use of small existing structures (CCRT14 Section 15303)

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- Certain minor alterations of land, water, or vegetation (CCRT14 Section 15304)
 - Certain minor alterations in land use limitations (CCRT14 Section 15305)
 - Construction or placement of minor structures next to certain existing facilities (CCRT14 Section 15311)
 - Sales of surplus government property, except in environmentally sensitive areas (CCRT14 Section 15312)
 - Minor additions to existing schools (CCRT14 Section 15314)

The district should review the exceptions to categorical exemptions. The categorical exemption does not apply if:

- A reasonable possibility exists that the activity may have a significant environmental impact because of unusual circumstances
- Cumulative impacts would be significant
- A project within certain categories of exemption occurs in certain specified sensitive environments
- A project affects scenic resources within official State scenic highways
- A project is located on listed toxic sites maintained by the California EPA
- A project causes substantial adverse changes in significant historic resources

6.10.3 Notice of Exemption

A Notice of Exemption is issued when the district, as the lead agency, decides that a project is exempt.

6.10.4 Initial Study

If the project is not exempt, the district must determine if the project may have a significant environmental effect by doing an Initial Study.

The Initial Study is a preliminary analysis prepared by the lead agency to determine whether an EIR is required (Declaration of Significance) or not (Negative Declaration). The Initial Study identifies the significant effects to be analyzed in the EIR. The study must include:

- 1) A description of the project
- 2) Identification of the environmental setting

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- 3) Identification of the environmental effects, by use of checklist, matrix, or other method
 - 4) A discussion of ways to mitigate the significant effects identified, if any
 - 5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls
 - 6) The name of the person or person who prepared or participated in the Initial Study

The lead agency decides if the project will have significant environmental impacts and will require a complete Environmental Impact Report. If the project will not have significant unmitigated environmental impact it will require a Negative Declaration.

6.10.5 Negative Declaration

The process for a Negative Declaration includes:

- 1) Preparing a draft of a Negative Declaration
- 2) Public notice and review of 21 to 30 days
- 3) Public responses to the Negative Declaration received and considered
- 4) The final Negative Declaration prepared
- 5) Commenting agencies notified of the date of the hearing
- 6) Negative Declaration adopted at the hearing
- 7) Any mitigation reporting and monitoring program adopted
- 8) The Notice of Determination filed and posted

6.10.6 Environmental Impact Report

The process for an Environmental Impact Report (EIR) includes:

- 1) Determining the scope of the EIR
- 2) Preparing a Notice of Preparation and send to responsible agencies
- 3) Allowing 30 days response time to the Notice of Preparation
- 4) Preparing a draft EIR
- 5) Allowing 30 to 45 days for a Public Notice of Completion and review of the draft EIR
- 6) Receiving comments on the draft EIR
- 7) Responding to comments (10 days)

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- 8) Preparing and obtaining a certification on the Final EIR
 - 9) Preparing and adopting findings and statement of overriding conditions
 - 10) Reporting and monitoring program adopted
 - 11) Final decision reached on the project by the district's Board of Trustees
 - 12) Publicly posting and filing the Notice of Determination with the State Clearing House

The draft EIR includes:

- 1) A summary of the proposed actions and the related consequences
- 2) A description of the proposed project or action
- 3) A description of the environmental setting within which the project or activity will occur
- 4) A description of the potentially significant adverse environmental impacts
- 5) A description of the effects found to be significant and irreversible
- 6) A description of the impacts on public services, utilities, energy resources and management of hazardous substances related to the proposed project
- 7) A description of the growth inducing cumulative impacts
- 8) An identification of organizations and person consulted in preparing the draft

The final EIR includes:

- 1) The draft EIR or a revision of the draft
- 2) Comments and recommendations received on the draft.
- 3) A list of the organizations, persons and public agencies commenting on the draft EIR
- 4) Responses of the lead agency to significant environmental points raised in the review and consultation process
- 5) Any other information added by the lead agency

6.11 Project Status Report

To provide for consistent and effective control and accountability, the project manager should be monitoring the project and providing frequent reports to the project team and the district. See Appendix I for a copy of the Project Status Report form and see Appendix J for a copy of the Project Design and Approval Checklist. The Project Status

Report and Project Design and Approval Checklist can be used together to administer active projects.

The project status report fulfills several functions:

- It demonstrates accountability for taxpayers' money (or public funds) in accordance with the public trust
- It increases the opportunity for future funding by demonstrating accountability
- It indicates potential scope or budget problems, avoiding last minute crisis intervention
- It can be used to give the Chancellor's Office information about systemic problems that may need correction
- On state funded projects, it should include the update of FUSION Quarterly Reports on a regular basis, regardless if claims have been made and until the project has been closed out completely
- Provides status on the project time schedules, delays, cost overruns

CHAPTER 7: PROGRAMMING AND DESIGN

- 7.1 Overview**
- 7.2 Managing Programming and Design**
- 7.3 Programming**
- 7.4 Review of the Final Project Proposal**
- 7.5 Schematic Design**
- 7.6 Scope and Cost**
- 7.7 Code Review**
- 7.8 Design Development**
- 7.9 Equipment Planning**
- 7.10 Value Engineering**
- 7.11 Request for Approval of Preliminary Plans**
- 7.12 Construction Documents**
- 7.13 Coordination and Constructability**
- 7.14 Code Approvals**

7.1 Overview

For the purposes of this manual, we define architectural programming as the research and decision-making process that identifies a project's scope of work. The programming and design process begins once an initial project proposal is approved and consists of Architectural Programming (Programming), Conceptual Design, Schematic Design, Design Development, and Construction Documents (steps 2-8 below). Programming is the research and decision-making process undertaken to identify a project's scope.

During programming, the information that will guide the architect's design is compiled. If any of that information is incorrect or incomplete, the design, and finished project, will reflect those problems. Alternatively, if the program is too detailed it can hamper the creativity of the design. Successful projects strike a balance between what is needed and what is allowed to evolve during the design phase.

Often programming and design are done simultaneously so that there is coordination between the program and the design. The general sequence is:

- 1) Initial Project Planning
- 2) Programming
- 3) Conceptual Design
- 4) Schematic, Design
- 5) Detailed Programming
- 6) Design Development
- 7) Equipment Planning
- 8) Construction Documents

Periodically during the feedback process, there are scope, cost and quality assurance checks consisting of:

- Area calculations
- Cost estimates
- Code and regulatory analysis and review
- Design presentation and review
- Value engineering
- Coordination and constructability checking

The design process consists of: 1) deciding what is required, 2) creating a design that meets those requirements, 3) reviewing the design, 4) incorporating the results of the review, and 5) repeating the process in increasing detail, until there is a set of documents that is fully approved and ready for construction. In addition to this process, there is the parallel state funding process with its submittals and reviews. The state funding process adds steps to the design process (see Chapter 5 for details):

- 1) Preliminary Plan submittal
- 2) Working Drawings submittal

The Initial Project Proposal (IPP), Final Project Proposal (FPP), and subsequent funding submittals are discussed in Chapter 5 of this manual. These proposals must be coordinated with the design process, incorporated into the architect's contract, and into the design schedule.

7.2 Managing Programming and Design

Programming develops a reasonable set of objectives for the design. Initial planning starts with an intention and ends with the parameters for the project: project type, project scope, and budget criteria. Programming begins with those parameters and ends with detailed objectives for a design in which site, programming and budget are reasonable and compatible with one another.

Programming is the responsibility of the district and must:

- Distinguish between necessities and preferences so the designer can prioritize the elements of the design, satisfying the necessities first and adding preferences as allowed within scope and budget
- Represent the real needs of the end users avoiding untimely changes later
- Have enough detail while maintaining design creativity and flexibility, but not allowing the design to go astray
- Be based on the correct information avoiding expensive surprises later in the project.

During programming, the end users are the most important participants. The project manager is primarily a facilitator making certain that all the program options are discussed, all the necessary information comes to light, all the players participate in the process, and good decisions are made with room for flexibility.

The design process is a problem-solving process which takes all the objectives and parameters and identifies possible solutions. The best solution is then developed in detail.

The project manager works closely with the end users and the architect during design to ensure that:

- The architect has all the necessary information to proceed
- The design approaches suggested by the architect are compatible with the campus
- The architect is performing according to his/her contract and the usual standard of care
- The design solutions all meet the program, planning parameters, and quality control criteria
- The end users understand and have adequate opportunity for review of design alternatives
- All submittals and approvals are complete, timely, and successful
- Systems and materials decisions include value engineering according to campus criteria
- Construction documents are good quality, properly coordinated, and checked by the district

7.2.1 Managing Design

Managing design is striking a balance between brain storming, creativity and regulatory requirements. The project manager and architect communicate regularly to reach consensus in decisions and to ensure that the project does not exceed scope and budget.

7.2.2 Budget Procedures during Programming and Design

The project manager should be aware of the additional factors that influence budget and scope of a project (these factors are discussed in Chapter 5):

- Submittal, review, and approval of the FPP
- Budget language that controls the scope and cost of an approved project
- The need for any subsequent funding applications and reviews

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- The procedures to obtain other sources of funds for capital outlay including energy loans from the California Energy Commission
 - IOU New Construction Program for Energy Savings
 - Preliminary plan reviews and approval by the State Public Works Board
 - Construction document review and approval to bid

7.3 Programming

The success of the project design hinges on programming. Programming looks at the initial planning efforts from multiple user points of view and offers:

- Involvement of interested parties in the definition of the scope of work prior to the design effort
- Emphasis on gathering and analyzing data early in the process so that the design is based upon sound decisions
- Efficiencies (cost savings) gained by avoiding redesign as requirements emerge during architectural design

During programming, each individual space is thought through as part of the whole building. The “whole building” design approach creates a successful, high-performance building. To achieve this goal, the district must apply the integrated design approach to the project during the planning and programming phases. People involved in the building design interact closely throughout the design process. District management, faculty and operation and maintenance personnel should be involved to contribute their understanding of how the building and its systems will work for them once they occupy it. The fundamental challenge of “whole building” design is to understand that all building systems are interdependent.

For design programming of a building or complex, the following six-step process covers the necessary steps:

- 1) Research the project type
- 2) Establish goals and objectives
- 3) Gather relevant information
- 4) Identify strategies
- 5) Determine quantitative requirements
- 6) Summarize the program

7.3.1 Research the Project Type (Step 1)

This step is especially necessary if the project manager is working on a project type for the first time. The project manager should become familiar with the following relevant information:

- The types of spaces frequently included in the building type,
- The space criteria (number of square feet per person or unit) for those spaces,
- Typical relationships of spaces for these functions,
- Typical ratios of assignable square footage (ASF—areas that are assigned to a function) to gross square footage (GSF—total area to the outside walls) for this building type,
- Typical costs per square foot for this building type,
- Typical site requirements for the project type,
- Regional issues that might alter the accuracy of the data above in the case of this project, and
- Technical, mechanical, electrical, security and other issues unique to the project type

7.3.2 Establish Goals and Objectives (Step 2)

Working with the project management team, the project manager solicits and suggests broad goal statements that will guide the remainder of the programming process. Each of the following categories of goals should be addressed:

- Organizational Goals:
 - What are the district's goals? What are the associated educational program goals? How does this architectural project fit into the district master and educational plans?
- Form and Image Goals:
 - What should be the aesthetic and psychological impact of the design? Where is the best site location? How should it relate to the surroundings? Should its image be similar to or distinct from neighboring structures? Are there historic, cultural, and/or context implications?
- Function Goals:

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- What major functions will take place in the building? How many people are to be accommodated? How might the building design enhance or impact occupant interactions? How does the design improve upon the current educational environment? Does the design provide accessibility to all?
 - Economic Goals:
 - What is the total project budget? What is the attitude toward initial costs versus long-range operating and maintenance costs? What level of quality is desired (often stated in relation to other existing projects)? What is the attitude toward conservation of resources and sustainability (energy, water, etc.)? Have you considered Total Cost of Ownership?
 - Time Goals:
 - When is the project to be occupied? What types of changes are expected over the next 5, 10, 15, and 20 years?

7.3.3 Gather Relevant Information (Step 3)

Based upon the goals, the categories of relevant information can be determined and researched. Once gathered, this information is used to prepare documents such as the CEQA documents and Geotechnical Report. Typical categories include:

- Facility users, activities, and schedules:
 - Who is doing what, how many people are doing each activity, and when are they doing it?
 - What equipment is necessary for activities to function properly? What is the size of the equipment?
 - What aspects of the project need to be projected into the future? What is the history of growth of each aspect that requires projection?
 - What are the space criteria (square feet per person or unit) for the functions to take place?
 - What other design criteria may affect architectural programming: access to daylight, acoustics, accessibility, campus/area design guidelines, historic preservation, etc.?
 - What are the energy usage and requirements? Is the project seeking LEED status?
 - What code information may affect programming decisions?
- Site analysis:

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- The site is a major aspect of the design problem and therefore should be included in the program. Site analysis components that often affect design include:
 - Legal description
 - Zoning, design guidelines, and deed restrictions and requirements
 - Traffic (bus, automobile, and pedestrian) considerations
 - Utility availability (a potentially high cost item)
 - Topography
 - Views
 - (As-) Built features
 - Climate (if not familiar to the designer)
 - Geotechnical
 - Site preparation, compacting or replacement of existing soil
 - Foundation type, size and depth
 - Bearing loads and expected settlement
 - Ground water as it may affect the construction
 - Surface water as it may affect the construction
 - Special construction requirements to minimize settling and cracking
 - Vegetation and wildlife
 - Existing facilities:
 - Do facilities already exist? Can they be reused (remodel vs. drop and replace or new facility)? Can they be used for another program?
 - If a floor plan exists, do a square-foot take-off of the areas for various functions. Determine the building efficiency (the ratio of existing net-to-gross area). This ratio is useful in establishing the building efficiency target for the new facility.
 - Can it meet code & accessibility standards?
 - Use the existing square footages for comparison when proposing future amounts of space.

7.3.4 Identify Strategies (Step 4)

Programmatic strategies suggest a way to accomplish the goals given what one now knows about the opportunities and constraints. A familiar example of a programmatic

strategy is the relationship or “bubble” diagram. These diagrams indicate what functions should be near each other in order for the project to function smoothly. Relationship diagrams can also indicate the desired circulation connections between spaces, what spaces require security or audio privacy, or other aspects of special relationships.

Other types of strategies recur in programs for many different types of projects. Some examples of common categories of programmatic strategies include:

- Centralization and decentralization:
 - What function components are grouped together and which are segregated? For example, in some offices the copying function is centralized, while in others there are copiers for each department.
- Flexibility:
 - What types of changes are expected for various functions? Do facilities need to change over a period of a few hours? A few days? A summer recess? Or is an addition what is really needed?
- Flow:
 - What goods, services, and people move through the project? What is needed at each step of the way to accommodate that flow?
- Priorities and phasing:
 - What are the most important functions of the project? What could be added later? Are there ongoing existing operations that must be maintained?
- Levels of access:
 - Who is allowed where? What security levels are there?
- New technologies:
 - Have the latest technologies been considered?

Ideally, each of the goals and objectives identified in Step 2 will have some sort of strategy for addressing that goal. If not, either the goal is not very important, or more discussion is required to address how to achieve that goal or objective.

7.3.5 Determine Quantitative Requirements (Step 5)

Cost, schedule, and affordable area are interdependent. Costs are affected by inflation through time. Affordable area is determined by available budgets.

In this step, the district must reconcile the available budget with the amount of improvements desired within the project time frame. First, a list of spaces is developed to accommodate all of the activities desired. The space criteria researched in Step 3 are the basis of this list of space requirements. The space requirements are listed as assignable square feet (ASF), referring to the space assigned to an activity, not including circulation to that space.

A percentage for “tare” space is added to the total ASF. Tare space is the area needed for circulation, walls, mechanical, electrical and telephone equipment, wall thickness, and public toilets. Building efficiency is the ratio of ASF to gross square feet (GSF), the total area including the ASF and tare areas. Building efficiency equals ASF/GSF. The building efficiency for a building type was researched in Step 1 and possibly Step 3. See Chapter 5 for more information on cost escalation for state-funded projects.

The desired GSF is then tested against the available budget. In drafting the total project cost, the project manager uses the cost per square foot amount researched in Step 1. Factors for inflation should be included, based upon the project schedule. The Chancellor’s Office will make the necessary adjustments to escalate the project costs of proposals for state funding to the date of the mid-point of construction given that bidders calculate estimates on the assumption that costs could change from the time of the bid date.

The total project cost includes the construction cost (for building and site work), plus amounts for architect’s and engineering fees, Division of the State Architect (DSA) plan check fees, furniture and equipment, communications, contingency, printing for bid sets, soils tests, topological surveys, and any other associated costs.

If the bottom line for the project costs is more than the budget, a combination of three things can happen: 1) space can be trimmed back or delegated to a later phase (a reduction in quantity); 2) the cost per square foot can be reduced (a reduction in quality); or 3) additional district funding can be added to the budget. This reconciliation of the desired space and the available budget is critical to defining a realistic scope of work.

7.3.6 Summarize the Program (Step 6)

Once all of the preceding steps are executed, summary statements can be written defining “in a nut shell” the results of the programming effort. All of the pertinent information included above can be documented for the district, project management

team members, and the design team. The decision-makers should sign-off on the scope of work as described in the program.

Once a program is completed and approved by the district, the information must be integrated into the design process. Some districts want the project manager to stay involved after the programming phase to insure that the requirements defined in the program are realized in the design work.

7.4 Review of the Final Project Proposal

The district should be satisfied that the project, given the current level of information, is feasible; that is, the proposal is within its projected cost and scope, the site is appropriate, and obvious obstacles to completing the project have been addressed.

Some common problems with FPPs are:

- A proposal is out of date because the project has been shelved waiting for funding
- The cost is not realistic for the scope
- The schedule is not realistic for the scope
- The proposal no longer seems to make sense in the larger campus and community context
- The proposal is based on incomplete information about the site and existing conditions
- The proposal is based on incomplete or inaccurate information about codes and regulations
- The proposal does not include all the necessary systems, e.g., telecommunications, smart technology or energy efficient MEPs
- The conceptual design, the basis for the scope and cost, is based on erroneous assumptions, e.g., that the state will fund all necessary equipment

The district or its project manager checks the assumptions, scope, cost and schedule. This should make the district aware of community college space and cost guidelines before the district evaluates the proposal.

If the project has a FPP which has been submitted and approved for funding, the district or its project manager should review the proposal and the supplemental budget language. If there is an inconsistency between what is planned locally and what is

described in the budget documents, the Chancellor's Office should be notified immediately.

If a proposal for a state-funded project contains errors, the district must request Chancellor's Office and Department of Finance (DOF) authorization to change cost or scope and reengineer the project, or live with the errors. Since the Chancellor's Office has a **no augmentation policy**, funds are not available to increase the budget; any cost overages would need to be addressed locally. In many cases, the architect or construction manager will be able to propose design and delivery method strategies to cope with any problems.

7.5 Schematic Design

Schematic design is completed by a licensed design professional, typically the project architect or engineer, and consists of creating and evaluating alternative design approaches to the project until a single design has been selected and approved.

Projects that are intended for state funding consideration must follow the guidelines presented in Chapter 5.

Steps in schematic design:

- 1) Create and draw alternative designs
- 2) Evaluate the alternatives in accordance with the program, scope, budget, and quality plan
- 3) Choose a single design
- 4) Develop the design enough to assure that it works within the primary criteria
- 5) Produce a design presentation for review
- 6) Secure the necessary approvals

7.5.1 Evaluation of Alternatives

It is recommended that the major users participate in the review so they can be satisfied that all the options have been considered. It is suggested that the criteria for reviewing alternatives be determined in advance to avoid conflicts.

7.5.2 Schematic Design Documents

Usually, schematic design documents submitted by the licensed design professional include (see Chapter 5 for a detailed discussion of FPP design document requirements for state-funded projects):

- Site plan
- Floor plans
- Building elevations
- Building sections
- Any perspectives, models, or other presentation materials necessary to describe the design

Support data, also submitted by the architect, usually includes:

- General description — a narrative describing the design concept in response to the program
- Area calculations — a summary of gross and assignable floor areas as they relate to the scope
- Construction cost estimate — a systems level estimate as it relates to the budget for the project
- Code analysis — a brief description of the major code elements
- Outline specification — a brief description of the major systems the architect had in mind

7.5.3 Design Review and Approval

Design review occurs at the end of schematics and design development. It is recommended that the district maintain design standards or goals to ensure consistency amongst the projects on campus. Design consistency aligned with an educational philosophy will help develop a campus character and image.

There should be some form of district representative and instructional representative (or other user) signoff at the end of schematic design, giving the approval to proceed with the selected design.

7.6 Scope and Cost

The project scope is all that needs to be accomplished, including budgets for both time and money, to achieve the project's objectives, and is best represented by the project plans and specifications. Project scope should be clearly defined in the Final Project Proposal and, once the project is submitted and approved for state funding, it may not change (scope creep) without prior DOF approval.

Scope creep refers to changes or growth in a project's scope and can occur when the scope of a project is not properly defined, documented, or controlled. Scope creep is generally considered harmful; and, scope creep without DOF approval is considered "out of process" and will result in the termination of the project.

Scope creep occurs more frequently in projects with long timelines and can be a result of:

- Poor change control
- Lack of proper initial identification of what is required to bring about the project objectives
- Weak project manager
- Poor communication between parties
- Lack of initial product versatility

The district's project manager and architect should monitor scope and cost throughout the design phases. Both should be familiar with the accepted methods for calculating areas and estimating costs, cost guidelines, and budget language.

7.6.1 Gross Square Footage

Gross square footage (GSF) is the sum of all areas included within the outside face of the environmentally controlled envelope for all stories or areas that have floor surfaces.

GSF is computed by measuring from the outside faces of the envelope, disregarding architectural and structural projections extending beyond the envelope face. Within the envelope, vertical circulation space (whether floored or not) and vertical mechanical and electrical shafts shall be counted at each floor. Vertical mechanical and electrical shafts located outside the envelope shall be included as if they were inside the envelope.

Refer to the Chancellor's Office Space Inventory Handbook for a more detailed discussion on GSF.

The following areas are included in GSF:

- Basements
- Attics
- Garages
- Enclosed porches
- Penthouses
- Mechanical equipment floors
- Areaways
- Lobbies
- Mezzanines
- Inside balconies
- Unfinished areas
- Vertical circulation areas (with and without floors)
- Mechanical and electrical shafts
- Interior and exterior walls

The following areas are excluded from GSF:

- Attics without flooring and portions of upper floors eliminated by rooms or lobbies which rise above single-floor height
- Floored areas with less than 6'6" clear headroom (unless they can be properly designated and used as mechanical or custodial areas)

Open-to-the-weather spaces such as corridors, porches, balconies, courts, light wells, or space under projecting structure overhead, are counted at a ratio of 50% assigned to gross area.

Refer to the Chancellor's Office Space Inventory Handbook for a more detailed discussion on GSF.

7.6.2 Assignable Square Footage

Assignable square feet (ASF) is the sum of that part of the building designated for program space. ASF is measured from the inside face of walls.

The following areas are included in ASF:

- Offices
- Classrooms
- Laboratories
- Seminar and conference rooms
- Libraries
- File rooms
- Storage rooms
- Special purpose rooms (auditoriums, cafeterias, TV studios, locker and shower rooms, maintenance and research garages, phantom corridors for large non-partitioned spaces, private toilets, etc.)
- Building columns within an assignable room

The following areas are excluded from ASF:

- Free-standing columns or architectural and structural projections
- Custodian spaces (refer to the Space Inventory Handbook for exceptions)
- Circulation
- Mechanical
- Public toilets
- Interior and exterior walls
- Parking structures

Refer to the Chancellor's Office Space Inventory Handbook for a more detailed discussion on ASF.

7.6.3 Cost Estimating

There are three basic methods of estimating construction costs:

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- 1) Building type cost per square foot
 - 2) Cost by building systems and components
 - 3) Cost by building trade or CSI division

7.6.3.1 Building Type Cost per Square Foot

An historical method of cost estimating that assumes a certain type of space or building will have construction costs that are similar to previous spaces or buildings of that type. For example, a chemistry building will have a similar cost to a previously built chemistry building. This method of estimating refers to an established data base of similar spaces to get a cost per square foot and then modifies that cost to allow for location, market conditions, and date of construction. More accurate estimates are obtained using this method when the design of the project is similar to previous projects. The greater the creativity of the design and the more it uses new systems and materials, the less accurate the estimate.

Estimating by cost per square foot is appropriate during the planning and programming phases. The estimate should compare to the “Building Unit Cost Guidelines” provided in FUSION.

7.6.3.2 Cost by Building Systems and Components

This method estimates the project cost by system or component costs per square foot. It is considered a better estimate than a building type estimate because it goes into greater detail.

Given a schematic or design of the project, showing the extent and types of systems and components, the estimate method refers to a data base of systems and components cost per square foot (e.g., the cost of a type of roof or wall construction per square foot) and modifies the costs to allow for location, market conditions and date of construction. More accurate estimates are obtained using this method when more is known about the design of the project and greater use is made of common systems and components. When less is known about the systems or more unique systems and components are used, the estimate will be less accurate. Estimating by building systems and components may be used during schematic design and design development.

7.6.3.3 Cost by Building Trade or Construction Specifications Institute Division

The cost by building trade or Construction Specifications Institute (CSI) Division is the method of estimation used by a contractor to bid the project.

From the construction documents, the estimation refers to: 1) a labor and materials data base, 2) a takeoff of all materials and systems, 3) the total materials, labor and overhead required to do the work at that location, and 4) an index factor to allow for market conditions at a future date of construction. More accurate estimates are obtained using this method when better and more complete documents describing the project are available. Estimating by building trade is used during design development and in construction documents.

All of these estimates rely on the skill of the estimator; the quality of the data base; and the accuracy of the information about the design, site, market and schedule of the project.

The Chancellor's Office will adjust the budgeted cost for state-funded projects at time of bid award request when actual cost is known. As indicated previously, any cost overages will need to be funded locally.

7.6.4 Contingencies

Contingencies are used with all of the methods of estimating to allow for unknown conditions and changes. Typically, there are two types of contingencies — project contingencies and construction contingencies.

The project contingency is an amount to fund **unexpected** management and consultant costs for the project.

The construction contingency is an amount to fund **unanticipated** construction costs; e.g., change orders and construction claims that increase the construction cost beyond the estimate. Typically, the state provides a total contingency amount equal to 5% of the total new construction costs and 7% of the reconstruction costs.

7.6.5 Problems with Cost Estimating

Typical mistakes that occur when estimating costs include:

- Assuming a higher level of accuracy than is possible given the information available

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- Changing the project scope without changing the budget
 - Leaving out some of the cost factors
 - Not keeping the estimate current
 - Estimating from incomplete documents
 - Not realizing that estimates grow as projects progress and more detail is known
 - Not estimating costs to the midpoint of construction or other inflation-related factors (used to validate FPP cost estimate)
 - Not considering General Terms and Conditions of the contract, construction bonds, project insurance, and other contractor burdens

7.6.6 Indexing

The Chancellor's Office uses the Department of General Services "California Construction Cost Index" (CCCI) index to estimate the effects of inflation on projects. The Chancellor's Office informs the district of the CCCI to be used for developing capital outlay proposals. The index is used to factor the current estimated construction cost to a future cost.

7.6.6.1 Factors Needed to Apply the CCCI Index

- 1) The index associated with the date of the estimate.
- 2) The date for the mid-point of construction of the proposed project.
- 3) The index associated with the mid-point of construction.
- 4) DOF monthly escalation factor for state funded projects

Once these three factors are obtained, the indexing factor is applied to the project cost by dividing the midpoint of construction date CCCI index by the original cost estimate CCCI. The resultant percentage is multiplied by the original cost estimate to obtain a cost estimate indexed to the mid-point of construction.

Please do not escalate costs to mid-point of construction for projects seeking state funding. The Chancellor's Office will escalate the costs using DOF approved methodology after we receive a district's FPP.

Every estimate at any phase of the project should clearly show:

- Any previous estimated construction costs and appropriations and their associated CCCI

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- The current estimate of construction cost in today's costs

7.6.6.2 Factors that Influence Building Costs

- Foundations
 - Weight of structure and loading
 - Soil bearing capacity
 - Basement excavation and shoring
 - Number of stories
 - Contour of site
- Vertical Structure
 - Floor-to-floor height — Ratio of volume to gross floor area
 - Quantity of retaining walls — Ratio of retaining wall area to gross floor area
 - Extent of lateral wind and seismic bracing
 - Weight of structure and loading
 - Attachment to existing structure
 - Vibration criteria
- Floor and roofs
 - Loads
 - Spans
 - Relationship of quantity of slab on grade to suspended slabs
 - Attachment to existing structure
 - Vibration criteria
- Exterior cladding
 - Shape and height of building — Ratio of finished exterior wall to gross floor area
 - Quantity of glazing — Window area ratio
 - Sun shading
 - Quality of cladding materials
 - Attachment to existing structure
 - Parapets

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- Roofing and waterproofing
 - Quantity of roof — Roof area ratio
 - Quantity of below-grade waterproofing
 - Type and R value of insulation
 - Roofing materials
 - Skylights and clerestories
 - Attachment to existing structure
 - Interior partitions
 - Density of partitions — Interior partition ratio
 - Ceiling heights
 - Size and number of lights and doors
 - Sound insulation
 - Quality of partitions and doors
 - Floor, wall and ceiling finishes
 - Percentage of total building finished — Finished area ratio
 - Quality of finishes and extent of special features
 - Building fixtures and service systems (Group 1 fixed equipment)
 - Percentage of building finished
 - Use or function of building — extent of equipment included in construction cost or alternatively purchased
 - Vertical transportation
 - Number and density of elevators — elevator ratio
 - Type of elevators
 - Number of escalators
 - Number and type of staircases — enclosed fire exit or open architectural
 - Plumbing
 - Number of plumbing fixtures
 - Length of piping per fixture
 - Special systems
 - Number of floor and roof drains

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- Heating, ventilation and air conditioning
 - Climate
 - Area of wall exposed to weather — finished wall ratio
 - Percentage of building with finished system
 - Type of system and source of heating and cooling
 - Location of systems
 - Number of separately controlled zones
 - Number of required air changes
 - Use of existing central plant
 - Use of thermal storage
 - Energy management systems
 - Board of Governors Energy & Sustainability Policy
 - Electrical
 - Load on main breaker
 - Total connected load
 - Percentage of building with finished system
 - Voltage
 - Extent of signal or communication systems
 - Switching requirements
 - Special conduits or ducts for subsidiary systems
 - Emergency power
 - Smoke-detection system
 - Number and type of lights
 - Telecommunications, cable infrastructure and network electronic systems
 - Board of Governors Energy & Sustainability Policy
 - Fire-protection, sprinkler systems
 - Flow required over given area (hazard requirement)
 - Type of heads
 - Wet or dry system
 - Access, proximity

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- Local fire marshal requirements
 - Site preparation
 - Site clearing
 - Demolition
 - Site infrastructure development
 - Grading
 - Landscaping
 - Paving
 - Fire lanes
 - Hazardous materials removal
 - Site utilities
 - Utilities
 - Utilities hook-up fees
 - Site drainage
 - Off-site infrastructure development
 - Extending utilities, roads, etc. off of the site
 - Regulatory factors
 - Local air quality
 - Accessibility (American Disabilities Act)
 - Seismic

7.7 Code Review

The project design must meet the current building code (California Code of Regulations, Title 24) and all other applicable regulations. To assure that the project is being developed in accordance with code, a code analysis needs to be done early in the design phase and periodically reviewed and updated by the architect.

It is recommended that the district require a formal code analysis as part of the contract with the architect. The district should review the code analysis at schematic design, design development, and construction documents phases. The code analysis serves several purposes:

7.7.1 Field Act

The Field Act (AB 2342, Stats. 1933), mandating statewide seismic safety standards for public schools, was enacted in 1933. The law banned the construction of unreinforced masonry buildings, required that earthquake forces be addressed in structural design and established a new building code and regulatory procedure for K-12 and community college facilities. The Field Act also established the Office of the State Architect (now the Division of the State Architect (DSA)). The Field Act was followed in 1939 by the Garrison Act which required that existing schools be modernized to meet Field Act requirements. The act outlined a procedure for school boards to follow for pre-Field Act schools, which required that school boards conduct immediate examinations of schools by a state architect or engineer.

SB 588 (Ch. 704, Stat. 2008) enacted in 2008, allows community college districts to choose exemption from Field Act standards. The California Building Code (CBC), Title 24, Part 2, (since 2010) provides an alternative set of structural standards (DSA-SS/CC) for districts that choose this exemption. Community college structures constructed in accordance with DSA-SS/CC must still be reviewed by DSA for fire and life safety, access compliance and seismic safety issues, and must meet the same seismic safety performance levels for occupant safety as those constructed to the Field Act (DSA-SS). At the time of this manual update, provisions for seismic performance are covered in amendment to Chapters 16, 19, 20, 21, 22 and 23 of the CBC.

7.7.2 DSA Plan Review

DSA reviews construction projects for Title 24 compliance. DSA's oversight of fire and life safety, access compliance and structural safety of community colleges facilities is governed by the California Education Code sections 81130, et seq.

The Field Act and CBC, Title 24, Part 2 imposes requirements on California schools that are not present in other types of construction approval processes:

- Licensed design professionals must prepare drawings and specifications for proposed construction work
- Drawings and specifications must be verified by DSA for compliance with applicable building codes
- The building codes utilized in the design of school buildings contain structural provisions superior to many other types of facilities, with consideration for known seismic activity in California

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- A community college district must hire a DSA-certified inspector to oversee construction. The inspector selection must be approved by the design professionals and the DSA
 - The California Administrative Code, Section 4-333 (b) 1 (PDF — 9 KB) regarding employment of project inspectors specifies that the inspector is permitted to have an employment relationship with an entity providing services to the school district if the entity only provides services directly related to project inspection (see *California Administration Code* Section 4-333(b)1 regarding employment of project inspectors)
 - Changes to approved drawings and specifications for DSA-regulated portions of the project shall be submitted and approved by DSA prior to commencement of work
 - The design professionals, the inspector of record and the contractor file verified reports with DSA indicating the work has been performed in compliance with the approved plans and specifications

DSA formalized the Collaborative Process in 2006. The Collaborative Process is an alternative to the traditional plan review process, and engages DSA early in the design process with the district and design team, continuing through plan review and approval.

The Collaborative Process is intended to ensure the safety of community college projects through a collaborative, consistent and timely project development and review. Predictable project delivery timeframes are achieved by collaboration regarding project schedule, Title 24 code requirements, and plan review requirements.

The Collaborative Process review process includes design phase meetings with the district, design team and DSA to review and address:

- Title 24 code requirements
- Project schedule requirements
- Plan review process requirements

The Collaborative Process features:

- Pre-established milestone meetings during project design with the district, design team and DSA project team (i.e., designated senior staff for the project)
 - The number of meetings depends on project size and complexities. As an example, a large project may have three meetings during the design

process (i.e., 100% schematic design phase, 90% design development, and 75% construction documents)

- DSA senior staff “desk review” of design documents subsequent to each meeting, to identify significant code conflicts that could otherwise adversely affect intake or the plan approval time commitment
- Complete plan review is conducted upon intake, with coordination of the plan review with design phase collaborative decisions and agreements

In addition to, and less complicated than, the formal process, DSA offers an informal preliminary review process to assist districts with preliminary plan review. The Informal Preliminary Review Process includes:

- One or two preliminary review meetings during project design phase with the CCD, design team and DSA
 - Typically, one meeting is held prior to design development and another meeting prior to completing construction documents.
- Complete plan review is conducted upon intake, with coordination of the plan review with preliminary review meeting minutes

Informal Preliminary Review Process benefits include:

- Time frame goals may be established for collaborative meetings, intake, completion of plan review, and plan approval date.
- Code and plan review requirements are reviewed with senior DSA staff during design, to promote successful intake and expedient plan review.
- Regional Office CCD Project Coordinator is available to the CCD and design team for scheduling preliminary review meetings and project status inquiries.

7.7.2.1 Excluded from DSA Plan Review

Structures that are not considered to be regulated by DSA as “school buildings,” when they constitute the entire scope of construction, include but are not limited to:

- One-story buildings not over 250 square feet in floor area when used exclusively as accessory facilities to athletic fields (equipment storage, toilets, snack bars, ticket booths, etc.)
- Greenhouses, barns and storage sheds used exclusively for plants or animals and not used for classroom instruction (small groups of pupils or teachers may enter these structures for short periods of time)

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- Light poles or flagpoles less than 35 feet tall
 - Antenna towers less than 35 feet tall or less than 25 feet above a building roofline
 - Retaining walls less than 4 feet above the top of foundations and not supporting a surcharge
 - Concrete or masonry fences less than 6 feet above adjacent grade
 - Yard walls less than 6 feet above adjacent grade
 - Signs, scoreboards or solid-clad fences less than 8 feet above adjacent grade
 - Bleachers and grandstands with five rows of seats or less
 - Open-mesh fences and baseball backstops
 - “Temporary-use” buildings on community college sites used for less than three years
 - “Trailer Coaches” that conform to the requirements of the Health and Safety Code, Division 13, Part 2, commencing with section 18000, that are not greater than 16 feet in width and used for special education purposes for no more than 12 pupils at a time (or 20 pupils for driver training purposes)

Note that additional exceptions to DSA approval requirements exist for various unusual situations. For more information about these exceptions, please refer to the Education Code or contact one of the [DSA Regional Offices](http://www.dgs.ca.gov/dsa/AboutUs/contact.aspx) (<http://www.dgs.ca.gov/dsa/AboutUs/contact.aspx>).

7.7.2.2 Project Closeout and Certification

State administrative regulations require that all projects financed with state bonds comply with Project Closeout procedures. The main objectives of the closeout procedures are to ensure the following:

- The project is complete with all state funds to be used are claimed and all disputes regarding project costs, if any, resolved
- The project scope is consistent with that approved by the DOF and the Legislature
- FUSION has been updated to show final project costs per the JCAF 32 and final Quarterly Report

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- The final JCAF31 in FUSION is consistent with the project as depicted in the district's certified Space Inventory Report at the time the building came on line, and
 - The district followed Public Contract laws and regulations in the construction of the project

DSA Project Certification verifies that the constructed project complies with the codes and regulations governing school construction. Project certification consists of examination of specific project files for documents required to be submitted before, during and after construction, and to determine if outstanding issues have been resolved. After the file is examined, the project file is closed either with certification or without certification. Projects that are not certified will not be eligible for future DSA review and therefore not eligible for state-funding. In addition, non-certification of projects may make district staff and boards personally liable in the event of a catastrophe.

See Appendix M for a Chancellor's Office Project closeout checklist and DSA certification documents and procedures.

7.7.3 Deferred Code Approvals and Change Order Approvals

Change orders should be kept to a minimum. Districts have historically had difficulty obtaining DSA deferred code and change order approvals during the construction process. Delays in obtaining these approvals make districts vulnerable to delay claims by the contractor and other cost increases. The design of the project should be done so as to avoid, to the greatest extent possible, construction materials and methods that may require deferred code approvals. Likewise, code approval for change orders can delay a project and cause additional code check fees.

Design elements that may be deferred are limited to:

- Access floors
- Bleachers (seating layout must be shown at time of submittal)
- Elevator guide rails and support brackets
- Exterior wall systems — precast concrete, glass fiber reinforced concrete, etc.
- Skylights (do not defer if Engineering reports, or complete information is available)

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- Window wall systems or storefronts with spans greater than 10 feet
 - Stage rigging
 - Others, as agreed to in advance by DSA

7.8 Design Development

During design development all of the remaining design decisions are resolved for all significant elements and systems in the design.

Steps in design development:

- 1) Review and revision of schematic documents
- 2) Addition and coordination of all the design systems; e.g., structural, electrical, mechanical
- 3) Design of all significant details or elements
- 4) Value engineering with life-cycle costing
- 5) Updated scope, cost estimate, code analysis

7.8.1 Design Development Documents

- Site plan
- Landscape plan
- Floors plans
- Elevations and sections
- Detail drawings
- Interior details
- Structural drawings
- Mechanical drawings
- Electrical drawings
- Drawing of any significant special systems
- Outline specifications

The drawings and specifications should be complete enough to describe the entire design with all its major elements.

7.8.2 Support Data

- Area calculations
- Report of design criteria used for the systems
- Code analysis
- Energy analysis
- Estimated project construction cost by systems

The support data includes the design criteria used to design the systems; e.g., structural, mechanical, temperature, air changes, and humidity requirements for the mechanical system. It is suggested that operations and maintenance personnel review design criteria.

7.9 Equipment Planning

In conjunction with the evaluation and choice of building systems, Group 1 — Fixed Equipment needs, and Group 2 — Movable Equipment needs should be developed and coordinated during the design development phase. While the characteristics of a piece of equipment may suggest its initial classification as Group 1 or Group 2, it is the designed use of the equipment and its installation characteristic that determine its ultimate classification. Equipment which is mobile, but must be used as part of the function of a specialized room in order for that room to operate, such as equipment for a television studio, may be considered Group 1 or Group 2 equipment depending on the extent to which the equipment is essential to the basic effective use of the facility. Districts should justify all equipment needs, whether Group 1 or Group 2, if it is reasonable to expect questions about the appropriateness of a request.

7.9.1 Group 1 — Fixed Equipment

“Group 1 — Fixed Equipment” (Group 1 equipment) is defined as: building fixtures and support systems that become an integral part of the facility during construction. Group 1 equipment needs are described in the project working drawings and specifications. Group 1 equipment has the following characteristics:

- It is securely attached to the facility
- It functions as part of the building

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- Removal of the equipment results in visible damage to the building or impairs the designed use of the facility
 - The equipment is generally interpreted to be real property rather than personal property
 - Once installed, the piece of equipment loses its identity as a separate unit

7.9.2 Group 2 — Movable Equipment

“Group 2 — Movable Equipment” (Group 2 equipment) is the designation given to equipment not identified as Group 1 equipment. Such equipment usually can be moved from one location to another without significantly changing the effective functioning of facilities at either location. Group 2 equipment includes library books and other related library materials. Currently, funding may be requested for Group 2 equipment needs in space dedicated to new programs and in net expansion space in existing programs. The need for new equipment should be reduced as much as possible through the use of any existing equipment. It is assumed that all existing Group 2 equipment for an active program will be transferred into remodeled or expanded space before new equipment is requested. Group 2 equipment needs that constitute technological upgrades generally will not be honored unless the district can demonstrate that program changes are so significant that they constitute an introduction of a new program. All equipment designs should include these factors when justifying the Group 2 equipment requests in the FPP.

When developing Group 2 needs for new or expanded programs, districts should design their telecommunications and information systems so as to avoid purchases of equipment that will become rapidly outdated. Telecommunication equipment requests should include software, supporting peripherals, file sorters, front-end processors, and any other elements required to make a complete system. Consideration should be given to tying in with a larger campus system such as a fiber optic backbone which links the major buildings. Further, requests for equipment should be accompanied by a short summary of the local plan and total costs for activation of that equipment. The full plan, while not submitted to the Chancellor’s Office, would list each equipment system; installation cost; warrantee cost; timing and cost for special testing or balancing; process and cost for training staff to operate equipment; cost for initial programming; and any other procedures and costs associated with getting the equipment fully on line.

A detailed list (refer to sample in Appendix E) of Group 2 Moveable Equipment needs, net of transferred existing equipment if any, must be submitted before the project CE phase is considered for funding but can be submitted with the FPP if district elects to do so.

7.10 Value Engineering

“Value engineering” is the review of systems in the project to verify that the best system has been chosen given the budget and functional criteria.

Usually, value engineering is what an architect strives to do as a project progresses. Often, however, architects use systems and materials with which they are familiar rather than take time for in-depth analysis of alternatives. The district may follow the architect’s recommendations or require the architect to do some value engineering as part of its contract. The district may, alternatively, retain other consultants for value engineering. If the project is complex, expensive, or comes in well over budget, value engineering may save a significant amount of money or steer the district toward better systems.

Value engineering is normally carried out in four phases:

- 1) Gathering information such as site analysis and cost estimates**
- 2) Brain storming alternative systems and materials**
- 3) Analyzing the ideas that resulted from the brain storming**
- 4) Making recommendations to the district to incorporate some of the ideas into the design**

Value engineering is fundamentally a form of quality control. It relates to several other forms of quality control:

- Value analysis or management — similar to value engineering only applied to the design as a whole as well as to various systems
- Life-cycle costing — the analysis of the cost of alternative systems over their entire life span from purchase through operation and maintenance to change-out or demolition
- Constructability review — the review of systems and structures for construction access, construction sequence, system installation conflicts, job site sequencing, ease of construction, ease of operation and maintenance, and ease of change-out

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- Coordination check — the review of systems and structures as they relate to other systems and structures on the project; e.g., running a series of systems in a ceiling without conflicts
 - Bid-ability review — adequacy of the information in the documents for bidding

All of these terms refer to the careful design of the project so that it can be constructed with ease, using systems and structures which provide good value over time, and satisfy the parameters of the project.

Additional forms of review tied to this analysis include:

- Independent Cost Review — a “third party” construction cost estimate to compare with the project architect’s estimate
- Utility company energy review — a review of the building and its systems to ensure they exceed Title 24 standards by the appropriate percentage established in the Board of Governor’s Energy & Sustainability Policy

All of the analysis of value engineering is done based on the cost estimate. If the estimate is incorrect, so is the cost analysis. On a complex project with a variety of systems, a thorough check of the estimate or a second estimate is advised.

If possible, a project should be checked as follows:

- 1) At the programming phase — Are there elements of the program that conflict, are unduly expensive, require special operations or maintenance, or simply make no sense in the circumstances of the project?
- 2) At the schematic design phase — Is the basic layout and massing of the building appropriate to the expected form of construction; e.g., steel, concrete? Is the layout conducive to the likely systems for the building? Are elements of the design, such as fenestration, cost effective for operations and maintenance?
- 3) At the design development phase — What systems will provide the best value? What materials will provide the best value? Are these choices easily incorporated into the construction? Will they conflict with any other materials or systems? What will be their labor and material costs for operation and maintenance?
- 4) At the construction documents phase — Are the drawings and specifications free of errors and omissions? Can they be used to construct the project as desired at the appropriate quality level?

Often a group of experts can come up with more alternatives and more creative alternatives than a single consultant. The districts can provide value engineering and other checks by:

- Having knowledgeable in-house technical staff review the project
- Bringing a consultant construction manager on board during design to review the design
- Hiring an independent cost estimator
- Hiring several independent consultants; e.g., architect, mechanical engineer for review
- Using a general contractor to review the documents for constructability

In all cases, the earlier any problems are discovered the better. Once such a review process is begun, it is suggested that it be continued throughout the design phases.

7.11 Request for Approval of Preliminary Plans

In accord with Government Code, Section 13332.11, State Public Works Board (PWB) approval is required for preliminary plans to ensure that projects proceeding to the subsequent phases of working drawings and construction are consistent with legislatively approved cost and scope and are carried out with all due speed and diligence. Refer to Appendix L for a complete list of items that districts are required to submit at each milestone of the state capital outlay fund release process.

Districts are to submit copies of the following documents to the Chancellor's Office to request approval of preliminary plans:

- Letter requesting approval of preliminary plans and release of working drawing funds and, if applicable, explanations of any scope or cost changes made or planned since project was funded by the Legislature
- Completed preliminary plans and specifications (one copy only)
- JCAF 32 — updated cost summary, if necessary
- Construction Schedule (see base of the JCAF 32), if necessary
- Quantities and Unit Costs Supporting the JCAF 32 (Architect's Detailed Cost Estimate which ties to the JCAF 32)
- JCAF 31 — analysis of building space use and WSCH

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- If there are space changes, contrast FPP to preliminary plans, i.e., a side-by-side comparison with justification for change from the FPP
 - Design recommendations from the utility company for achieving the Board of Governors' energy and sustainability policy
 - Final CEQA determination stamped by the State Clearinghouse — all CEQA waiting periods must be completed before the preliminary plans can be approved by the PWB. Please note that filing only with the county is not adequate for state funded projects
 - 2 11" x 17" copies of the site plan, elevation and floor plans

The Chancellor's Office reviews the submittal and forwards to the DOF copies of the following items in addition to one copy of each of the items listed above:

- A PWB agenda item and briefing document describing the project
- A completed "Request for Approval to Proceed or Encumber Funds" (DF14D) to seek approval of preliminary plans and release of working drawing funds
- If scope or costs have changed from that authorized by the Legislature, compelling justification for the scope or cost change. (A Twenty-Day letter or a DOF budget change request letter may be required depending on budget status of the construction phase. This will result in a delay to the construction schedule.)
- A cost history for the project
- Any other related documents needed to obtain approval of preliminary plans

The district must submit preliminary plans to the Chancellor's Office for review at least 45 calendar days prior to the scheduled meeting of the PWB. The Chancellor's Office then reviews the submittal, prepares the package and transmits it to the Department of Finance at least 35 calendar days prior to the PWB meeting date. If the preliminary plans contain a significant change in cost or a change in scope from that authorized by the Legislature, at least 24 additional calendar days may be needed to process a formal request to Legislative Committees and the PWB to approve the changes (see Chapter 8, Subsection 8.7.2 titled Twenty-Day Letter).

7.11.1 California Environmental Quality Act Completion of Requirements

The environmental document required by the California Environmental Quality Act must be completed before a project is submitted to the PWB for approval of preliminary plans and authorization to begin working drawings (Section 6680 of the State Administrative Manual). If an Environmental Impact Report (EIR) is required, the draft EIR should have been completed during schematics with the final EIR completed during design development. (refer to Chapter 6, Section 6.10 for further discussion of the California Environmental Quality Act).

Upon PWB approval, the Chancellor's Office will immediately notify and send a signed DF14D to the district. The district should not commence with working drawings prior to receipt of the signed DF14D.

7.12 Construction Documents

The objective of the construction document phase is to produce DSA approved, clear, complete, error-free documents that meet the agreed upon program, design, decisions, scope, budget and quality. Construction documents consist of the specifications, drawings, and data for the contractor plus support data to facilitate reviews and approvals.

During the construction documents phase, the design documents are translated by the architect, engineer or designer into working drawings and specifications for the construction of the project. At this point in the project, if the district has properly performed its duties in the programming phase, all significant design decisions should have been made and approved, and the district shouldn't need to make any further changes. Design changes during construction can cause delays, increase design fees and increase errors in the production of the documents.

Steps in the construction documents phase:

- 1) Review and revision of preliminary plans per reviews and approvals**
- 2) Determination of any bid alternates**
- 3) Production of construction documents with alternates, if applicable**
- 4) Code review at 50% document completion**
- 5) Completion of CEQA-required reports, if not already completed**

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- 6) Production of a bid estimate and other support data
 - 7) Formal coordination and constructability check of the documents
 - 8) Completion of documents with dates, stamps and signatures
 - 9) Code review at 100% completion and approval

Support data for DSA approval includes: a code analysis, structural calculations, and energy calculations. Support data to get approval to bid from the Chancellor's Office is discussed in the next chapter. There may also be special data to be produced for the bid and construction process such as a commissioning plan, estimates of alternates, an estimated construction schedule, special request for sole source, etc.

7.12.1 Drawings

The construction drawings include:

- Title Sheet
- Civil
- Architectural
- Structural
- Mechanical, Plumbing, Fire Protection
- Electrical
- Landscape
- Other drawings as needed to comply with existing building codes

The district is ultimately responsible for the technical content of the drawings and insuring that all the drawings are properly dated, stamped and signed by the district's architect and engineer (see Chapter 5 for more information on working drawings. Additionally, it is a good practice to request electronic copies of all design documents as part of the specifications (refer to Chapter 6, Section 6.4 on selecting design professionals).

The operations and maintenance department should review the drawings for compatibility with the campus infrastructure, utilities, telecommunications, subsurface conditions, or any other hidden conditions. Construction drawings should be made available to the district's maintenance and operations department for use after the project is completed.

7.12.2 Specifications

The specifications describe “what” while the drawings show “how many” and “where.” In the event of a disagreement between the drawings and specifications, the specifications govern the scope of work unless stated otherwise in the contract.

There are four types of specifications:

- 1) Descriptive specifications list the important properties of the product without the use of trade names
- 2) Proprietary specifications designate the product by brand name
- 3) Performance specifications outline the ends to be achieved by the product
- 4) Reference specifications list the standards (e.g., ASTM Standards) which a product must meet

Specifications may be “open” or “closed.” “Open specifications” are used to allow for competitive bid. Materials or systems referred to by trade name have two or more trade or brand names listed followed by the words “or equal.” A “closed specification” limits competitive bidding by establishing such stringent requirements that only a single material or system can meet them.

Closed specifications cannot be used on public projects except:

- In an emergency
- When they are part of an existing system
- When it has been determined to be in the public’s best interest or
- It is required for a test of the material or product to determine its suitability for future use

Specifications are written in the CSI format and include the title sheet, index, Division 1 General Requirements and Divisions 2-16 technical requirements.

Division 1 includes a description of the work, allowances, alternatives, change orders, coordination, field engineering, regulatory requirements, abbreviations, special procedures, meetings, schedule, submittals by the contractor, quality control, construction facilities, temporary utilities, materials and equipment, substitutions, guarantees and warranties, unit prices, and contract closeout. All of the items in Division 1 are crucial to the success of construction management and need to be reviewed in detail by the district.

Divisions 2-16 include site work, concrete, masonry, metals, wood and plastics, thermal and moisture protection, doors and windows, finishes, specialties, equipment, furnishings, special construction, conveying systems, mechanical and electrical. These divisions need to be checked for open specifications, technical content and coordination with the drawings, general conditions, and other specification sections. Districts should be especially alert to items furnished by the owner, testing requirements, submittals, job conditions, and warranties as they appear in the technical specifications.

Plans and specifications must be stamped, dated and signed by the architect and engineer. For state-funded projects this must occur prior to the DF14D request for working drawing approval.

7.12.3 Bidding Alternates

The purpose of bidding alternates is to have some flexibility regarding contract costs when bids come in. Deductive alternates deduct work from the contract and additive alternates add work to the contract. The district may incorporate additive or deductive alternates into the construction documents on state-funded projects only **with prior approval of the Chancellor's Office and the DOF**. Alternates cannot be used to change the project's programmatic scope unless there is a compelling reason to do so and prior approval has been obtained from the Chancellor's Office and the DOF.

If bid alternates are being considered, they need to be agreed upon at the beginning of the construction documents phase so they can be incorporated into the drawings and specifications. Alternates developed just prior to bidding may cause delays, increase design fees and increase errors.

One alternative a district has is to use district funds to support additive alternates in the project. However, prior approval by the Chancellor's Office and the DOF is still required regardless of whether or not the district is fully funding an alternate (additive or deductive).

To get Chancellor's Office approval of alternates, the district needs to submit:

- 1) Current project status report
- 2) Current cost estimate
- 3) List of alternates with estimated costs
- 4) Detailed justification for the request

It is recommended that this submittal be made at the earliest date the information is available, preferably by 50% completion of construction documents.

For state funded projects, if a district elects an additive or deductive alternate at bid award, the additive or deductive alternate becomes part of the approved scope of work. Once elected, the district does not have the discretion to omit completing the additive or deductive alternate.

7.12.4 Data for the Contractor

The construction documents may contain information and reports in addition to the drawings and specifications. These might include geotechnical reports, abatement reports, structural calculations, campus construction staging areas, special campus parking fees, or anything else pertinent to the contract. This information should be referenced in the specifications and, wherever possible, incorporated directly into the specifications. If it is not of direct relevance to the bid or contract, it needs to be provided to the contractor at a later date as a matter of information. The supporting data is kept to a minimum because it will become a legal part of the contract along with the drawings and specifications.

7.12.5 Regulatory Requirements

A code analysis must be performed on a project to demonstrate that the project meets current building codes, other code requirements, and state regulations. When the project is complete, the code review documents in conjunction with the drawings and specifications are important to the maintenance and operation of the project. They help to determine the feasibility of retrofits, remodels and additions, where the building can be changed and where it should be left as originally constructed.

7.12.6 Bid Estimate

The bid estimate is required to obtain approval to go to bid as discussed in Chapter 8. It should be in CSI format showing materials, labor and overhead. The bid estimate should be broken out in the same categories as the bids, as required by the bid instructions, so that the cost estimate can be compared with the bids.

7.12.7 Area Calculations

For state-funded projects, the Chancellor's Office will compare area calculations from the preliminary plans with the working drawings. If there are variations, a side by side analysis of the previously approved space and the current proposed space will be required of the district to verify the project remains within approved scope.

7.13 Coordination and Constructability

Construction documents can be very extensive; having adequate time to check the detail and coordination of the drawings is critical. The district should perform its own detailed check of the drawings using in-house staff or an independent consultant. Consultants should check the drawings for errors and code compliance. A code check by a reputable consultant prior to the formal review for approval may speed up the code approval process.

As part of the constructability check, it is recommended that the equipment for the project be reviewed in detail for sequence of procurement, installation, testing and activation procedures. Also, it is important to verify the availability of the equipment within the project time frame and review for potential problems with parts and warranties.

7.14 Code Approvals

Construction documents must be submitted to DSA for code approval. The district should ensure that code compliance issues are resolved during the review process.

CHAPTER 8: BIDDING AND AWARD OF CONSTRUCTION CONTRACTS

- 8.1 Overview**
- 8.2 Bidding Regulations**
- 8.3 Provisions Required in the Bid Documents**
- 8.4 The Bid Package**
- 8.5 Request for Approval to Proceed to Bid**
- 8.6 Bid Process**
- 8.7 Request for Approval of Bid Award**
- 8.8 Optional Bidding Methods**

8.1 Overview

This chapter is intended to provide districts guidance in the bidding and construction contract award processes. Bidding regulations, terms and documents are discussed first. The Request for Bid and bid approval processes follow.

8.2 Bidding Regulations

California Public Contract Code (PCC), §20651 mandates that the governing board of any community college district must use the competitive bidding process to let any contracts involving an expenditure of more than \$86,000 (adjusted annually for inflation) for any of the following:

- Equipment, materials, or supplies to be furnished, sold, or leased to the district
- Services, except construction services
- Repairs, including maintenance as defined in PCC §20656

The authorizing Facilities Planning Memo can be found in the Facilities Planning Memorandum tab of the Chancellor's Office Facilities Planning Unit website.

Any such contract shall be awarded to the lowest responsible bidder or all bids must be rejected. It is unlawful to split or separate any project into smaller work orders or projects to evade this law. Public projects, as defined in subdivision (c) of PCC § 22002 are exempt from the above.

The governing board shall let any contract for a public project, as defined in subdivision (c) of PCC § 22002, involving an expenditure of \$15,000 or more to the lowest responsible bidder or reject all bids. All bids for construction work must be presented under sealed cover (see 8.3.5 for details). Per PCC §20651, the Board of Governors annually adjusts this figure to reflect changes to the Implicit Price Deflator for State and Local Government Purchases of Goods and Services for the United States (86,000 adjusted in Memo FP15-01).

Contracts may be awarded without competitive bidding in emergency circumstances for the continuance of existing classes or to avoid danger to life or property. The district's board must determine, by unanimous vote, that such an emergency contract is necessary.

In addition, competitive bidding is not required for ongoing maintenance or minor capital outlay projects as defined by PCC §20655.

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- Colleges with Full Time Equivalent Students in excess of 15,000, may contract without competitive bidding for repairs to college buildings, grounds, apparatus, or equipment, including painting or repainting, and perform maintenance as defined in PCC §20656, if the total cost of labor on the job does not exceed \$15,000 or total hours on the job does not exceed 750, whichever is greater.
 - Any college may contract without competitive bidding for repairs, alterations, additions, painting, decoration upon college buildings, repair or construction of apparatus or equipment, improvements to grounds, erecting new buildings and maintenance as defined by PCC §20656 if the total cost of labor on the job does not exceed \$7,500 or the total hours does not exceed 350, whichever is greater.

If a district board elects, by resolution, and notifies the State Controller to become subject to the Uniform Public Construction Cost Accounting Act (PCC §22000 et seq.), PCC §22032 bidding standards apply:

- Public projects of \$45,000 or less may be performed by employees of a public agency by force account, by negotiated contract, or by purchase order.
- Public projects of \$175,000 or less may be let to contract by informal procedures, as set forth in Article 3 of Chapter 2 of Part 3 of Division 2 of the Public Contract Code.
- Public projects of more than \$175,000 shall, except as otherwise provided in Article 3 of Chapter 2 of Part 3 of Division 2 of the Public Contract Code., be let to contract by formal bidding procedures.

A district choosing to be subject to the Uniform Public Construction Cost Accounting Act shall enact an informal bidding ordinance including:

- The public agency shall maintain a list of qualified contractors, identified according to categories of work. Minimum criteria for development and maintenance of the contractors list shall be determined by the commission.
- All contractors on the list for the category of work being bid or all construction trade journals specified in PCC § 22036, or both all contractors on the list for the category of work being bid and all construction trade journals specified in PCC § 22036, shall be mailed a notice inviting informal bids unless the product or service is proprietary.
- All mailing of notices to contractors and construction trade journals pursuant to PCC § 22034 subdivision (b) shall be completed not less than 10 calendar days before bids are due.

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- The notice inviting informal bids shall describe the project in general terms and how to obtain more detailed information about the project, and state the time and place for the submission of bids.
 - The governing body of the public agency may delegate the authority to award informal contracts to the public works director, general manager, purchasing agent, or other appropriate person.
 - If all bids received are in excess of \$175,000, the governing body of the public agency may, by adoption of a resolution by a four-fifths vote, award the contract, at \$187,500 or less, to the lowest responsible bidder, if it determines the cost estimate of the public agency was reasonable

A project may be exempt from competitive bidding due to the specialized nature of the service or work to be performed. The standard for the award of such contracts is based upon qualifications and a reasonable, fair price for services. For example, per California Government Code (Gov. Code), §4217.16, energy conservation projects are exempt from bidding. The district may request proposals from qualified persons and award the contract on the basis of the experience of the contractor, type of technology employed by the contractor, cost to the district, and any other relevant considerations. Projects may also be exempt from bidding where the bidding process does not meet the intent of the competitive bidding laws. If a district is considering exemptions for a project, legal counsel should be consulted.

8.3 Provisions Required in the Bid Documents

The public works reforms brought about by Senate Bill 854 (Ch. 28, Stat. 2014) made several changes to the laws governing how the Department of Industrial Relations (DIR) monitors [compliance with prevailing wage requirements on public works projects](http://www.dir.ca.gov/Public-Works/SB854.html) (<http://www.dir.ca.gov/Public-Works/SB854.html>). Bid packages for state funded projects require the following documentation.

8.3.1 Prevailing Wage

Under the California Labor Code (CLC), §1770, the district must determine, from the Director of Industrial Relations, the classifications of workers necessary for the project and the applicable wage rates for those classifications in accordance with the standards set forth in CLC § 1773. The district also must provide bidders with notice of the prevailing wage rate requirements for the project in the bid documents.

8.3.2 Subcontractor List

In an effort to avoid bid shopping and the consequently quality control problems, the Subletting and Subcontracting Fair Practices Act, PCC §4100-4114, requires the bidder to submit a list of the subcontractors doing portions of the work. The district must require the prime contractor to submit the name, the location of the place of business, and the California contractor license number of each subcontractor who will perform work or labor or render service to the prime contractor greater than \$10,000, or more than one-half of one percent of the total value of the bid amount. The prime contractor shall list only one subcontractor for each portion of the project as is defined by the prime contractor in the bid. A subcontractor may be “removed from the list” only if they were listed by clear clerical error.

PCC §4106 requires that if a qualified subcontractor is not listed in the bid to perform a portion of the contract work, it is assumed that the prime contractor will perform the work if the prime contractor is qualified and licensed for such work. Work may be subcontracted by the prime contractor after the award of the contract only if approved by the district.

8.3.3 Securities in Lieu of Retention

The contractor has the right to substitute securities in lieu of retention withholding. Provisions and forms for this process, prescribed in PCC §22300, must be included in the bid documents.

8.3.4 Limitations on Sole Source

Public agencies, including community colleges, are prohibited from drafting specifications for bids that limit the bidding, directly or indirectly, to any one specific concern per PCC §3400. Specifications should, if the district is aware of an equal product, list at least two brands or trade names of comparable quality or utility, followed by the words “or equal” so that bidders may furnish any equal material, product or service. Specifications shall provide a period prior to and/or after the award of the contract for submission of data substantiating a request for a substitution of “an equal” item. If no time period is specified, data may be submitted any time within 35 days after the award of the contract. The exception to this occurs when:

- A material or product must match others in use

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- A unique or novel product application is required to be used in the public interest; or
 - Where the product or material is to be used in a test or experiment to determine suitability of the product for future use

In the latter case, the district board must authorize the sole source and include the basis for the decision in the specifications.

8.3.5 Bid Security; Bid Bonds

PCC §22002, requires the following:

- All bids for construction work shall be presented under sealed cover and shall be accompanied by one of the following forms of bidder's security:
- Cash
- A cashier's check made payable to the district
- A certified check made payable to the district
- A bidder's bond executed by an admitted surety insurer, made payable to the district

Upon award to the lowest bidder, the security of an unsuccessful bidder shall be returned in a reasonable period of time, but in no event shall that security be held by the district beyond 60 days from the time the award is made.

8.3.6 Payment Bond

Under California Civil Code (Civil Code), §3247, contractors awarded a contract in excess of \$25,000 by a public entity for any public work must file a payment bond with, and approved by, the officer or public entity by whom the contract was awarded. A "payment bond" is a bond with sufficient sureties for the payment in full of the claims of all claimants and that by its terms takes effect to the benefit of all claimants so as to give them rights of action to recover upon this bond any suit brought to foreclose the liens provided for in law. Providers of architectural, engineering, and land surveying services provided as part of a contract for a public works project shall not be deemed as an original contractor and shall not be required to post or file the payment bond. To approve the payment bond, the district must confirm 1) the amount of the bond; 2) types of claims subject to the bond; 3) classes of claimants benefited by the bond; and 4) that

the bond is in the form of a bond and not a deposit in lieu of a bond. There are minimum amounts for the bond listed in the law.

8.3.7 Contractor's License

PCC §3300, requires:

Any public agency, as defined in PCC §1100, the University of California and the California State University, shall specify the classification of the contractor's license which a contractor shall possess at the time a contract is awarded. The specification shall be included in any plans prepared for a public project and in any notice inviting bids required pursuant to this code.

This requirement shall apply only with regards to contractors who contract directly with the public agency.

It is recommended that the district verifies the license status of the apparently successful bidder before awarding the contract.

8.3.8 Non-Collusion Affidavit

PCC §7106 requires every bid on every public works contract of a public entity to include a non-collusion declaration under penalty of perjury. The current wording required by the State of California is included in Appendix N.

8.3.9 Workers' Compensation

A certificate of Workers' Compensation Insurance is required by CLC §3700.

8.3.10 Drug-Free Workplace

Gov. Code §8355 has been applied to state-funded community college contracts for capital outlay projects. The statute requires that any organization or person awarded a contract shall certify that it will provide a drug-free workplace by doing all of the following:

Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying the actions that will be taken against employees for violations of the prohibition including:

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- Establishing a drug-free awareness program to inform employees about all of the following:
 - The dangers of drug abuse in the workplace
 - The person's or organization's policy of maintaining a drug-free workplace
 - Any available drug counseling, rehabilitation, and employee assistance programs.
 - The penalties that may be imposed upon employees for drug abuse violations
 - Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required by subdivision (a) Gov. Code § 8355 and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

8.3.11 Performance Bond and Insurance

Although not required by law, it is prudent practice for the district to require the contractor to provide a performance bond. Builder's risk insurance including, where appropriate, earthquake insurance may be required by the bonding company.

8.3.12 Minority, Women and Disabled Veteran Business Enterprise (M/W/DVBE) Participation

Notwithstanding any other provision of law, contracts awarded by any state agency, department, officer, or other state governmental entity for construction, professional services (except those subject to Chapter 6 (commencing with Section 16850) of Part 3 of Division 4 of Title 2 of the Government Code), materials, supplies, equipment, alteration, repair, or improvement shall have statewide participation goals of not less than 15% for minority business enterprises, 10% for women business enterprises and 3% for disabled veterans business enterprises. This statutory requirement is implemented by PCC §10115 (c). Neither the statute nor the regulations impose an absolute requirement that contracts awarded by a district meet the M/W/DVBE participation goals. The statute, regulations and applicable law prohibit the application of strict numerical set asides unless there has been a prior factual finding of discriminatory practices. Accordingly, the failure of a bidder to have met the participation goals will not by itself render the bidder non-responsive so long as there is a show of good faith efforts by the bidder to meet the participation goals.

Aside from Ed. Code §71028, if a district decides to apply participation goals for award of a contract, the provisions of PCC §2000 are also applicable. PCC §2000 defines good faith efforts and what constitutes compliance with the participation goals of M/W/DVBE. In addition, if a district decides to require participation goals for award of a contract, the bid documents for the project must conform with the requirements of PCC §2001 which requires that the bid documents issued by the district include provisions for the bidders to identify M/W/DVBE subcontractors and for application of the Subletting and Subcontracting Fair Practices Act (PCC §4100 et. seq.).

When the district decides to apply participation goals for award of a contract, the district will have to include in the bid documents 1) appropriate instructions for compliance with the participation goals, 2) standards for determining good faith efforts, 3) definitions of M/W/DVBEs, and 4) a process for certification of status as an M/W/DVBE.

If participation goals are required and the apparent low bidder has not met the participation goals for any one of the classes of M/W/DVBEs, award to that bidder can be made only if there is a determination that the bidder exercised good faith efforts to meet the participation goals. This determination is by necessity, factually intensive and entails subjective factors. Due to the factual and subjective nature of this determination, the existence or absence of good faith efforts is often fertile grounds for bid protest. Limiting the disruptive impact of bid protest relating to the issue of participation goals requires that the district have issued thorough, comprehensive, and unambiguous guidelines for establishing good faith efforts. In addition, to the greatest extent possible, review of the good faith efforts must be on as many objectively definable criteria as possible.

8.4 The Bid Package

Before going to bid, the bid package format including any add/deduct alternatives must be approved by the Chancellor's Office and the Department of Finance. All of the following phases of the project should be complete and free of errors with all of the appropriate code approvals: programming, schematic design, design development, preliminary plans and construction documents.

Commonly used (boilerplate) contract language must be updated and added to the construction contract and provided to the architect as early as possible during the construction documents phase for proper coordination. The district must reconcile the

contract language with the project specifications and reconcile it with the specification provisions prepared by the architect or engineer.

8.4.1 Bid Documents

The bid documents should include:

- Invitation to bid
- Instructions for bidders
- Contract
 - General Terms and Conditions
 - Supplementary General Terms and Conditions
 - Special Conditions
 - Schedule of Drawings
- Specifications
 - Division 1 General Requirements
 - Divisions 2-16 Technical Requirements
- Drawings
- Data for the Contractor
 - Geotechnical or other site studies
 - Structural tests & inspections (DSA, form SS103-1)
 - Other pertinent data

The bid documents may contain standard language and forms, but those standards must be checked for applicability to the project. The general conditions, specifications, and drawings must be coordinated with each other to eliminate any conflicts.

8.4.2 Invitation to Bid

The invitation to bid is advertised once in each of two consecutive weeks in a general circulation newspaper in the area of the project. The first advertisement must be at least 15 days before the bid opening. The advertisement includes the project, location, owner, architect, person to receive bids, place and time for receipt of bids, type of bid opening, project scope, type of construction, type of contract, time and place for

examining and obtaining bid documents, statement of affirmative action and bonding requirements.

8.4.3 Instructions for Bidders

The Instructions for Bidders give the bidder all the information on the bid process:

- 1) Bid Preparation: the proposal, bid security, contractor qualifications, subcontractor listing, affirmative action forms, non-collusion affidavit.
- 2) Project Information: obtaining bid documents, pre-bid meetings, job walks, submission of questions, and addenda.
- 3) Bid Procedures: interpretation of documents, submission of bids, bid opening, bid evaluation, responsive and responsible bidder, withdrawal of bids, rejection of bids, bid protest, award procedure.
- 4) Other Information: financial, legal, procedural or construction items that the district considers crucial and wants to be certain the contractor has considered them in preparation of the bid proposal.

8.4.4 Contract

The contract documents include the contract, the terms and conditions of the contract, the DSA approved drawings and specifications (see Chapter 7.12.2 for more details). The general terms and conditions cover general requirements and procedures that do not change and are used by the district from project to project. The supplementary conditions cover project specific information, dated information such as wage rates, and other additions to the general terms and conditions. The schedule of drawings names each drawing with a title and date, thereby incorporating it into the contract. The specifications cover the general construction requirements and technical specifications.

The content of the drawings and specifications were discussed earlier in the chapter on construction documents.

8.4.5 Terms and Conditions of the Contract

The terms and conditions of the contract should be checked against the specifications to eliminate redundancy and conflicts. The contract should be clear, comprehensible, to the point and must be complete and fair to prevent unfair documents which assign undue burden or risk to the contractor that could increase the price and construction claims. The terms and conditions should protect the owner from an inexperienced,

unethical or litigious contractor while setting forth a smooth, workable process for the experienced contractor.

The general terms and conditions set forth:

- The responsibilities of the owner, contractor, architect, inspector and construction manager, if applicable
- All the normal procedures during construction for meetings, construction schedule, quality control, corrections, clarifications, submittals, changes, payments, reporting, records, protection of persons and property, etc.
- All the safeguards in case of problems, such as insurance, bonds, dispute and legal resolution, termination, delays, warranties, clean up, etc.
- All the close-out procedures such as punch lists, occupancy procedures, liens, record documents, commissioning, etc.

8.4.6 Bid Alternates

The districts may include either additive or deductive alternates in the bid package as approved by the Chancellor's Office and DOF. The dollar value of the alternates should not vary beyond 10 percent of the bid estimate for the total project. The extent of the alternates should be carefully delineated in the drawings and specifications. Alternates should be carefully checked for coordination with the general terms and conditions and specifications.

Owner Allowances alternatives are *not* acceptable for state funded projects. Contact your FPU Specialist for further details.

The bid form must list the alternates. The instructions to bidders should indicate that the district reserves the right to accept none, all, or any combination of the alternates in its determination of the lowest bidder.

8.5 Request for Approval to Proceed to Bid

Districts should submit one copy of each of the following to the Chancellor's Office to request approval to proceed to bid:

- A signed letter on district letterhead requesting approval of working drawings, proceed to bid authority and, if applicable, explanations of any scope or cost changes made to the project since it was approved by State Public Works Board (PWB) — this letter must certify that the project is:

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- Within scope as approved by the Legislature
 - Within cost as approved by the Legislature, and
 - CEQA requirements have been met
 - JCAF 31 with a side-by-side comparison and justification of changes from the Preliminary Plan approved JCAF 31
 - Contrasts space differences between the preliminary plan and working drawings
 - Current Summary of Costs (JCAF 32) and Construction Schedule located on the base of the JCAF 32
 - Current Quantities and Unit Costs (architect's detailed cost estimate)
 - Division of State Architect stamped final drawings and project specifications
 - 2 copies (11" x 17") of the site plan, architectural floor plans, and elevations
 - Bid Form
 - Bid alternates must be clearly identified on the drawings and in the specifications
 - Funding sources and related scope must be clearly stated (i.e., state vs. district funds)
 - Alternative bidding methodology or multiple prime bidding must be discussed with the Chancellor's Office in advance

The Chancellor's Office reviews the district's submittal and prepares the items listed below:

- Compelling justification and analysis for a scope or cost change if either varies from the approved descriptions or amounts — any potential scope or cost changes should have been discussed with Chancellor's Office staff prior to inclusion in working drawings
- If the project is not within scope and/or cost, the district will need to allow an additional six weeks for review and possible PWB action (refer to Section 8.7 for details)
- DF14D requesting Approval of Working Drawings and Proceed to Bid
- Cost history for the project
- Other related documents as needed (i.e., Twenty-Day Letter)

The letter requesting approval to proceed to bid should notify the state if the district is seeking authority to use a different bidding method, e.g., single contract to a general contractor (“Prime Contractor” method) or multiple primes. The letter should also notify the state if the district is including deductive or additive alternates in the bid specifications.

The construction schedule located at the bottom of the JCAF 32 should be updated for the following dates by completing a change request in FUSION:

- Advertise Bid for Construction
- Award Construction Contract
- Advertise Bid for Equipment (may request at 50% completion of construction)
- Project Completion

The bid form should explain deductive alternates and additive alternates being bid with the project. Additive or deductive alternates may only be used by the district with approval by the Chancellor’s Office and DOF prior to bidding. The bid form should explain the method of bidding if the district intends to combine projects or use phased, multiple primes, or other alternative bidding methods.

The Chancellor’s Office will review the request and, if it concurs with the request, will submit the DF14D to the DOF to request approval of the working drawings and proceed to bid. If the Chancellor’s Office does not concur with the request, Chancellor’s Office staff will notify the district. The signed DF14D authorizes the district to proceed to bid and affirms the project’s scope, funding, additive and deductive alternates and bid method (see Appendix P for more information on DF 14Ds).

The Chancellor’s Office will review the scope, cost, code approvals, alternates and documents for general content, quality, and completion. If the scope and cost are within budget and consistent with the preliminary plans as approved, but the code approvals or documents appear to be incomplete, the Chancellor’s Office will notify the district to request updated documents. If the scope and cost are within budget but indicate significant design changes from the approved preliminary plans, the Chancellor’s Office will evaluate the changes and decide whether separate approval of the changes is required before granting approval of the working drawings and proceed to bid. For further details contact your FPU Specialist.

The control language in the Governor’s Budget enactment bill states that proceed to bid approval must occur before June 30th of the fiscal year of appropriation. Districts need to keep this deadline in mind when timing their submittal for approval. Otherwise, the funds for the construction phase will automatically revert per the control language.

Once DOF approves the working drawings and authority to proceed to bid via a signed DF14D, the Chancellor’s Office will notify the district. Subject to local action, the signed DF14D authorizes the district to proceed to bid. The district should make every effort to go to bid within 60 days after receiving approval to proceed to bid. The district is responsible to put the project out to bid during the life of the appropriation and should be intimately familiar with the availability of state funds for the project.

The district should not commence with bidding prior to the receipt of the signed DF14D providing such authority. Proceeding to bid prior to receipt of the signed DF14D may be construed as “out of process” and result in the loss of the project. DOF can require the district to repay any/all funds received when a project is determined to be out of process.

8.5.1 Recognized Deficits

“Recognized deficits,” (cost increases above the original estimate necessitating that additional funding may be needed prior to bidding to build a project as designed) should be discussed with the Chancellor’s Office prior to the request for approval to proceed to bid. When the bid estimate exceeds the budget, the Chancellor’s Office policy is to require the district to value engineer the project to bring it within the appropriation amount. Any change in the project conditions should be explained in the analysis. The district should submit a side-by-side comparison of the original estimate and current cost estimate with explanations for the differences.

A decision may be made to proceed and bid a project with a recognized deficit, provided there are appropriate deductive alternates or additional local funding to apply to the project in the event the bid exceeds the budget appropriation.

8.6 Bid Process

The steps in competitive bidding are:

- 1) Preparation of the bid documents**
- 2) Notice inviting bids**

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- 3) Pre-bid meeting, job walk, responses to pre-bid questions and addenda
 - 4) Bid opening and evaluation
 - 5) Award

Preparation of bid documents is covered in Chapter 7 with additional comments in Chapter 9 on construction management.

8.6.1 Pre-Qualifying Bidders

The district should consult its legal counsel on the applicability of pre-qualifying bidders. There are a number of disadvantages to pre-qualifying bidders because it may be illegal for community colleges. The district has to be extremely careful about being consistent setting up formal criteria, forms, and processes. If a bidder is disqualified, it can appeal which is time consuming and may hold up the project.

All bidders must receive the same communications from the district. The district may not, directly or indirectly, do anything to limit the bidding.

8.6.2 Notice Inviting Bids; Opening and Reading of Bids

In accordance with Ed. Code §81641, a district must publish the notice calling for bids or proposals in newspapers of general circulation where the district is located at least once a week for two weeks prior to bid opening. Trade publications are not considered newspapers of general circulation. A reasonable time must be allotted between notice and bid opening for an adequate number of contractors to respond to all the requirements of the Instructions to Bidders.

The bid proposals are publicly opened and read at the time and place stated in the notice calling for bids. No bids may be accepted after that time.

8.6.3 Bid Announcement Meeting, Job Walk and Addenda

There should be a meeting to help the bidders with the instructions and to provide further clarification of expectations.

There should be a mandatory job walk to allow the bidders to view the site in detail. If such a walk is afforded bidders, districts should be wary of any bidder that bids sight unseen.

Districts may elect to use a process, with deadlines, whereby bidders submit written questions about the project. The architect responds to the questions by issuing a formal written addendum to the request for bids.

8.6.4 Bid Opening and Evaluation

A community college is required by PCC §20651(b):

The governing board shall let any contract for a public project, as defined in subdivision (c) of PCC §22002, involving an expenditure of \$15,000 or more to the lowest responsible bidder who shall give security as the board requires or else reject all bids.

The bid opening must be public at the place and time of the notice. No bidder can bid after the opening.

An exception is provided under Ed. Code §81645 for data processing or telecommunications systems where the district board may contract with a party who has submitted one of the three lowest responsible competitive bids or proposals.

The architect and project manager should help evaluate the bids with the district. If the apparent low bidder is considered responsive, responsible and is within the budget, then the district can proceed to obtain permission from the Chancellor's Office for award of contract. On state-funded projects, the project manager and/or construction manager is not typically hired until after contract award.

8.6.5 Responsible Bidder

Award of a contract can only be made to a "responsible" bidder. Responsibility entails a number of factors and considerations ranging from financial capacity to quality or workmanship on prior projects. In considering the responsibility of bidder, it must be kept in mind that a district cannot rank bidders and their relative responsibility. The California Supreme Court has made clear that responsibility is not a relative concept; that is unless a bidder is deemed non-responsible, a district cannot award to a "more" responsible bidder. When there is determination made that the apparent low bidder is not responsible, the district must notify the bidder of the determination, the basis of the determination, and the bidder must be afforded due process rights by presentation of evidence of responsibility at a hearing. Findings of non-responsibility are typically based on subjective considerations; with the legal obligation imposed on districts to afford the

non-responsible bidder due process rights and a hearing. Almost inevitably, the bidding process will be disrupted.

Legal counsel should be consulted if a district desires to find a bidder not responsible.

8.6.6 Responsiveness of Bidder

California courts have consistently held that the concept of responsiveness does not extend to every requirement of the call for bids. Generally, a bid proposal is deemed responsive if it meets the “material terms” of the call for bids. If there is a finding of non-responsiveness, the bidder must be notified of the basis of the finding and afforded an opportunity to rebut the finding. Unlike the finding of non-responsibility, California courts have held that the bidder is not entitled to due process and a hearing on the finding of non-responsiveness.

Legal counsel should be consulted if a district desires to find a bidder non-responsive. There is much case law that must be considered in these situations.

8.6.7 Bid Withdrawals and Protests

Under PCC §5100 — 5107, the bidder may withdraw its bid if it has made a mistake in completing the bid proposal. The bidder must notify the public agency of the mistake, specifying in detail how the mistake occurred, in writing, within five days of the bid opening. The public agency must make a factual determination that the nature of the mistake justifies granting consent. The agency may either proceed to award to the next lowest bidder or reject all bids and rebid the project. The bidder that withdrew may not participate in the rebid of the project. Changes after bid opening will not be accepted.

The project must be rebid if the three lowest bidders withdraw or are considered not responsive or not responsible. The Chancellor’s Office must be notified so they can inform DOF of the issue.

Bidders may protest the award of a contract on any number of bases. When a bid protest is filed by any bidder, legal counsel should immediately be contacted by the district for advice and recommendations for disposition of the bid protest. Districts should consider the inclusion in the Instructions for Bidders provisions addressing the process for filing, review, and disposition of bid protests. This provision should be structured so that the process is clearly defined at the district level. If the district disposition of bid protest is not satisfactory to the protesting bidder, the bidder is entitled

to seek judicial relief. A protest can be time consuming and may cause project delay with inflationary cost increases generally borne by the district; hence, a district should make every effort to follow correct and appropriate bid procedures.

NOTE: Districts are cautioned that case law includes a judgment wherein all bids were thrown out and the project had to be rebid when additive or deductive alternatives were selected out of sequence to maximize the use of funds. The court interpreted that having knowledge of who the bidders are when selecting alternates can provide an opportunity for preferential selection of contractors contrary to the provisions of law.

To comply with the court's interpretation, district may prioritize their alternatives prior to opening the bid and select them in sequence until funds are fully obligated or select the additive and deductive alternates to apply to the project prior to having knowledge of the identity of each bidder. (see *FTR International, Inc. v. City of Pasadena* (1997), 97 D. R. R. 3603)

8.7 Request for Approval of Bid Award

The district should post-qualify bidders upon receipt of bids for the project, evaluate bids and bid submittals, and submit two copies of the following documents to the Chancellor's Office to request permission for approval of bid award and to have the DOF encumber and release construction funds:

- A signed letter on district letterhead the lowest qualified bidder and the preferred bid alternates, if any
- Bid tabulation listing all the base bids and bid alternates, if applicable
- A copy of the bid the district intends to award and a list of subcontractors
- Board of Trustees approved action item selecting lowest qualified bidder (**must state "subject to state approval and availability of funds"**)
- Revised JCAF 32, if cost changes due to bid award
 - District will need to complete a "cost" change request in FUSION to update the JCAF 32

If the district does not select the lowest qualified bidder, written justification must be submitted to the Chancellor's Office, along with the above listed information. If the selected bid is within budget, the Chancellor's Office will complete a DF14D requesting approval to award bid from DOF. When multiple prime or trade contracting methods are

used, the district must submit a copy of each trade's bid which the district intends to award.

If the selected bid is higher than the appropriation, the district must submit an analysis of the reasons the bid proposal exceeds the pre-bid estimate to the Chancellor's Office. The analysis should include:

- A letter detailing the district's recommendation for addressing the cost overage, i.e., taking deductive alternate(s), reducing the project cost (including the proposal to reengineer the project), and/or increasing local funding
- Bid tabulation listing all the base bids including all bid alternates
- A copy of the bid the district intends to award
- Board of Trustees approved action item selecting lowest qualified bidder (must state "**subject to state approval and availability of funds**")

Districts must assume that project augmentations with state funds will not be possible regardless of the reasons for high bids; and, every effort must be made to maintain project costs within the appropriation (available funds) or provide other sources of funds.

If the selected bid is below the appropriation for state funded projects, the district should not seek to use the excess funds for other purposes related to the approved project; state regulations require that excess funds must be reverted, if not part of the authorized scope.

Districts should ensure that proposed bids are effective for at least 90 days to allow sufficient time to process the bid approval before bids expire. In the event that augmentations and/or possible DOF action may be necessary this minimum time period should be increased to at least 120 days.

8.7.1 Bid Augmentations

Authority does exist, when there is a compelling need to do so, for the DOF and the PWB to augment capital outlay projects as set out in Gov. Code §13332.11. However, the **Chancellor's Office has a long-standing policy of not augmenting** capital outlay appropriations given the districts' responsibility to maintain projects within the approved cost and to broaden the number of projects that can be supported by the limited state funds.

Districts should value engineer a project to bring the projected costs within budget prior to the bidding stage (see costing estimating in Chapter 7, Section 7.6 for detail) and make every effort to obtain accurate pre-bid estimates.

Augmentations may be considered if significant modifications to the existing working drawings were required by a reviewing agency and bid results reflect such increases. Before requesting an augmentation due to cost increases, the district will be expected to have reengineered and/or value engineered the project at least once to reduce costs and make full use of deductive alternates.

Districts must be familiar with bid times and other factors affecting processing time and consider these when developing pre-bid cost estimates. Districts are also expected to coordinate the development of the project with all parties (faculty, administration etc.) prior to advancing the project to the working drawings stage. Augmentations will not be considered for the following:

- Delays in placing the project out to bid or during construction
 - Due to the need for further design development
 - In anticipation of a better bid market resulting in lost purchasing power over time
- Delays in scheduling caused by regulatory agencies
- Inaccurate estimating — bid results that substantially vary from the pre-bid cost estimates
- District or architect initiated changes to the project
- Building a project with a modified scope by including additive alternates (or not applying deductive alternates) as agreed at the proceed to bid stage

After a district analyzes the bids and its activities leading up to the receipt of bids and determines that the project warrants an augmentation, it should submit **three copies** of the following to the Chancellor's Office in the same manner as a Final Project Proposal:

- A bid tabulation comparing the authorized funds with all bids after application of **all** deductive alternates
- A request for augmentation with:
 - a final cost estimate at the current CCCI based on receipt of bids,
 - a complete narrative description justifying the need for such augmentation

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- Explanation of the efforts made to value engineer the project and reduce costs
 - Calculation of the amount to be requested after applying all deductive alternates and eliminating all change orders not resulting from unanticipated site conditions or increased regulatory requirements

All augmentations are seen as a “change in cost” requiring formal notification to the PWB and possibly the Legislature. As a result, additional time is needed to process a request to accept a bid when it includes an augmentation request (see Section 8.7.2 for detail). Each request is subject to approval by the Chancellor’s Office, DOF and the PWB. In certain circumstances, augmentation requests may need Legislature approval or a special appropriation. The Chancellor’s Office considers many factors when determining whether to support an augmentation request. If approved by the Chancellor’s Office, the request will be forwarded to DOF for review and approval. The Chancellor’s Office and DOF will take into consideration whether the appropriation is still active, whether sufficient uncommitted funds remain in the bonding authority, the timing of the request, and the district’s justification.

8.7.2 Twenty-Day Letter

A “Twenty-Day Letter” to the Joint Legislative Budget Committee presents the justification for a project cost or scope change and is prepared by the Chancellor’s Office when a project:

- Requires an augmentation of state funds of at least 10 but less than 20 percent of the construction cost
- Requests the state to recognize a change in Legislative authorized scope, or
- Seeks to recognize a 10 percent or greater increase in project cost funded through non-state sources

When a Twenty-Day Letter is required for a preliminary plan change, districts must submit preliminary plans for approval at least 70 days before the anticipated PWB meeting. This allows for the normal 45-day processing time for preliminary plan approval plus 25 days to process the Twenty-Day Letter. In order to meet state funding deadlines, preliminary plans must be approved, and funds for working drawings released by the PWB no later than June 30 of the appropriation fiscal year; districts must plan accordingly.

A request for approval of bid award with cost increases requires a Twenty-Day Letter; the bids need to be active for a minimum 120 days to process the Twenty-Day Letter.

8.8 Optional Bidding Methods

The most common method to bid state-funded capital outlay projects is the “Prime Contractor” method wherein a district contracts with one general contractor for the entire construction project. The general contractor, in turn, may use numerous subcontractors to complete the project. However, districts are increasing their use of other bidding methods. Alternative delivery methods that may be bid by the community colleges under current state regulations are:

- Multiple prime contracts
- Phased bids
- Combined bids
- Design-Build (requires a successful design-build record and prior Chancellor’s Office approval, refer to Section 8.8.4 and Chapter 6, Section 6.5.2.2 for detail)

These and any other alternative methods must be approved by the Chancellor’s Office and DOF prior to approval to proceed to bid and should be discussed at final project proposal submission (see refer to Chapter 5 for detail).

8.8.1 Multiple Prime Contracting

This method requires the district to hire a construction manager who bids out the project in a series of packages. As a result, there is not one prime contractor but several that must be carefully coordinated by the construction manager. On state-funded projects, the project manager and/or construction manager is not typically hired until after contract award. The process eliminates the general contractor in favor of a construction manager. The multiple prime contracting delivery method has several advantages, including but not limited to:

- The selection of a construction manager in lieu of a general contractor is based upon qualification rather than low bids, thereby reducing the possibility of getting an inexperienced or litigious contractor
- Subcontractors can be required to carry performance bonds and insurance

Some of the disadvantages of multiple prime contracting are:

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- The process requires increased management and controls due to the number of prime contracts. This can escalate costs and require special contract conditions, advertising, etc.
 - The construction manager cannot guarantee cost or time performance
 - Each contract may require separate action by the district's Board
 - Each contract has a 10 percent limit on changes
 - If one of the contractors fails to perform, it may be difficult to prevent delays for the other contractors
 - Subcontractors may not know how to act as prime contractors

8.8.2 Phased Bids

A district may decide to do phased bidding when it is not feasible to use a single contractor for all aspects of the project.

All phased bids must be approved by the Chancellor's Office and DOF. Phased bids rely on extremely accurate cost estimates and should ensure that early bids are not cost prohibitive which may increase the total project cost and exceed the previously authorized budget. Each of the phased bids should address the insurance requirement for that scope of work.

8.8.3 Combined Bids

Districts may, with *prior approval* from the Chancellor's Office and DOF, combine a project with another when significant cost savings are identified and justified. Districts should submit justification (e.g., cost savings, economies of scale analysis) to the Chancellor's Office. The project must be bid, however, in a manner that allows DOF to track the finances of each project separately. The district must either require a breakdown of the bid by project, or develop an accurate assessment of the percentage of the bid which will apply to each project.

8.8.4 Design-Build

The district may, with prior approval from the Chancellor's Office, use the Design-Build option for state-funded projects (refer to Chapter 6, Section 6.5.2.2 for detail). The Chancellor's Office will only consider this option for districts that have previously completed a successful locally-funded Design-Build project. Design-Build is a method of

capital project delivery that combines the design and construction functions and vests the responsibility for such functions with one entity — the Design-Builder. A Design-Build entity includes an architect and contractor, so only one contract exists between the district and the Design-Build entity. *Find Design-Build Guidelines at:*

http://extranet.cccco.edu/Portals/1/CFFP/Facilities/Reference_Materials/Guidelines/CC_DB_Guidelines.doc.

CHAPTER 9: CONSTRUCTION PHASE PROCESS

- 9.1 Overview**
- 9.2 Construction Management**
- 9.3 Preventing Contractor Legal Claims**
- 9.4 Construction Schedule and Delays**
- 9.5 Testing and Inspections**
- 9.6 District Payments to Contractors**
- 9.7 Request for Reimbursement of Progress Payments**
- 9.8 Contract Change Orders**
- 9.9 Construction Contract Closeout**
- 9.10 Appropriation Expiration Dates**
- 9.11 Equipment Commissioning**
- 9.12 Post Occupancy Evaluation**

9.1 Overview

Construction management begins during the project design phase. This chapter covers the construction management process from bid award through DSA certification and post occupancy review. The construction management process involves applying effective management techniques to the construction of a project through completion, controlling time, cost, and quality. See Chapter 6 for more information on Construction Management.

For state funded projects the construction management budget is funded in the Construction phase and is not released until after bid award. If districts wish to have the construction manager participate earlier than just the oversight of the actual construction, they should budget additional funds in the Working Drawing phase of the project.

9.2 Construction Management

Construction management is the management of the construction of a project, as defined by the contract documents and described in the architectural plans (working drawings) and specifications, through the steps of construction:

- 1) Award of contract (Bid Award)
- 2) Pre-notice-to-proceed meetings and submittals
- 3) Notice to Proceed
- 4) Ongoing construction administration
- 5) Ongoing quality control, testing and inspection
- 6) Administration of contract changes
- 7) Dispute and claims negotiation and resolution
- 8) Construction close-out
- 9) Equipment commissioning and occupancy
- 10) Post-occupancy evaluations

The objectives of construction management are to:

- Complete the project in accordance with the contract documents
- Maintain the scope, budget, schedule and quality level

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- Establish clear records, warranties, and instructions for the operation of the project
 - Prevent contractor delays, disputes and claims
 - Assure quality construction
 - Minimize contract changes and owner caused delays

A construction manager (CM) typically directs the construction management process to accomplish these objectives. The CM has the authority and responsibility to represent the district in dealings with the contractor. And the CM coordinates the Inspector of Record (IOR), architect, and special design or testing consultants during the construction phase.

9.2.1 Participants and Responsibilities of the Construction Team

Owner's representative — The project manager, construction manager, staff or consultant, has the authority and responsibility to represent the district in dealings with the contractor. This person also coordinates the direction of the inspector, architect, and special design or testing consultants during the construction phase.

District project/construction manager — This person should be experienced in current construction technology and procedures.

Architect or engineer — Produces the construction documents who along with their sub-consultants have design responsibilities during construction which include providing clarification, reviewing contractor submittals, drafting changes, reviewing the work, and providing other services to the extent of their contract.

Inspector of Record (IOR) — The IOR must be approved by DSA and is responsible for verifying contractor compliance with code and monitoring construction quality. There may be an additional IOR if some of the fabrication is done off site to certify the work performed off site.

Special testing consultants/Testing Lab — Tests various materials and systems during construction.

Educational program representative — A building committee or user department representative who represents the end users of the facility during construction keeps the users informed on the progress of the work and represents them if changes are made in the project. This person should understand the construction process and be able to

assist the construction manager in minimizing user generated change orders. Often this role is filled by a committee of end users. (Change orders are explained later in this chapter.)

Contractor's superintendent — The contractor's on-site manager represents the contractor to the district.

9.2.2 Bid Award

Although the construction process begins with bid award, contract documents written prior to bid must be in place to protect against all possible problems. Construction management includes determining why the low bidder was able to bid low and act accordingly. Frequently, the lowest bidder is aware of one or more of the following conditions:

- The contractor has access to cheaper materials or labor
- The contractor sees ways to claim extras based on errors or omissions in the contract documents
- The contractor expects to make claims based on district caused delays
- The contractor has means or methods that are faster and/or more efficient
- The contractor sees ways to reduce quality to cut costs

9.2.3 Construction Organizational Meeting and Submittals

Prior to the start of construction, the construction team should meet to clarify the reporting procedures. If “partnering” (see refer to section 9.3.1. for details), a formal agreement among members of the construction team to meet objectives of all parties involved, is to be used, all parties must concur with the formal agreement and establish specific roles for each participant. The contractor provides:

- The executed contract
- Performance and payment bonds at 100
- Insurance (unless owner provided)
- Proof of license, and/or substitutions at this time
- Any documents that provide the baseline for measuring progress and payment
- The “schedule of values” (a prorated calculation of construction costs)

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- Construction schedule.

9.2.4 Notice to Proceed

The formal “notice-to-proceed” establishes the start date of construction and gives the contractor permission to commence work.

9.2.5 Ongoing Construction Administration

Construction administration by the owner’s representative, project manager and/or construction manager, includes interaction with:

- Contractors on meetings, submittals, clarifications, change orders, payments, schedule, inspections, records, contract close-out procedures and all other aspects of construction
- District representatives on progress and expenditure reports, change orders, code approval reviews, and decisions
- The architect and the IOR on their work

Aspects of construction administration such as ongoing quality control testing and inspections, contract change orders, disputes and claims, contract close-out procedures, equipment commissioning, and post-occupancy procedures are discussed in the remaining parts of this chapter.

9.3 Preventing Contractor Legal Claims

There are several ways to prevent legal claims by the contractor:

- The drawings and specifications should be understandable, complete and as error free as possible. However, a concise procedure should be clearly communicated to resolve any ambiguity in the documents including a clarification process and the order of precedence of the documents.
- The owner’s representative should maintain a good working relationship with the contractor. This includes regularly scheduled meetings, established lines of communication and decision, timely responses to contractor items, and fair negotiations. Regularly scheduled project meetings are the key to maintaining good working relationships. The inspector also should maintain a good working relationship with the contractor.
- The owner’s representative should carefully monitor the schedule, payments and inspection reports to assure that payments are coordinated with the work

performed and the schedule is maintained. The submittals, change orders and all other transactions should also be carefully monitored and logged.

- The owner’s representative should monitor the payment of sub-contractors to ensure the sub-contractors are receiving timely reimbursement for their work.
- There should be a mechanism for informal dispute resolution in addition to written procedures for resolving formal claims by the contractor. Industry best practices strongly encourage early resolution of potential disputes; consider addressing claims weekly rather than allowing the relationship and quality of work to worsen.
- All the appropriate bonds, insurance, termination clauses and other legal safeguard documents should be in place.

9.3.1 Mediation and Arbitration

Mediation and arbitration can be effective resolution methods for handling disputes prior to formal legal action. However, arbitration’s most significant disadvantage is that arbitrators tend to “split the difference.” If arbitration is used, the district should be certain that the general conditions of the contract outline the arbitration procedures in detail, including any rights to discovery and recovery of legal fees.

If a dispute escalates to a formal claim, the district must consult legal counsel experienced in construction litigation; and, on state-funded projects, the Chancellor’s Office must be notified if there is a possibility that the claim will exceed the construction contingency or delay the project.

For claims of \$375,000 or less, PCC § 20104 et seq. requires the contractor to submit its claims with sufficient supporting documentation. Subject to requesting additional substantiation, the district must respond to the claim within the time frame set forth in the code. If the district response is not satisfactory to the contractor, a “meet and confer” process is required before the contractor may submit a Gov. Code § 900 et seq. claim. If the meet and confer process does not resolve the claim, the contractor may file its GC claim and on denial of that claim can proceed to file a lawsuit on its claim.

Under PCC §20104.4, even after the lawsuit is filed, there is a mandatory mediation unless waived by the parties. Whether or not the mediation alternative is used, the lawsuit, per PCC §20104.4, will not proceed through the judicial system until after a judicial arbitration is conducted. Unlike arbitration usually provided for by contract or agreement by the parties, judicial arbitration arises by operation of law and is not

conclusive and binding. Instead, if a party is dissatisfied with the result of judicial arbitration, relief may be sought through a trial de novo by a court. If the right to a trial de novo is requested after judicial arbitration, PCC §20104.4(b)(3) provides that the filing party will pay the attorney fees of the other party arising from the trial de novo if the filing party does not obtain a more favorable judgment.

9.4 Construction Schedule and Delays

The construction contract should include the following conditions to reduce the potential for construction delays:

- The contractor should submit a construction schedule for the district to review and approve as a condition of the contractor's first payment
- The district should receive monthly updates of the construction schedule as a condition of progress payments
- The district, as owner, will own the "float" (extra time and associated costs) that may accrue during construction
- Acceptable delays and the number of non-compensatory days of delay (bad weather days) that will be allowed should be clearly defined
- Each change order should identify its impact on the construction schedule, thereby encouraging timely completion of the project
- The contractor should coordinate the construction schedule with the work completed and contractor payments

The construction schedule is critical to the project and may have a direct impact on construction costs under the following conditions:

- If the district delays the contractor, causing the contractor to spend extra time, then the contractor may claim additional costs
- If the contractor delays the district by not finishing on the agreed upon completion date, the district may claim additional costs in the form of liquidated or actual damages

PCC §7102 effectively prohibits enforcement of any contract clause limiting liability for delays to a time extension. Under §7102, if a delay is caused by the owner (district) and the delay is unreasonable under the circumstances involved and outside the contemplation of the parties at the time of contract formation, a "no damages for delay" clause will not be enforced to preclude the contractor's recovery of delay damages.

Although a “no damages for delay” clause will not be enforced, to limit the extent of potential delay damages, districts should consider including terms in the contract documents which define and limit the items of delay damages and the manner in which such damages are quantified.

Monitoring the schedule and responding promptly to critical path items are considered crucial to the prevention of delay claims. The progress of each subcontractor should be discussed at weekly meetings.

9.5 Testing and Inspections

All inspectors for school projects under the jurisdiction of DSA (K-12 and community colleges) must pass the DSA Project Inspector Examination to become certified; and, in accordance with Title 24 of the California Code of Regulations and the Field Act, community colleges are required to have a DSA approved inspector on major capital construction and Americans with Disability Act construction projects. The inspector’s job is to ensure contractor compliance with code requirements and complete quality work in accordance with the contract. See Chapter 6 for more information on state cost guidelines for testing and inspection.

DSA approves an inspector to work on a particular project based on the inspector’s experience. The DSA approved inspector is considered an agent of DSA and under the supervision of the DSA field inspector; however, the district may elect to have the inspector report to the construction manager on a daily basis.

Typical cost overruns for inspection occur when:

- Deferred DSA approvals take more time and inspection than expected
- The inspector works extra hours because of changes in construction schedules or construction or design problems
- The inspector incurs unexpected travel expenses going to fabrication sites away from sites or out-of-state
- Contract changes require extra DSA fees, approvals and inspections
- More than one inspector is required because of the nature of the construction

Districts can control inspection cost overruns by:

- Limiting design of items that will have deferred DSA approvals

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- Charging the contractor for inspections exceeding those in a baseline schedule, and
 - Minimizing change orders

In addition to a project inspector, specialized testing and inspection may be required for concrete, welding, roofing or other applications. The extent of these tests should be explained in the specifications and included in the contract. The cost of testing may be reduced by bidding the lab testing and by including a testing schedule in both the contractor's and the lab's agreements.

9.6 District Payments to Contractors

At the beginning of the project, the contractor submits a construction schedule to the district; this schedule includes the estimated cost per trade and monthly cash flow needs of the contractor for the duration of the project. This schedule becomes the baseline for establishing the contractor's progress payments. As major phases or construction activities are accomplished, progress payments are made by the district.

Districts typically require a contractor to submit monthly reports and record documents as a condition of each progress payment. Prior to making each payment, the district should carefully evaluate each payment request by checking the amounts requested against the schedule of cost per trade and the construction schedule. These payments should accurately represent the percent completed for each trade. Monthly reports submitted by the contractor should identify the conditions and extent of payment for off-site materials, on-site equipment and materials not yet installed in the project. These monthly reports ideally would be used to generate the Quarterly Reports (refer to Appendix O for detail) that the district submits to the Chancellor's Office on state funded capital outlay projects.

9.6.1 Prompt Pay Act

The payment process prescribed by PCC § 20104.50 is referred to as the "prompt pay act." Under §20104.50, there is a 30-day period during which districts must make payment of a "proper" progress payment application. Failure to make payment within this 30-day period will subject the district to the legal rate of interest under the Code of Civil Procedure §685.010 (presently at 10% per annum) and liability for attorney fees incurred by the contractor to recover the "late" payments. PCC §20104.50 requires that a district return, within 7 days, any application for progress payments not deemed to be

“proper.” The return of an improper application must state in writing the reason(s) why the application is improper. If the return of an improper application occurs more than 7 days after receipt, the 30-day period to make payment is reduced by the number of days beyond 7 days in which an improper application is returned to the contractor.

To ensure payment by the contractor to subcontractors and suppliers, districts may require, as an express condition precedent to any disbursement of progress payment, the contractor’s delivery of Conditional Waivers and Releases conforming with Civil Code §8132 for itself and all subcontractors and suppliers receiving a portion of the pending application. In addition, to ensure that the prior payment has been properly disbursed, the contractor can be required to submit Unconditional Waivers and Releases covering the prior progress payment. Districts should consider the inclusion of a requirement that Certified Payrolls be submitted as a condition to disbursement of payment (see Lien Release Forms at <http://www.cslb.ca.gov/Resources/GuidesAndPublications/LienReleaseForms.pdf>).

The contract should specify any circumstances under which a district is entitled to retain withholdings from progress payments which would otherwise be due the contractor. Aside from withholdings for Stop Notices required by Civil Code 9450, districts may consider express contractual rights to withhold from progress payments back charges and other conforming work which has not been remedied.

After a district makes a progress payment on a state funded project, the district can use the payment documentation as a basis for submitting a claim for reimbursement to the Chancellor’s Office. In accordance with requirements of CGC, §13332.11, claims against a specific state appropriation can only be processed after the PWB and/or the DOF has taken action to approve that particular phase of the project.

Section 13332.11. (a) (1) Except as otherwise specified in paragraph (2), funds appropriated for capital outlay shall not be expended by any state agency, including, but not limited to, the University of California, the California State University, the California Community Colleges, and the Judicial Council, until the Department of Finance and the State Public Works Board have approved preliminary plans for the project to be funded from a capital outlay appropriation.

(2) Paragraph (1) shall not apply to any of the following:

(A) Amounts for acquisition of real property in fee, or any other lesser interest.

(B) Amounts for equipment or minor capital outlay projects.

(C) Amounts appropriated for preliminary plans, surveys, and studies.

(b) Notwithstanding subdivision (a), approvals by the State Public Works Board and the Department of Finance for the University of California and the California Community Colleges shall apply only to the allocation of state capital outlay funds appropriated by the Legislature, including land acquisition and equipment funds.

(c) Any appropriated amounts for working drawings or construction where the working drawings or construction have been started by any state agency prior to approval of the preliminary plans by the State Public Works Board shall be reverted to the fund from which the appropriation was made, as approved by the Department of Finance. A major project for which a capital outlay appropriation is made shall not be put out to bid until the working drawings have been approved by the Department of Finance. A substantial change shall not be made to the approved preliminary plans or approved working drawings without written approval by the Department of Finance. The Department of Finance shall approve any proposed construction bid alternates.

(d) The Department of Finance shall approve the use of funds from a capital outlay appropriation for the purchase of any significant unit of equipment.

(e) The State Public Works Board may augment a major project in an amount of up to 20 percent of the total of the capital outlay appropriations for the project, irrespective of whether any such appropriation has reverted. For projects authorized through multiple fund sources, including, but not limited to, general obligation bonds and lease-revenue bonds, to the extent otherwise permissible, the Department of Finance shall have full authority to determine which of the fund sources will bear all or part of an augmentation. The board shall defer all augmentations in excess of 20 percent of the amount appropriated for each capital outlay project until the Legislature makes additional funds available for the specific project.

(f) In addition to the powers provided by Section 15849.6, the State Public Works Board may further increase the additional amount in Section 15849.6 to include a reasonable construction reserve within the construction fund for any capital outlay project without augmenting the project. The amount of the construction reserve shall be within the 20 percent augmentation limitation. The board may use this amount to augment the project, when and if necessary, after the lease-revenue bonds are sold to ensure completion of the project.

(g) Augmentations in excess of 10 percent of the amount appropriated for each capital outlay project shall be reported to the Chairperson of the Joint Legislative Budget Committee, or his or her designee, 20 days prior to board approval, or not sooner than whatever lesser time the chairperson, or his or her designee, may in each instance determine.

(h) (1) The Department of Finance may change the administratively or legislatively approved scope for major capital outlay projects.

(2) If the Department of Finance changes the approved scope pursuant to paragraph (1), the department shall report the changes and associated cost implications to the Chairperson of the Joint Legislative Budget Committee, the chairpersons of the respective fiscal committees, and the legislative advisers of the State Public Works Board 20 days prior to the proposed board action to recognize the scope change.

(i) The State Public Works Board shall defer action with respect to approval of an acquisition project, when it is determined that the estimated cost of the total acquisition project, as approved by the Legislature is in excess of 20 percent of the amount appropriated, unless it is determined that a lesser portion of the property is sufficient to meet the objectives of the project approved by the Legislature, and the Chairperson of the Joint Legislative Budget Committee, or his or her designee, is provided a 20-day prior notification of the proposed reductions in the acquisition project, or whatever lesser period the chairperson, or his or her designee, may in each instance determine.

(j) The Department of Finance shall report to the Chairperson of the Joint Legislative Budget Committee, the chairpersons of the respective fiscal committees, and legislative advisers of the State Public Works Board 20 days prior to the proposed board approval of preliminary plans when it is determined that the estimated cost of the total capital outlay construction project is in excess of 20 percent of the amount recognized by the Legislature.

(k) Nothing in this section shall be construed to limit or control the Department of Transportation or the California Exposition and State Fair in the expenditure of all funds appropriated to the department for capital outlay purposes.

Approvals of each phase of each project are evidenced by signed DF14D "Requests to Proceed or Encumber Funds." The Chancellor's Office, Facilities Planning Unit completes the DF14D request in FUSION and notifies the district after DOF has approved the request. See Appendix P for more information on DF 14Ds.

The district must not proceed with any phase of the project until the DOF has approved that action with a signed DF14D. Districts proceeding with a project before receiving approval will be determined to be out of process, will forfeit further state funding and may be required to repay any state funds previously received for the project.

9.7 Request for Reimbursement of Progress Payments

Due to the phased nature of most capital outlay projects and the limited life of all state capital outlay appropriations, districts should request reimbursements timely so that all payments may be processed before the appropriations revert.

Beginning with appropriations in the 2007-08 Budget Act (Ch.171, Stats. 2007) and including all subsequent Budget Acts, all state Capital Outlay Program claim submittals shall be done using the FUSION database PROJECT Module only. See Section 9.10, Appropriation Expiration Dates.

9.7.1 Electronic Reimbursement Claims Process for State Funded Capital Outlay Projects

State bond funds are provided to community college districts using a Cost Reimbursement Claim procedure. Under this procedure, a district is required to submit electronically the following to the Chancellor's Office:

- A completed FUSION generated capital outlay claim form for each phase of each project being claimed. An expenditure recap sheet that provides the critical information contained on the contractor's invoice and the districts warrant that funded the payment. The recap sheet requires a description of the services purchased and identification of the individual payment made.
- Supporting documentation as needed to provide evidence of payments made to contractor. (If the description is for activities or items not normally part of the project referenced, the Chancellor's Office Staff will require the submission of the specific contractor invoices and district warrants that support the reimbursement claim form).

Reimbursement claims guidelines can be obtained through FUSION's Home Page — [eManual](#). The FUSION created claim can be prepared by staff, but final submittal is done by the district's Chief Business Officer (CBO). The CBO must be registered with the Chancellor's Office to receive authorization for reimbursement claim submission along with a four-digit password to submit claims electronically in FUSION. The capital

outlay reimbursement process requires separate claim forms for each phase of a project.

Reimbursement claims should not be submitted more frequently than monthly and for claim amounts less than \$5,000 unless a claim request is submitted as a final claim.

A project's anticipated progress payment schedule or prorated costs prepared by the contractor may indicate the need for the contractor to receive a "cash advance."

Seeking state funds to assist a district with financial hardship can now be requested under the Grant Financing Program on a case by case basis. Guidelines on Grant Financing Grant Claims can be obtained through FUSION e-Manual.

9.8 Contract Change Orders

Change order management is a critical aspect of any construction project. A change order is work that is added to, deleted from, or alters the original scope of work of a contract. The change order process should be addressed as comprehensively as possible in the contract documents especially as they concern Notices, Pricing, and Terms. In addition, the district is responsible for tracking change orders, including total cost, in the quarterly reports section of FUSION.

Notices: The contract documents should specify the manner, method and timing of contractor's notice of changes, and include provisions for notice of changes that do not strictly conform with the contractual language, and any claims for time or money are waived by the contractor.

Pricing: The contract documents should detail any alternative means available for pricing a change order. Alternatives should include time and material, fixed price, unit price, or application of an estimating manual. Regardless of the mechanism used to price a change, there should be some limitations on the extent to which indirect costs can be deemed part of the change.

It is easy to estimate the direct costs of labor and materials needed to incorporate a change into the project. However, estimating indirect costs that relate to the change order, such as project management oversight of the change, may be difficult. The contract documents need to consider and define the items which can be contractually included in pricing a change order. A good idea is to impose limits in the contract regarding how much direct costs can be marked up for profit and overhead.

Terms: Once scope and pricing of a change are agreed upon, a written change order must be prepared. Ideally, the change order will include a provision stating that the price and time adjustments reflected in the change order represent full and final payment for all direct and indirect costs with the contractor's waiver and release of any costs not included in the change order.

Note: Districts should be alert that contractors may claim additional funds for cumulative costs and time should the value of change orders become significant.

The total dollar amount of change orders should be kept within the amount specified for construction contingency; any costs in excess of construction contingency must be paid by the district. **On state-funded projects, change orders may not change the scope of the project without prior Chancellor's Office and DOF consent.** Regardless of the reasons for the change order, change orders in excess of 10% of the value of the contract also must be approved by the district board. If change orders are expected to exceed the project's contingency amount, the district may seek an increase within the appropriation on state-funded projects; however, to accomplish an increase within an appropriation, bid award must have resulted in bid savings and the bid savings and encumbrance period of the construction appropriation must be available. The Chancellor's Office must be notified in advance and must be provided with a complete list of all change orders to the contract with costs, time and explanations of work provided and scope modifications, if any. These requests require both Chancellor's Office and DOF approval and will be decided on a case-by-case basis. As a general policy, the only change orders that will be considered by the state when requesting an increase in the appropriation amount for state-funded projects are those that arose as the result of design changes required by regulatory agencies or unforeseen site conditions. Change orders initiated by either the architect or the district to enhance or modify the project will not be funded with an augmentation of state funds. Also, any single change order in excess of 10% of the construction cost amount is not allowed except in an emergency.

Change orders that affect the contract terms must be recorded with DSA and communicated to other concerned agencies. The additional fees charged by DSA or any other regulatory agency involved in the change order should be tracked as part of the cost of the change order. In the past, districts have been caught unaware by additional fees levied by DSA after the budget has been expended. See Chapter 8 for details on bid augmentation.

9.9 Construction Contract Closeout

The contractor generally owns the job until it is completed; unless there is a change of contractor during construction or until the owner has designated the project substantially complete for purposes of occupancy and has issued a “punch list.” The punch list, in essence, becomes the uncompleted contract. The district representative, project manager, construction manager, architect and inspector should agree on the list. Final commissioning and occupancy of the building must be coordinated to allow the contractor to continue work and complete the punch list.

9.9.1 Stop Notice

Subcontractors and suppliers are afforded the “Stop Notice” remedy if unpaid by the contractor. Per Civil Code §8200-8216, a Preliminary 20-day notice must be filed, unless the claimant is in direct privity of contract with the prime contractor, before a Stop Notice remedy may be sought. Once served with a Stop Notice, the district is obligated to withhold from funds otherwise due the contractor an amount equal to the principal amount of the Stop Notice and additional amounts necessary to cover litigation costs. Likewise, the Chancellor’s Office may be obligated to enforce the Stop Notice if received and suspend reimbursement of all claims, including approved but pending reimbursement claims on state-funded projects. The withholding for a Stop Notice should be made out of progress payments then or thereafter due the contractor and not from the amount retained by the district to ensure the contractor’s completion. Absent judgment on the Stop Notice, the district can generally release withheld Stop Notice funds only if: a) the Stop Notice claimant releases the Stop Notice; b) the contractor posts a Stop Notice Release Bond conforming with Civil Code §9364; or (c) the contractor prevails on a “summary proceeding” initiated under Civil Code §9400 et seq.

If the contractor misses the required completion date and the contract includes liquidated damages, the district must levee the liquidated damages against the contractor’s retention and final payment.

Prior to making the final payment on the contract, the district should ensure that:

- 1) All closeout submittals are received from the contractor including “as built” and “record” drawings, operations manuals, warranties, certification that subcontractors have been paid and any other documentation required in the specifications

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- 2) The final payment to the contractor has been approved by the district board and the Chancellor's Office Legal Affairs Division

9.9.2 Notice of Completion

The district should promptly record a "Notice of Completion" when all of the scope of work items have been completed, furnished or installed. This excludes punch list items of a corrective nature, but includes punch list items that are incomplete scope items. A properly recorded Notice of Completion limits the period for service of a valid Stop Notice to 30 days after the effective date of recordation. If a Notice of Completion is not recorded or if the notice is recorded prematurely, the time for service of a valid Stop Notice is 90 days from the date of completion.

The district must file the Notice of Completion and make all final payments prior to the appropriation expiration date for state construction funds (typically five years after the appropriation or reappropriation date). The Notice of Completion must be recorded at least three months prior to the appropriation expiration date to allow sufficient time for processing the final payment. Retention amounts cannot be paid to the contractor until 35 days after the Notice of Completion is recorded; and, the final payment request must be received at least 45 days prior to the appropriation expiration date.

In addition to closing out the construction contract, the construction manager must:

- Verify that all the required documents have been received from the testing agencies and closeout their contracts
- Verify the final inspection by DSA and payment of any additional fees to DSA and closeout the inspection contract
- Coordinate equipment and systems commissioning
- Coordinate occupancy
- Closeout the construction portion of architect and consultant contracts, coordinating the architect's role in commissioning
- Project Closeout of the construction phase with the Chancellor's Office on state-funded projects (see Section 9.9.4 for Project Closeout)

PCC §7107 requires that the final payment, including retention, be released within 60 days of project completion. For purposes of PCC §7107, completion is defined as: a) beneficial use and occupancy; b) acceptance; c) cessation of work for 100 continuous days or more not due to the fault of the contractor; or d) cessation of work for 30

continuous days or more and a filed Notice of Cessation or a Notice of Completion. Failure to make payment within this 60-day period subjects the district to interest liability of 2 percent per month on the improperly withheld amount and contractor's attorney's fees to recover the improperly withheld amount. If there is a dispute, the district may withhold from the final payment an amount not greater than 150 percent of the disputed amount; the amount exclusive of this limitation must be released within the 60-day period.

9.9.3 DSA Certification

The Division of the State Architect (DSA) updated its project certification process in August of 2014. The following features of the certification process have been developed:

Project Inspection Card

The project inspector signs off the applicable blocks and sections of the DSA 152: Project Inspection Card in compliance with DSA procedure PR 13-01 as work is completed rather than at the end of construction. A stop work order may be issued for failure to complete a section of the DSA 152.

Electronic Document Submittal

DSA launched a secure, cloud-based tool ([DSAbox](#)) allowing stakeholders to submit and collaborate on documents in real time. Stakeholders can see when a document was submitted to DSA and can access that document at any time.

Post Construction

As outlined in DSA procedure [PR 13-02](#), once aware that a project is fully constructed, occupied, or otherwise in use, DSA works with the design/construction team collaboratively to finalize all certification requirements/documents.

On day 60 following the construction/occupation/use of the project, if the project has not been certified, DSA will issue form DSA 301-N: Notification of Requirement for Certification to all parties associated with the project. Form DSA 301-N lists project deficiencies and the parties responsible for those deficiencies.

The parties then have 60 days to resolve deficiencies identified on form DSA 301-N in order to certify the project. At the end of the second 60-day period (day 120 following the construction/occupation/use of the project), if the project is not certified, DSA issues

form [DSA 301-P: Notification of Requirement for Certification](#) to all parties associated with the project. Like form DSA 301-N, form DSA 301-P is a list of deficiencies for the project and the parties responsible for those deficiencies.

Form DSA 301-P will be posted in the publicly viewable Certification Box (see below). Any party responsible for a deficiency may submit the missing documentation to the Certification Box. Districts and/or design professionals may submit form DSA 302: Response to 301-P to document how they've attempted to resolve deficiencies.

Certification Box

Projects that are occupied without certification are placed in the [Certification Box](#). Unlike DSAbbox, which is a place for stakeholders to access project documents, the Certification Box is open to the public.

9.9.4 Project Closeout — Required on All State-Funded Projects

State administrative regulations require that all projects financed with state bonds comply with Project Closeout procedures (refer to Appendix M for details). The Project Closeout procedures on state-funded projects are administered through the FUSION system. The main objectives of the project closeout procedures are to ensure the following:

- The project is complete with all state funds claimed and all disputes regarding project costs, if any, resolved;
- The project scope is consistent with that approved by the DOF and the Legislature;
- FUSION has been updated to show final Project Costs per the JCAF 32 and final Quarterly Report;
- The final JCAF31 in FUSION is consistent with the project as depicted in the district's certified Space Inventory; and
- The district followed Public Contract laws and regulations in the construction of the project.

Project Closeout Procedures

There are two phases in the Project Closeout process which require two Change Requests in the FUSION Project module.

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- 1) Project “Online” Change Request: Formal notification from the district that the facility is “Online” (i.e., occupied/in use) and the space created by the project, if any, included in the district’s Space Inventory.
 - 2) Project “Completed” Change Request: Formal notification from the district that the project is “Completed,” i.e., all state funds have been claimed, all disputes resolved, and the district has received a “Certification & Close of File” letter on the project from DSA.

Project “Online” Change Request

- Create a new Change Request in the FUSION PROJECT module.
- Designate project as “Online” by clicking the “Online” box in the project’s title screen.
- Revise the JCAF31 to reflect the final project space. This should be consistent with the project space entered into the district’s Space Inventory (note: this final JCAF31 will provide a record of the project space. FUSION will remove the space from the district’s 5-Year Plan when the Change Request is approved).
- Attach a side-by-side comparison of the project space as approved at Working Drawings and as entered into the JCAF31 and the district’s Space Inventory.
- Attach a copy of the Notice(s) of Completion to the Change Request.
- Submit the Change Request to the Facilities Planning Unit (FPU) for approval.
- E-mail the district’s FPU Specialist to alert them that a Change Request is pending approval.

Project “Completed” Procedures:

- Project “Online” Change Request has been reviewed and approved
- Create a Change Request in the FUSION PROJECT module.
- Designate the project as “Completed” by clicking the “Completed” box in the project’s title screen.
- Attach a letter on district letterhead to the Change Request certifying:
 - The project is complete and all reimbursement claims are settled;
 - The project was constructed as approved by DOF and the Legislature and as depicted in the district’s certified Space Inventory Report
 - The district followed Public Contract law in the construction of the project

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- Per the State Treasurer's Office, the district will retain all project financial records for period of no less than 35 years, including DF 14D forms, expenditure records and claims information.
 - Revise the JCAF32 to reflect actual project costs (both state and local) and the actual project calendar.
 - Complete the final Quarterly Report for the project. The project costs should be consistent with the final JCAF32.
 - Check that the JCAF32 costs and the Quarterly Report costs are consistent with the claims shown in FUSION.
 - Attach the following PDF files to the Project "Completed" Change Request:
 - DSA "Certification & Close of File" letter;
 - DSA 6 forms (including: DSA6; DSA6 A/E; and DSA-168);
 - Space Inventory Report 17 page(s) from the district's latest certified Space Inventory; and
 - Final list of equipment ***purchased*** (for projects receiving release of equipment after 6/1/2012).
 - Submit the change request to FPU for approval.
 - E-mail the district's Specialist to alert them that a Change Request is pending approval.

9.9.5 Quarterly Reports — Required on All State-Funded Projects

The State Administrative Manual (SAM) Section 6864 requires each state agency with a capital outlay appropriation to submit to the Department of Finance a Quarterly Report by the 15th of each month following the close of a quarter (refer to Appendix O for detail).

The Quarterly Reports on state-funded projects are administered through the FUSION system. The Quarterly Report is located in the FUSION Project Module, organized by district/campus and project name. District staff familiar with preparing and submitting Claims will find the Quarterly Report tab on the same pull down menu as the Claims tab in the Project Module.

The Quarterly Report is completed by district staff and consists of the following information:

- Current local financing budget by phase

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- Current project to date local expenditures by phase (FUSION is already capturing and reporting state expenditures)
 - Number of Change Orders
 - Current project to date cost of Change Orders
 - Actual Completion Date of project (not entered until reached)
 - Beneficial Occupancy Date (not entered until reached)
 - Close Fiscal Accounts Date (not entered until reached)
 - Comments explaining delays, major change orders, etc. as necessary
 - There is a provision for attaching documents to the Quarterly Report if necessary

In order to assist District staff in populating the FUSION Quarterly Reports, the programmers developed a self-help tool that can be found in the eManual portion of FUSION.

The California Community Colleges Capital Outlay Quarterly Report reflects the status of projects within each specified quarter and is submitted to meet reporting requirements for existing facility projects as outlined in SAM Section 6864. The report includes information on funding and transfers, original and revised construction start and completion dates, percentage of completion, as well as comments on project status as it relates to design, Public Works Board and other agency approvals, change orders and scheduling revisions.

9.10 Appropriation Expiration Dates

Funds for state capital outlay projects are appropriated through the state budget process. However, before appropriated funds can be used for a capital outlay project they must be encumbered for use through the DF14D process. The Chancellor's Office prepares a DF14D for DOF approval of each applicable project phase:

- Preliminary Plans
- Working Drawings
- Construction
- Equipment

Once approved by DOF, the funds become available to the district for project use for a limited time. The state budget control language (Section 1.80) attached to each budget summarizes the general operating parameters for that year's appropriations. Timelines for encumbrance and usage are strict. If these timelines are missed, the state appropriation will "revert" and no longer be available to the district for project completion. See Appendix P for details.

9.10.1 Preliminary Plans and Working Drawings

Preliminary plans and working drawings for state funded projects are typically authorized together. These appropriations must be encumbered by DF14D during the budget year they are authorized or the appropriation will revert and the funds will be lost. Appropriations for preliminary plans may be encumbered by DF14D as soon as the budget is passed. Working drawing funds are encumbered by DF14D only after the PWB approves the preliminary plans. All district claims for reimbursement of preliminary plans or working drawing funds must be processed by the Chancellor's Office before April 30 of the third fiscal year following appropriation.

9.10.2 Construction

Construction funds for state funded capital outlay projects are typically appropriated the year after PW funds are appropriated. A DF14D requesting to proceed to bid must be approved by DOF before the end of the budget year construction is appropriated or the construction fund appropriation will revert. Construction funds must be encumbered by a DF14D within three years or the appropriation reverts. Once encumbered, all district claims for reimbursement of construction funds must be processed by the Chancellor's Office before April 30 of the fifth fiscal year following appropriation.

9.10.3 Group 2 Equipment

Group 2 Equipment funds are typically appropriated at the same time construction funds are appropriated. Appropriations for group 2 equipment must be encumbered before the end of the third fiscal year following authorization or the appropriation reverts. Group 2 equipment funds can be encumbered only after the IOR certifies that construction is more than fifty percent complete and the district requests release of the equipment funds. Equipment funds may be encumbered earlier, with DOF approval, if additional time is needed to order the equipment or the equipment needs to be installed before construction is completed. All district claims for reimbursement Group 2 equipment

funds must be processed by the Chancellor’s Office before April 30 of the fifth fiscal year following authorization of such an appropriation.

Capital Outlay Appropriation Time Periods

Type of Appropriation	Encumber Funds (Years)	Additional Time to Finalize Claims (Years)	Total Time (Years)
Preliminary Plans	1	2	3
Working Drawings	1	2	3
Construction, Request to Bid	1	n/a	1
Construction, Bid Award*	3	2	5
Group 2 Equipment	3	2	5

***Must obtain approval to proceed to bid before the end of the fiscal year of construction appropriation.**

9.11 Equipment Commissioning

As construction nears completion, the district plays a very active role in the commissioning of Group 1 — Fixed Equipment in the building and the procurement and activation of Group 2 — Movable Equipment. Equipment is installed, activated, tested, and adjusted until the equipment and related support systems are working as specified. For some support systems, this may have to be done after occupancy to see how the system responds to operational use and common activities.

Depending on relationships with the contractor, it may be possible to coordinate the procurement and installation of equipment concurrently with the completion of the contractor’s work. If not, it may take 30 or more days for the installation and commissioning of equipment, support systems, and software.

Commissioning typically includes:

- Balancing the heating, ventilation, and air conditioning (HVAC) systems
- Training staff on HVAC and/or EMS controls
- Checking alarms and emergency lights
- Running equipment to check for leaks and other problems

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- Modulating acoustics, lighting, and security systems
 - “Baking-out” the building to prevent indoor air pollution
 - Training faculty and staff on operation of equipment
 - Coordinating the use of fiber optic and twisted pair cabling communication systems and the associated equipment
 - Installing computers and software, phones, and video equipment
 - Testing cameras and sound equipment
 - Installing furniture, lab equipment, other educational equipment
 - Installing office equipment and partitions

Commissioning is often a massive coordination problem involving a myriad of equipment and suppliers, design consultants and additional contractors. There are numerous requests and frequently insufficient funds in the project. To the extent that this process can be pre-planned and properly funded during the design phase, commissioning becomes easier. See Chapter 8 for more information on equipment planning and design.

9.12 Post Occupancy Evaluation

A post-occupancy evaluation is done by the architect, the project or construction manager, and operations and maintenance staff. Unfortunately, this review is frequently ignored. **The primary purpose of this evaluation** is to discover potential problems before warranties expire.

Design and construction are not considered complete until the project, with all its systems, has been running well for several months. The contractor warranty normally extends for 1 year; 1 year is the presumed period of time to uncover design and construction conditions that warrant correction. For some systems, the warranty period is longer.

Post-occupancy evaluations should be timed to the warranties. Normally the architect's contract will require reviews at six months and one year after construction completion. It is important to review the project with the architect and occupants to see what has worked and what has not, not only to gain experience for future projects but to make sure any errors are caught before the warranty period ends.

If a contractor error is discovered during the warrantee period, the contractor must fix the problem. If a design error is found before the architect receives the last payment, the architect can be required to correct the design. If the problem is discovered after the warrantee expires, the district may be responsible for correcting the problem and should immediately notify, in writing, the contractor and manufacturer to preserve the warranty/claim period.

9.12.1 Patent or Latent Design and/or Construction Defects

Districts should consult with their legal counsel, if patent and/or latent design or construction defects are discovered. A statute of limitation establishes time limits beyond which lawsuits alleging design or construction defects are barred; the California statutes overlap and may be unclear and confusing about their application to a particular set of facts.

A defect is considered patent if it was readily discoverable or apparent by reasonable inspection. If not, the defect is latent (or hidden). The distinction is important because the two defects have different time limits for filing a lawsuit.

It is important to note that there are different time limits for filing lawsuits, bringing a claim and/or seeking resolution with the individuals engaged in performing or furnishing design, specifications, surveying, planning, supervision or construction observation services, if the defect is patent or latent.

This is provided for informational purposes only and does not purport to be a legal opinion. For specific information regarding statutes of limitation see the California Code of Civil Procedure §337.1 and §337.15 or consult your legal counsel.

9.12.2 Project Team Evaluation

Evaluation of the total project includes assessing the overall performance of the architect, construction manager and contractor. If their work has been unsatisfactory, the district can eliminate them from future work. The contractor can be barred from future local and/or local and state funded projects if the problems were severe enough to warrant a ruling by the district's board. However, if the architect, construction manager, inspector, contractor and others did a good job, this is the time to write letters of recommendation and encourage their participation in future projects.

CHAPTER 10: SITE ACQUISITIONS FOR NEW COLLEGE AND CENTER DEVELOPMENT

10.1 Overview

10.2 Acquisitions of Sites with State Approval of Facilities to be requested in the Future

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10.1 Overview

The California Code of Regulations, title 5, section 51014 states that community college districts must obtain approval for the formation of a new college or educational center from the Board of Governors before classes begin at the new college or educational center. California Code of Regulations, title 5, section 55180 et. seq. governs the process of approval for establishing new colleges and educational centers, and allows for state approval of a proposed educational center if certain conditions are met.

To be eligible to receive State funding for capital outlay purposes, a site must be designated as a college or be a state-approved educational center as stated in California Code of Regulations, title 5, section 57001.5 and 57017. These terms are explicitly defined later in this chapter. In a district's long-range plan, the acquisition of a specific site may be desirable far in advance of the approval process for becoming a college or an approved educational center.

A site eligible for State capital outlay funds is not guaranteed an opportunity to receive such funds for the construction or modification of its facilities. The ability to use State capital outlay funds to develop any project, including new sites, is dependent upon many factors that exist when project proposals are approved including the amount and type of funds available and statewide priorities that exist.

California Code of Regulations, title 5, section 55180 allows for state approval of a proposed Educational Center if it has generated at least 500 FTES annually (per the district's most recent "final attendance report," which, consistent with section 58003.4(b)-(c), refers to the Annual Apportionment Attendance Report [CCFS-320] unless a Revised Annual "Recal" CCFS-320 Report is filed by the district for the fiscal year in question, in which case, the Recal report is deemed to be the "final attendance report" for that fiscal year). This approval allows the new site to become eligible to compete for state capital outlay funds.

This chapter describes the process for each of the following scenarios:

- Acquisition of a site when the development of a college or a state-approved educational center will be requested at some future date.
- Acquisition of a site simultaneously with the approval process for locating a college or educational center at that site.
- Approval of a new college or educational center for a previously acquired, but presently undeveloped parcel.

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- Expansion or conversion of an outreach center into approved state-approved college or educational center.

All these scenarios have three significant steps:

1) Preliminary Notice

- Informs the Chancellor's Office that a district's planning process may include the development of one or more centers in a specified region.

2) Letter of Intent

- District notification to the Chancellor's Office of a specific need to expand services via a College or Educational Center in a given area. If approved by the Chancellor's Office, the district proceeds to develop a needs assessment.

3) Needs Assessment

- A formal analysis that provides data and detailed programmatic, fiscal and other justifications for establishing a new College or Educational Center. After the Chancellor's Office completes its review of this document, an action item will be prepared for the Board of Governors.

The difference between the four scenarios is the timing of the submissions and the information each submission contains, but all scenarios ultimately require the submission of similar information. The analysis of programs, services and facilities when educational program and facility plans are developed or revised is critical when seeking approval to develop a parcel or to expand an outreach center with State funds; accordingly, the reader should be familiar with Chapter 2 on District Master Plans prior to reviewing this chapter.

Important deadlines in the review and approval of proposed new Educational Centers:

- By **July 30** district submits 3 copies of the Needs Assessment, accompanied by a certification of the center's FTES as reported in the district's most recent final attendance report (for this submission, the district will forward center FTES as reported on the Annual CCFS-320 Report due to the Chancellor's Office by July 15; if the district subsequently submits a Recal CCFS-320 Report to the Chancellor's Office, which is due by November 1, the district will update its Needs Assessment by forwarding an updated center FTES certification as reported in the district's Recal CCFS-320 to its assigned Facilities Specialist no later than November 15).
- By **November 1** the Chancellor's Office submits a report to the Department of Finance and the Legislative Analyst on the number of new Educational Centers

and Colleges proposed to be approved in the current fiscal year and those anticipated to be added for the prospective budget fiscal year.

- The **next January** after review by all divisions in the Chancellor's Office is completed, the request to approve the proposed Educational Center will be scheduled for action by the Board of Governors.

Please note that Needs Assessments received after **July 30** will not be reviewed by the Chancellor's Office until the next fiscal year.

10.2 Acquisitions of Sites with State Approval of Facilities to be Requested in the Future

A district may acquire a site for future development through donation, exchange, purchase or some other means that excludes the use of State funds before enrollment necessitates development of facilities. A site acquired for investment purposes only does not need to be reviewed at the state level.

If a site is acquired for use in the future as a college or a state-approved educational center, regardless of the source of funds used to acquire a parcel or building site, a district is expected to work with the Chancellor's Office to ensure that the location and development potential of the site is compatible with state-wide development plan for higher education.

Before the district completes acquisition of a site for future development, it is advisable to provide the Chancellor's Office with the following information about the parcel:

- Location, size, and access
- A proposed method for funding the acquisition
- Seismic concerns, if any
- Aircraft flight paths and railroad easements affecting the location.
- Future development potential, both of the educational facility and in the surrounding area.
- Restrictions on the use of the parcel, if any.
- Other information affecting the use of the location as an educational facility such as infrastructure development needed, coastal use restrictions, hazardous materials present, and environmental limitations, such as an adjacent protected species area, that need to be considered.

The most common method used to inform the Chancellor's Office of an anticipated acquisition is through correspondence. The letter should be accompanied by site plans, Environmental Impact Reports, purchase/donation covenants and other such documents to provide the above information.

The information is reviewed by the Chancellor's Office and is reviewed for consistency with State-wide long-term plans for community colleges. **A district that acquires a parcel or building site without first obtaining concurrence that such a location is of sufficient size and characteristics to be compatible with State-level long-term plans may have to develop the location without State assistance.**

Under this scenario, correspondence informing the Chancellor's Office of the planned acquisition is sent possibly years before the Letter of Intent and the Needs Assessment; hence, the correspondence may only address an area or parcel of land and not the educational programs and facility plans for the site. Educational and facility plans would need to be mentioned in a Letter of Intent and addressed in detail in the Needs Assessment that the district would need to submit to the Chancellor's Office for review and approval before consideration of Initial and Final Project Proposals to develop the site using State funds.

10.3 Site Acquisitions made Concurrently with the Request to Approve a Site

The requirement that the acquisition of developing college and educational center sites be consistent with State-level long-term plans also holds true when development of the facilities is anticipated in the immediate future. If the district is proposing to acquire a parcel of land without the use of State funds and use State funds for the immediate development of facilities on that parcel, information requirements regarding the site are the same as those listed in Section 10.2 above.

If State funds are to be used for site acquisition in conjunction with the design and construction of facilities on the site, the information listed below in addition to the items listed in Section 10.2 needs to be submitted as part of the Needs Assessment submitted to the Chancellor's Office:

- An Environmental Impact Report, Negative Declaration or other CEQA report for the site

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- Five-year (for a center site) or ten-year (for a college site) enrollment projections (explained later in this chapter)
 - Educational and facility development plans for the new site (explained later in this chapter)
 - Descriptions of the use, if any, to be made of existing facilities on the site
 - Discussion of alternative sites considered and not chosen
 - Justification for the chosen site
 - A timely appraisal of the site made by individuals authorized by the Real Estate Services Division (RESA), State Department of General Services

Under this scenario, information expected in the Letter of Intent and the Needs Assessment would most likely be submitted into a single communication or a series of communications that would then be used to develop the Board of Governor's Agenda Item requesting approval of the site while simultaneously supporting an initial project proposal.

It is only after approval of the site by the Board of Governors that the Final Project Proposal (explained in Chapter 5) may be submitted requesting State funds be made available to develop facilities on the site. While present policies do not require site acquisition to be combined with the other phases of capital improvement for funding purposes, Final Project Proposals for site acquisition only tend to be category "B," expansion projects, whereas a Final Project Proposal for site acquisition combined or coordinated with a project proposal that includes other phases of development (planning, working drawings, construction and equipment) is usually assigned the same funding priority as the construction phase.

10.4 Steps in State-funded Site Acquisitions

- 1) Obtain the Board of Governors approval to include the parcel or building location as a site eligible for State capital outlay funds. (Needs Assessment)
- 2) Complete and obtain approval of a Final Project Proposal including the appropriation of funds by the Legislature and approved by the Governor.
- 3) Verify that the site selected for acquisition is within the parameters of the budget language.
- 4) Be certain the following are complete and documented: the seller's appraisal; plot maps; assessor's description; any easements; any hazardous waste or

hazardous conditions; geotechnical evaluation of natural drainage, faults and slides; location on Alquist-Priolo state seismic maps; evaluation of alternative sites, and any other pertinent information.

- 5) Determine through an initial environmental study if an Environmental Impact Report will be required and develop a schedule for conformance with the California Environmental Quality Act (CEQA). Refer to Section 7.11 of this Manual.
- 6) Select an appraiser approved by the Estate Services Division (RESD) of the State Department of General Services.
- 7) If appropriate, obtain a final appraisal of fair market value of the site.
- 8) If appropriate, develop a cost estimate for relocation of owner(s) or tenant(s) in accordance with the State Relocation Act.
- 9) Submit a request to the Chancellor's Office for authority to acquire the property with:
 - Three copies of the final appraisal.
 - The time schedule for compliance with the CEQA.
 - The assessor's map.
 - The relocation plan and cost estimate.
- 10) If needed, the Chancellor's Office sends a letter to RESD requesting formal approval of the appraisal and relocation plan. The letter cites the Budget Act appropriation. If approved, the Department of Finance is notified of the approval.
- 11) State Public Works Board reviews and approves the acquisition for the specific property appraised in accordance with the budget language. District cost for this service is recoverable in the budget act authority.
- 12) The State Public Works Board (SPWB) reviews and approves the acquisition.
- 13) Once the (SPWB) approves the acquisition, the district is notified and directed to acquire the property.

Note: The Department of Finance will not review Final Project Proposals for design and construction funds until the site has been acquired.

10.5 Steps to Approve a New College or Educational Center

There are four basic steps to obtaining approval of new sites for State funding. The following steps apply both when parcels (not eligible for state funds) are initially

developed and when active outreach centers are expanded or converted to new colleges or state-eligible educational centers:

- 1) Evaluate the growth potential in the district and the capability of the existing colleges, campuses, educational centers and outreach centers to absorb the growth.
- 2) Submit to the Chancellor's Office for review and approval a Letter of Intent specifying the district's plans to increase services into an area or areas presently not being served. The Letter of Intent should be submitted no sooner than two years prior to the first year of operation of a new college or educational center.
- 3) If the Letter of Intent is approved by the Chancellor, update educational program and facility plans or assess the needs of programs, services, facilities and delivery methods for serving students from the under-served areas.
- 4) Prepare and submit to the Chancellor's Office a Needs Assessment asking for formal recognition of a new college or educational center if development of a new college or center is the preferred alternative for serving the identified area(s).

10.6 Long-Range Master Plan Preliminary Evaluation

In 2016, the California Community College Long-Range Master Plan was approved by the Board of Governors as an update to the 1991 Long-Range Growth Plan. The purpose of this plan is to provide the framework that will guide the evaluation, coordination, and of inter- and intra-district expansion and facility utilization. The planning criteria used to develop the framework are classified into four categories: 1) future demand, 2) access, 3) capacity of existing campuses, and 4) local intent. These planning criteria are consistent with the 1991 Long-Range Growth Plan and have been updated to align with current California statutes, the California Code of Regulations, and current community college practices. In addition, the plan was updated to include current population data, enrollment trends, demographic characteristics, various spatial analyses, and calculated planning assumptions based on the newly available data. This planning document is available on the Chancellor's Office website.

10.6.1 District Future Demand & Access

The first step in determining the need for a State-approved college or center is for a district to evaluate the area's potential for enrollment growth and the ability of the district's existing and planned facilities to absorb that growth. Districts determine, given historical participation rates, whether or not projected enrollment growth can be fully

accommodated by expanding or improving existing facilities. When colleges make Master Plans, this evaluation is part of the overall development of educational program and facility plans as explained in Chapter 2.

Districts evaluate growth potential by evaluating regional population growth and participation rates. To assist districts, the Chancellor's Office provides annual updates of district-wide long-term enrollment projections. Using various indicators, districts determine the general areas within their regions that have the greatest influence on the district-wide enrollment trends. The preliminary analysis of regional population trends made at this time, however, is not as detailed as the official projection made after submission and acceptance of the Letter of Intent. The preliminary evaluation of enrollment is based upon supporting evidence such as secondary school enrollment projections, new housing starts, building permit applications, planning commission hearings, business openings or relocation and other such economic indicators that show growth in specific regions.

Besides enrollment trends, districts examine regional participation rates to determine if student demographics, commute times, traffic flow, access roads and geography unduly influence participation. In such circumstances, districts analyze how best to increase enrollments from the outlying areas. Evaluations of neighboring postsecondary institutions also may provide useful information on enrollment trends and participation rates.

To engage the utilization standards necessary for planning, headcount enrollment is converted into weekly student contact hours (WSCH), day credit enrollment, and full-time equivalent (FTE) faculty, which is calculated through the development of annual five-year construction plans prepared by each district.

10.6.2 District Capacity

Capacity ratios of instructional areas as well as support areas are evaluated to determine if conversion or additional development of an existing facility would be the preferred solution for increasing district capacity. Questions considered at this time are whether the existing sites are approaching capacity in all areas and whether the existing sites have additional opportunities to develop more usable space. Such opportunities may not exist if a site is land-locked.

Also new sites may be indicated with further analysis when the academic load of a district's existing site exceeds 925 weekly student contact hours (WSCH) per acre. The

weekly student contact hours per acre measure serves as a proxy for the extent of overall campus activity that a site can accommodate. However, the amount of acreage and facilities needed to support more or fewer students heavily depends on a number of other factors, such as the regional location of programs, topography of existing sites, conditions of existing facilities, and the existing utilization of campus facilities. A district where the main campus is “built-out,” i.e., exceeds 925 weekly student contact hours per acre, but where existing buildings are not fully utilized may not warrant another site. And, the planning standards assume improved facilities utilization, such that all buildings will be utilized more in the future.

10.6.3 Local Intent

Critical to system planning are the local planning efforts of the districts. This component of the planning criteria takes into account those plans of the individual districts, including district education master plans, facilities master plans, and other regional plans that identify potential changes to the planning conditions of this plan. It is important to recognize that these plans may contain unique conditions of growth that suggest a particular long-range building strategy; in others, programs with ties to local businesses will suggest the approach for planning new facilities and sites; in still others, local initiatives with nearby California State University (CSU) or University of California (UC) campuses will dictate how facilities and sites are to be developed.

All aspects of a community college (management, faculty, staff and the neighboring community) work with local trustees to determine if the district is willing to accommodate the projected enrollment demands. A decision in favor of expanding services beyond the capacity of existing sites after Master Plan build out would come to the Chancellor’s Office in the form of a Letter of Intent.

10.7 Letter of Intent

If a district predicts that enrollment will grow beyond the capacity of its existing and planned facilities, it needs to decide whether to expand its service capability at its active sites or to develop new facilities to handle the additional demand. Each alternative presents differing cost and policy implications. As a result, districts may elect to publicly discuss the alternatives. A Letter of Intent is not needed if a district elects to expand service capability on its existing sites or use non-state funds to develop outreach operations. When a district elects to request state funds to develop a new site or

convert an outreach operation to a college or educational center, a Letter of Intent needs to be sent to the Chancellor's Office for review and approval.

The Letter of Intent notifies the Chancellor's Office that a district intends to develop a state-recognized site and requests authorization for further planning to develop data supporting such expansion. The Letter of Intent includes but is not limited to the following information:

- A general location of the planned facility including maps of the site.
- An estimated time frame when it would be active.
- Documentation evidencing the projected enrollment growth.
- District's most recent Five-Year Construction Plan.
- Letters of Support from the governing board and surrounding businesses and educational institutions.
- Explanations why delivery methods cannot be modified or existing facilities cannot be expanded to handle the projected enrollments.

The Chancellor's Office reviews and evaluates each Letter of Intent in terms of defined system-wide priorities and reviews the enrollment projections and supporting documentation accompanying the letter. If the district is informed that the State approves the Letter of Intent, it may proceed with further planning leading to the submission of a Needs Assessment. A checklist of all of the documents needed to submit the Letter of Intent is located in Appendix T.

10.8 Assessments of Educational and Facility Needs

Upon approval of a Letter of Intent, a district reviews its educational program and facility Master Plans and modifies them as needed to show the effect of the new site. New colleges and campuses Master Plans should address the first ten years of operation and new center Master Plans should address the first five years of operation. This update effort may require the collection of labor market information or public surveys to determine program and employer needs. As online education becomes more prevalent in course offerings, distance education enrollment has experienced a steady increase so facility Master Plans need to consider how a new site will use such technology.

Districts that have not prepared Master Plans and want to have the State approve new sites need to perform detailed assessments of local long-term needs both in terms of

expected educational programs and supportive services and facilities necessary to provide those programs and services to the public. This assessment requires analysis of all aspects of the college.

Refer to Chapter 2, College Master planning, for two methods for evaluating long-term needs when developing educational program and facility plans. Districts can use either of those methods or a combination of them to make detailed assessments of program, services and facility needs.

10.8.1 Special Considerations When Analyzing Educational Programs

Analyses of educational programs that follow the issuance of Letters of Intent involve all efforts of a college including transfer to a four-year college or university, the award of workforce-oriented certificates and degrees, and the development of basic skills. Districts may review historical enrollments to determine the types of courses students tend to take. They may make inquiries as to the types of degrees and courses transfer students report to four-year institutions. They also may collect labor market information to identify major employers of the graduates, profile the types of skills needed by prospective employees, and coordinate the college programs with local industry.

Once community college districts profile the needed skills, they analyze their curriculums to determine changes needed. Analyses of current degrees and certificates offered are compared to the developing industries to determine the type of long-range modifications to make to curriculums. The emphasis of these analyses is to predict modifications that need to be made to curriculums over the long-term. This enables districts to consider viable options for delivering the material to the students and future facility needs.

10.8.2 Other Information for the Needs Assessment

Districts need to prepare other information that will be used to augment the Needs Assessment. This information includes but is not limited to the following:

- Evaluations of alternative sites with a cost/benefit analysis of each site, if applicable.
- Documentation of ownership of the selected site along with the applicable Environmental Impact Report. Refer to Section 6.10 for a discussion of Environmental Impact Reports and the California Environmental Quality Act

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- A time schedule for development of the site.
 - Maps with population densities, topography, road and highway configurations.
 - Endorsements or notices of opposition from local business leaders and neighboring colleges' officials.
 - Educational and facilities specifications for the new site.
 - An evaluation of alternative funding sources for the facilities of the new site.
 - Identification of the district contact person(s).
 - Clearance from the Office of Aeronautics / Federal Aviation Authority regarding aircraft flight patterns.
 - Local board resolution authorizing the development of the new site and its related educational programs.

A checklist of all of the documents needed to submit the Needs Assessment is located in Appendix T

10.9 Official Projections of Future Enrollment

Another aspect of the detailed assessment of needs is the official projection of enrollment performed at the local level. New colleges require ten-year projections of enrollment and new centers require five-year projections. The enrollment projection model was developed by the Chancellor's Office in cooperation with the Association of Chief Business Officers and the RP Group. The methodology has been implemented annually by the Chancellor's Office since the 2012 enrollment projections. The new Population Participation Rate (PPR) model forecasts enrollment for each district based on a combination of variables including student participation rates, "in district" and "out of district" enrollment, weekly student contact hours to enrollment ratios, and adult population projections based on Geographic Information Systems zip code data. Given the importance of accurate projections, they should be completed the year the Needs Assessment is submitted so that the projections more closely align with actual enrollment trends.

10.10 The Request for Approval

Once the district has analyzed its programs and facilities, developed an official enrollment projection for the developing site, and provided supporting information to the Chancellor's Office, staff at the Chancellor's Office, in cooperation with district staff,

prepares the Needs Assessment for review by the Board of Governors. The California Code of Regulations, Title 5, Sections 55182-55183 stipulate that a Needs Assessment contain:

- An assessment of needs and preferences (CCR, Title 5, Section 55182)
- Identification of Objectives (CCR, Title 5, Section 55183)
- Analysis of Alternative Delivery Systems (CCR, Title 5, Section 55184)

10.10.1 Assessment of Needs and Preferences

Applications for approval of new colleges or centers shall do all of the following as defined in CCR, Title 5, Section 55182 as:

- (a) Describe the community area and characteristics of individuals to be served;*
- (b) Provide projections of potential enrollment demand in the service area which demonstrate significant unmet need, taking into account plans of nearby secondary and postsecondary institutions;*
- (c) Demonstrate significant community support and identify possible community opposition;*
- (d) Identify preferences for community college programs and services on the part of individuals in the service area;*
- (e) Insofar as possible, identify present and future labor market requirements for the proposed service area, a broader adjacent region, and the state; and*
- (f) If possible, reconcile projected labor market requirements and community program preferences.*

10.10.2 Identification of Objectives

The identification of objectives is defined in CCR, Title 5, Section 55183 are:

- (a) Proposed college or educational center programs and services must be directed to the identified educational needs and preferences of the community to be served.*
- (b) Objectives of the proposed programs and services must be sufficiently specific that the district board may evaluate the success with which needs and preferences are met.*

10.10.3 Analysis of Alternative Delivery Systems

The analysis of alternative delivery systems is defined in CCR, Title 5, Section 55184 as:

(a) The proposed operation must be the most effective and equitable of feasible delivery system alternatives for providing intended programs and services.

(b) Criteria for selecting the proposed delivery system must include:

(1) accessibility of programs and services to individuals in the service area,

(2) content and quality of programs and services, and

(3) cost of programs and services.

(c) Depending on the delivery system proposed, alternatives for providing the proposed programs and services must include, but need not be limited to:

(1) increased utilization of existing district resources,

(2) forming a new college, educational center, and/or outreach locations, and

(3) use of media such as television, computer-assisted instruction or programmed learning packages. Alternative delivery systems considered must be adequately described, generally mutually exclusive, and limited to a manageable number to facilitate analysis and review.

(d) Proposed sources of funding for needed resources must be identified for both short and long-term operations.

10.11 Review and Approval of a Request for Approval

The *California Code of Regulations*, Title 5, Section 55181 define review objectives of the Chancellor's Office.

(a) The Chancellor shall maintain an inventory of all off campus programs and facilities in the community colleges. This inventory shall be updated annually, and shall be distributed to each community college district for use in planning activities.

(b) The Chancellor shall develop procedures to identify and review plans for new colleges and new educational centers within the district's Five-Year Academic and Capital Outlay Master Plans.

(c) Community college districts shall develop procedures to identify and review plans for new colleges and new educational centers as defined in this article. These proposals shall contain at least the following elements:

(1) Assessment of Needs and Preferences (section 55182),

(2) Identification of Objectives (section 55183), and

(3) Analysis of Alternative Delivery Systems (section 55184).

(d) The Chancellor shall review each proposed new college and new educational center and shall recommend approval or disapproval to the Board of Governors. The Chancellor's analysis of these proposals shall stress inter-district concerns and evaluation of the delivery system proposed.

(e) The Chancellor shall notify the community college district initiating the proposal of the findings and actions of the Board of Governors on the proposal.

The Board of Governors reviews each proposal requesting approval of a new site in public forums at which time interested people are given the opportunity to comment upon the Needs Assessment. The Chancellor's Office will notify the community college district initiating the proposal of the findings and actions of the Board of Governors on the proposal.

10.12 Checklist of Information Items

Please see Appendix T.

APPENDIX A: CAPACITY/LOAD CALCULATION

Capacity/Load Ratios

The capacity/load ratio (cap load) is a measure of space utilization efficiency according to Title 5 community college space standards. This ratio, expressed as a percent, is the totaled capacity of a space type divided by the actual or projected usage of the space. Ratios above 100% indicate an excess of space; ratios below 100% indicate a deficiency of space and may qualify a district for state capital outlay funding for a more efficient use of space.

Weekly Student Contact Hours (WSCH) to Assignable Square Feet (ASF) Relationship

The Chancellor's Office uses annually generated WSCH enrollment forecasts and the District's annual Space Inventory Report to create a mathematical analysis (calculated in FUSION) to measure capacity load for space utilization. Title 5 statutes define the five types of space usage as well as the state space standards for each type of space. The categories are lecture, lab, office, library, and AVTV.

The Load Component of Capacity/Load Ratios

The load portion of a capacity/load ratio for instructional space is derived from the actual and projected enrollments of a district. Each year the Chancellor's Office generates enrollment projections based on Department of Finance demographic projections and actual district enrollment. Enrollments are reported in weekly student contact hours (WSCH) and the reported WSCH is calculated as an average of both fall and spring semesters (summer sessions are not included in the calculation). Once WSCH is isolated to the campus level, it is divided into four categories. WSCH generated off site, for example classes taught at a high school at night, is deducted from the campus total. The percentage of physical education WSCH earned in laboratories or in exterior spaces is deducted from the remaining total. The remaining WSCH is divided into lecture and lab.

Teaching Spaces and Capacity/Load Ratios

Teaching spaces are identified as either lecture or laboratory depending on the nature of the student's participation in the instructional process. If the student requires the regular use of special equipment in the class it usually is considered a laboratory. A room designed to accommodate a laboratory activity is classified as a lab even if lecture activities take place in the room. For example, room type 210-250 which is a space

constructed for an instructional activity that the student must be present — the student initiates and performs the actions required in the course at the station constructed for that purpose. When the student leaves, the activity in the space ceases. The spaces are specifically designed and equipped for student use. Whereas, room type 550 is a space constructed for an activity that takes place regardless of whether a student taking the course is present. An example is a child development facility where the activity is continuous; students enrolled in the course come and go, but the activity continues.

The cap load computation for lecture space is straightforward; TOP (Taxonomy of Program) Codes have no effect on lecture spaces. A capacity/load ratio of 100% in lecture space is equivalent to one station every 15 ASF that is filled to 66% capacity for 48 hours per week (Title 5 standard). For example, a 900 ASF (900 ASF divided by 15 ASF = 60 desks) lecture room should have an average of 40 desks (66% of 60) occupied for 48 hours each week to meet Title 5 standards. If one or more of the three variables is reduced, the other two variables can make up the difference by being increased. For example, if there were an average of 30 stations filled for the same room, the room would need to hold classes for 61.5 hours per week. Conversely, if there were an average of 50 stations filled, the room would need to hold classes for 38 hours per week. The key is not how many desks are in the room, but how many desks should be in the room according to Title 5 standards.

If a campus were to have a lecture capacity/load ratio of 90%, this would suggest a deficiency of space and the campus may qualify for state capital outlay funding to construct more lecture space. The campus would qualify for enough space to increase their capacity/load ratios from 90% to 100% in the year the project is scheduled to be completed, i.e., as reflected in FUSION by the occupancy date.

The computation of cap load ratios for lab space is more complex. Title 5 contains more than 30 different ASF per 100 WSCH standards dependent on lab TOP Code type. A cap load ratio of 100% in a laboratory means that the lab and its associated service space generates WSCH equivalent to classes for 27.5 hours per week at 85% of the maximum capacity of students/stations per Title 5 space standards. For example, Title 5 specifies 55 ASF per station for a biology lab. Therefore a 1,320 ASF biology lab (1,320 ASF divided by 55 ASF = 24 stations) must house an average 20 students (85% of 24 students) in each class for 27.5 hours per week to equal a 100% capacity/load ratio. The space standards for laboratories vary based on the individual type of TOP Code for the lab. An automotive lab, for example, is allowed 200 ASF per station, whereas a business computer lab is allowed 30 ASF per station.

Office Spaces and Capacity/Load Ratios

Office spaces are typically equipped with one or more desks, tables, chairs, bookcases and or filing cabinets. Included in this category are rooms generally referred to as faculty offices, clerical offices, administrative offices and student offices. There are also a few types of space that count towards a campus's allocation of offices even though they do not appear to be offices. These types of spaces are office support spaces such as file rooms, copy rooms, private break rooms, private restrooms and conference rooms. Title 5 calculates the capacity/load ratio for office space by allocating 160 ASF per full time equivalent faculty (FTEF) on campuses with 35,000 WSCH or less and 140 ASF for campus's with more than 35,000 WSCH.

Library and AV/TV Capacity/Load Ratios

Library and AVTV capacity are based on a complicated formula which takes into account the Day Graded Enrollment figures from the Chancellor's Office enrollment forecasts and the space identified as Library & AVTV in the Space Inventory Report. There are formulas in Title 5 that allocate an initial increment and then add additional space based on enrollments that calculate for Stack space, Staff space, Reader Station space, and total space allowance. Non-assignable spaces such as restrooms, corridors, stairs, etc. are not included in the calculation. See Title 5 Section 57030 for specifics.

APPENDIX B: CATEGORY A PROJECTS

Issue: Category A-1: Life Safety Projects

Intent:

The intent of this category is to *permanently* mitigate the life safety conditions in buildings or systems that create imminent danger to the life or limb of facility's occupants.

Category Criteria:

One or more of the following must exist to be considered as an A-1 project:

- Imminent Danger — immediate danger to the health, life or limb of the facility's occupants.
- Health and Life — safety-obvious danger to health, life or limb exists. While danger is not immediate, remedy is needed to protect people.
- Fire Safety — existing conditions could place people in grave peril and inadequate escape.
- The lack of compliance with existing code is not considered sufficient justification to warrant classification of an issue as a critical life-safety issue.
- The Final Project Proposal (FPP) shall be accompanied by a third-party study that identifies the critical life safety issues and states that *imminent* danger exists to the facility's occupants (study must be performed by an independent, professional who is certified or licensed to perform the relevant study).
or
Evidence of regulatory agency cites such as Cal OSHA or local fire marshals identifying and documenting severity of issue.
- Project scope is designed to permanently mitigate the problem with the least cost solution.
- Project scope may include other scope as demanded by the current building code.

-
- Space expansion (gross square feet and/or assignable square feet) is permissible to address code compliance issues only.
 - No additional scope other than the least cost solution to mitigate the immediate life safety issue is allowed *regardless of funding source*.
 - No Group 2 Equipment allowances shall be budgeted as part of project costs.

District:

- Project title should include the words “Health & Safety.”

Procedures:

- No Initial Project Proposal is required.
- FPP may be submitted at any time.

Issue: Category A-2: Non-state supportable category

Intent:

Not currently used by the State.

Issue: Category A-3: Seismic Retrofit Projects

Intent:

The intent of this category is to seismically retrofit structures subject to the likely probability of collapse during a seismic event of greater than 6.0.

Category Criteria:

- Final Project Proposal (FPP) shall be accompanied by a third-party study/report that validates that the target building’s structural deficiencies provide a risk that is equivalent to Risk Level 4 or greater as specified in the April 1998 *CCC Seismic Survey, Report and Recommendations*, prepared by the State Department of General Services — Real Estate Services Division. This study must be performed by an independent, professional who is certified or licensed to perform the relevant study and shall include possible mitigation measures.
- Project scope is designed to *permanently* mitigate the problem with the least cost solution.

-
- Project scope may include other scope as demanded by current building code.
 - Space expansion (gross square feet and/or assignable square feet) is permissible to address seismic solution or code compliance issues only.
 - No additional scope allowed other than the work required for seismic solution or code compliance mitigation *regardless of funding source*.
 - No Group 2 Equipment allowances shall be budgeted as part of project costs.

District Procedures:

- No Initial Project Proposal is required.
- Final Project Proposal shall be submitted as called for by the annual submission cycle.

Issue: Category A-4: Immediate Infrastructure Failure Projects

Intent:

The intent of this category is to repair or replace the immediate failing infrastructure within a structure or campus system.

Category Criteria:

- Project scope is designed to *permanently* mitigate the problem with the least cost solution that restores the “designed capability and capacity” of the existing infrastructure.
- Final Project Proposal (FPP) shall be accompanied by a third-party study that identifies the failing infrastructure and least cost mitigation measures that *permanently* mitigates the issues and restores the designed capability (study must be performed by an independent, professional who is certified or licensed to perform the relevant study)
- This category shall not to be used for addressing non-urgent non-code compliant issues. *The absence of code compliance shall not be the sole requirement for this category.*
- Project scope may include other scope as demanded by current building or safety code.
- Project must stay within the existing footprint. Space expansion (gross square feet and/or assignable square feet) is only permissible to address infrastructure replacement or code compliance issues only.

-
- No additional scope other than the least cost solution to restore the designed capability and capacity of the existing infrastructure is allowed *regardless of funding source*.
 - If the solution is replacement of building, then the project no longer competes as a Category A-4. The project must compete as a Category A-1 or C/F (modernization) as appropriate.
 - No Group 2 Equipment allowances shall be budgeted as part of project costs.

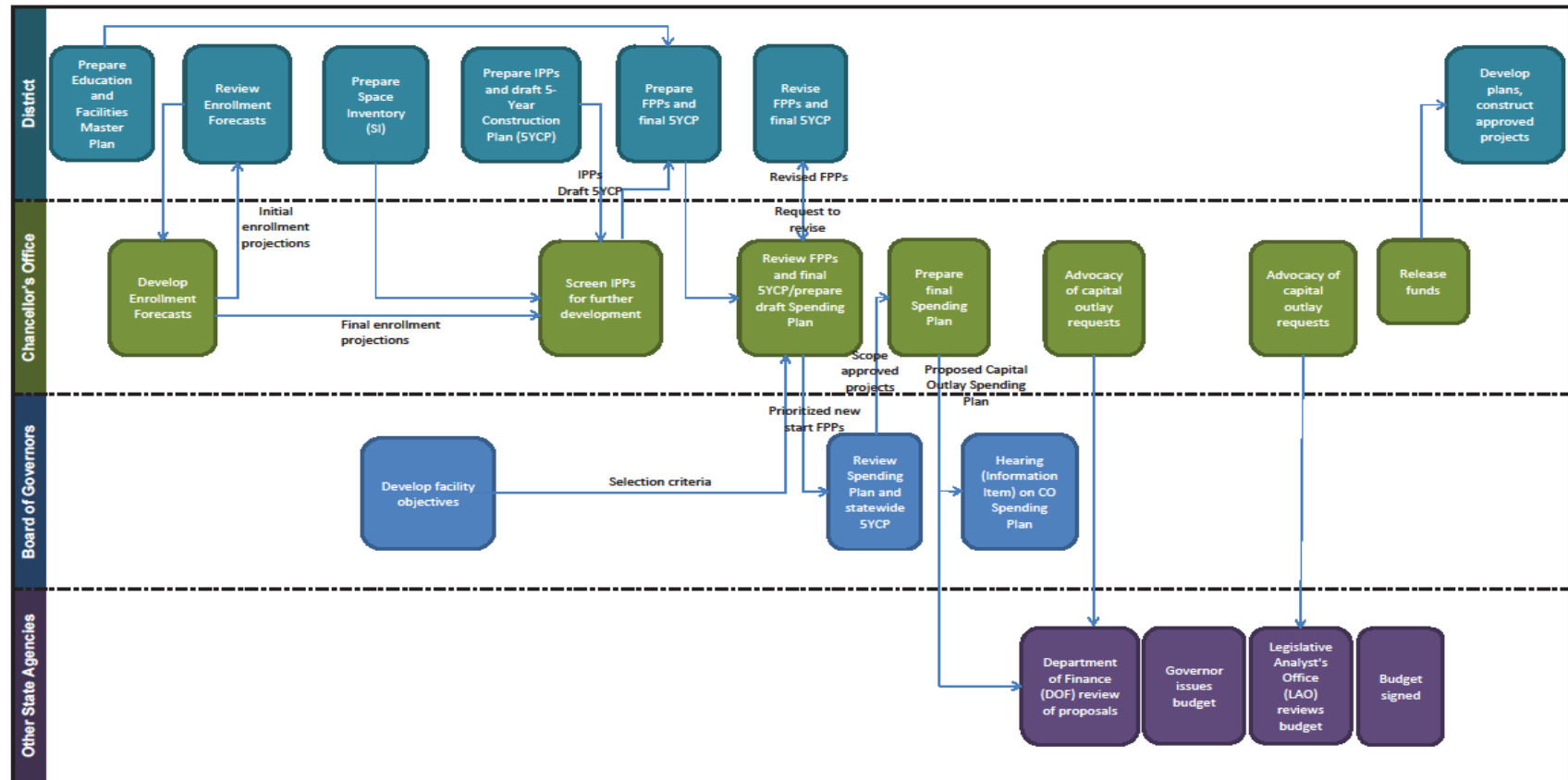
District Procedures:

- No Initial Project Proposal is required.
- FPP shall be submitted as called for by the annual submission cycle.

APPENDIX C: CAPITAL OUTLAY BUDGET CALENDAR

Capital Outlay Process

Process flow (swim-lane) diagram



APPENDIX D: INITIAL PROJECT PROPOSAL

District: ABC Community College District
 College / Center: D College
 Project Name: Math & Science Modernization
 Project Type: Reconstruction

Project Funding

	<u>State</u>	<u>Non-state</u>
Land Acquisition:	\$0	\$0
Prelim. Plans:	\$0	\$0
Working Draw. :	\$0	\$0
Construction:	\$0	\$0
Equipment:	\$0	\$0
	<hr/>	<hr/>
Total Cost:	\$0	\$0

Budget Year:
 Const. Cost Index:
 5 yr. Plan Priority:
 Net ASF:
 Total GSF:

Project Description:

Describe how this project supports the district's educational and facility Master Plan and Five-Year Construction Plan:

Provide the CEQA Status of the project. Check all that apply.

	Project Under Review	Hearing Underway	Approved District/Filed Clearinghouse	Not Required
Notice of Exemption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Negative Declaration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Draft EIR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final EIR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Type of Project and Qualifying Information:

Please answer all questions. Unanswered questions will be considered not applicable

Yes	No	N/A	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Life Safety Project - Required Supporting report is attached to establish imminent danger
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Project Design - Construction and equipment design conform with State design and cost guidelines
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Infrastructure
			Check type of project: <input type="checkbox"/> New Construction <input type="checkbox"/> Reconstruction <input type="checkbox"/> Replacement
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	- Loss or failure of infrastructure is imminent.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Master Planning or Project Planning - District's general fund's ending balance is less than 5% of the total general fund
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Instructional Space
			Check type of space: <input type="checkbox"/> New Construction <input type="checkbox"/> Replacement <input type="checkbox"/> Alteration
			Check major ASF: <input type="checkbox"/> Classroom <input type="checkbox"/> Teaching Lab <input type="checkbox"/> Lib/Learning Center
			<input type="checkbox"/> Office <input type="checkbox"/> AVTV <input type="checkbox"/> Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	- This project will not cause total ASF in any category to exceed 110% of capacity/load ratio.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Academic Support, Student Services or Administrative Space
			Check type of space: <input type="checkbox"/> New Construction <input type="checkbox"/> Replacement <input type="checkbox"/> Alteration
			Check major ASF: <input type="checkbox"/> Classroom <input type="checkbox"/> Teaching Lab <input type="checkbox"/> Lib/Learning Center
			<input type="checkbox"/> Office <input type="checkbox"/> AVTV <input type="checkbox"/> Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Other Facility Projects
			Check type of space: <input type="checkbox"/> New Construction <input type="checkbox"/> Replacement <input type="checkbox"/> Alteration
			Check primary ASF of request space: <input type="checkbox"/> Physical Educ. <input type="checkbox"/> Performing Arts
			<input type="checkbox"/> Child Develop. <input type="checkbox"/> Maintenance <input type="checkbox"/> Warehouse <input type="checkbox"/> Cafeteria
			<input type="checkbox"/> Other facilities (to complete a balance campus)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	- There is an existing facility building in use for this proposed project.
			Supplemental Information and Alternatives Explored

- | | | | |
|-----------------------|-----------------------|-----------------------|---|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - There is an existing facility in use for this proposed project. |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Cost to reconstruct existing building is more than 50% of cost of a new building. |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Usage in the new building will be the same as usage in the building replaced. |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Replaced building will be demolished and costs are included in the project. |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Alternative instructional delivery system, distance learning, other such means. |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - District or private funding sources |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Other: |

- Total construction period in number of Months:

Yes **No** **N/A**

Additional Forms/Pages enclosed:

- | | | | |
|-----------------------|-----------------------|-----------------------|--|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - District Five-Year Construction Plan or project related pages of said document |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Critical Life-safety third party justification |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Engineering test or other related documents |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - JCAF 32 Cost Estimate Summary and Anticipated Time Schedule |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | - Other FPP related forms: |
-

District Contact:

Phone No. :

Date:

FAX No. :

Prepared by:

E-mail Address:

The district approves and verifies that this proposal presents the basic scope and cost of the project.

Approved by:

<p>_____ Name / Title</p>	<p>_____ Signature / Date</p>
-------------------------------	-----------------------------------

APPENDIX E: FINAL PROJECT PROPOSAL

Final Project Proposal

20__ - __

Community College Construction Act of 1980
Capital Outlay Budget Change Proposal

Proposal Name

Community College District

College or Center

Date

Final Project Proposal Checklist

District: _____
College/Center: _____
Project: _____
Prepared by: _____ **Date:** _____

Section	Description	Status	Date
1.1	Title Page	_____	_____
2.1	Final Project Proposal Checklist	_____	_____
3.1	Approval Page — Final Project Proposal (with original signatures)	_____	_____
3.2	Project Terms and Conditions	_____	_____
4.1	Analysis of Building Space Use and WSCH — JCAF 31	_____	_____
5.1	Cost Estimate Summary — JCAF 32	_____	_____
5.2	Quantities and Unit Costs supporting the JCAF 32	_____	_____
6.1	Board of Governors Energy and Sustainability Policy	_____	_____
7.1	Responses to Specific Requirements — State Administrative Manual	_____	_____
8.1	California Environmental Quality Act	_____	_____
9.1	Analysis of Future Costs	_____	_____
10.1	Campus Plot Plan	_____	_____
10.2	Site Plan	_____	_____
10.3	Floor Plans	_____	_____
10.4	Exterior Elevations	_____	_____
10.5	Electrical Plans <i>(as needed)</i>	_____	_____
10.6	Mechanical Plans <i>(as needed)</i>	_____	_____
11.1	Guideline-Based Group 2 Equipment Cost Estimates — JCAF 33	_____	_____
12.1	Justification of Additional Costs exceeding Guidelines <i>(as needed)</i>	_____	_____
13.1	Detailed Equipment List ^{1/}	_____	_____

1/ Traditional projects—To be submitted when the Plan Year for requesting for CE funding is due.

APPROVAL PAGE

Final Project Proposal

Budget Year 20 -

District: _____

Project Location: _____
(College or Center)

Project: _____

The district proposes funds for inclusion in the state capital outlay budget (check items):
preliminary plans , working drawings , construction , equipment

District Certification

Contact Person: _____ **Telephone:** () _____
(Facilities, Planning and Development)

E-Mail Address: _____ **Fax:** () _____

Approved for submission: _____ **Date:** _____
(Chancellor/President/Superintendent Signature)

District Board of Trustees Certification

The Governing Board of the District approves the submission of this application to the Board of Governors of the California Community Colleges and promises to fulfill the succeeding list of Project Terms and Conditions.

(President of the Board of Trustees Signature and Date)

(Secretary of the Board of Trustees Signature and Date)

Attach a copy of the Board Resolution that substantiates approval of the application and promises to fulfill the Project Terms and Conditions.

Submit proposal to:
Facilities Planning and Utilization
Chancellor's Office
California Community Colleges
1102 Q Street, Suite 4550
Sacramento, CA 95811-6549

Chancellor's Office Certification

Reviewed by _____

Date Completed _____

PROJECT TERMS AND CONDITIONS

District: _____ **College/Center:** _____

Project: _____ **Budget Year:** _____

1. The applicant hereby requests state funds in the amount prescribed by law for the project named herein. All parts and exhibits contained in or referred to in this application are submitted with and made part of this application.
2. The applicant hereby assures the Board of Governors of the California Community Colleges that:
 - a. Pursuant to the provisions of Section 57001.5 of Title 5 no part of this application includes a request for funding the planning or construction of dormitories, stadia, the improvement of sites for student or staff parking, single-purpose auditoriums or student centers other than cafeterias. The facilities included in the proposed project will be used for one or more of the purposes authorized in 57001.5 of Title 5.
 - b. Any state funds received pursuant to this application shall be used solely for defraying the development costs of the proposed project.

If the application is approved, the construction covered by the application shall be undertaken in an economical manner and will not be of elaborate or extravagant design or materials.
 - c. Pursuant to the provisions of Section 81837 of the *Education Code*, approval of the final plans and specifications for construction will be obtained from the Board of Governors of the California Community Colleges **before** any contract is let for the construction.
 - d. No changes in construction plans or specifications made after approval of final plans which would alter the scope of work, function assignable and/or gross areas, utilities, or safety of the facility will be made without prior approval of the Chancellor's Office of the California Community Colleges and the Department of General Services, Division of the State Architects.
 - e. Pursuant to the provisions of Section 57011 of Title 5, upon completion of a project the governing board shall submit to the Chancellor's Office, within 30 days after the closure of the current fiscal year, a final report on all expenditures in connection with the sources of the funds expended. The district shall be subject to a state post-audit review of fund claims for all such projects.
 - f. Architectural or engineering supervision and inspection will be provided at the construction site to ensure that the work was completed in compliance with the provisions of Section 81130 of the *Education Code* and that it conforms to the approved plans and specifications.
 - g. Pursuant to the provisions of Section 8 of the *Budget Act*, no contract will be awarded prior to the allocation of funds to the Board of Governors by the Public Works Board.
3. It is understood by the applicant that:
 - a. No claim against any funds awarded on this application shall be approved which is for work or materials not a part of the project presented in this application as it will be finally allocated by the Public Works Board.
 - b. The failure to abide by each of the assurances made herein entitles the Board of Governors of the California Community Colleges to withhold all or some portion of any funds awarded on this application.
 - c. Any fraudulent statement which materially affects any substantial portion of the project presented in this application, as it may be finally approved, entitles the Board of Governors of the California Community Colleges to terminate this application or payment of any funds awarded on the project presented in this application.

-
4. It is further understood that:
- a. The appropriation which may be made for the project presented in this application does not make an absolute grant of that amount to the applicant.
 - b. The appropriation is made only to fund the project presented in this application, as it is finally approved, regardless of whether the actual cost is less than or equals the appropriation.
 - c. A reduction in the scope of the project or assignable areas shall result in a proportionate reduction in the funds available from the appropriation

CFIS #: 40.

No Sum

Help Me!

[\[View/Print Title 5 Summary\]](#)
[\[Add New Space\]](#)

Cost Guidelines:

JCAF 31- FPP Sample

CCI:

Reconst.	Rm. Type	Description	TOP No.	Department	No. Rms	No. Sta	Room No.	ASF	WSCH Capacity	Sec. ASF	Increase In Space
Totals:											

* Indicates manual override

COST ESTIMATE SUMMARY AND ANTICIPATED TIME SCHEDULE - JCAF 32:

To Q&UC Print Save Reset Delete

District: _____ College: _____ CFIS Ref. #: 40.
 Project Name: FPP Sample Date Prepared: 1/22/2016 Estimate CCI: 5977 DoF Project ID: _____
 Request For: L P W C E Round to Thousands: Escalation View: Estimate Estimate EPI: _____ Prepared by: _____

	Total Cost	State Funded		District Funded						
		State-Supportable	Non State-Supportable	State-Supportable	Non State-Supportable					
1. Site Acquisition Acres:										
2. Preliminary Plans Estimate CCI: 5977		100.00%		0.00%						
A. Architectural Fees (for preliminary plans)										
B. Project Management (for preliminary plans)										
C. Division of the State Architect Plan Check Fee										
D. Preliminary Tests (soils, hazardous materials)										
E. Other Costs (for preliminary plans)										
3. Working Drawings Estimate CCI: 5977		100.00%		0.00%						
A. Architectural Fees (for working drawings)										
B. Project Management (for working drawings)										
C. Division of the State Architect, Plan Check Fee										
D. Community College Plan Check Fee										
E. Other Costs (for working drawings)										
(Total PW may not exceed 13% of construction) True										
4. Construction Estimate CCI: 5977		100.00%		0.00%						
A. Utility Service										
B. Site Development, Service										
C. Site Development, General										
D. Other Site Development										
E. Reconstruction										
F. New Construction (building) (w/Group I equip)										
G. Board of Governor's Energy Policy Allowance (2% or 3%)										
H. Other										
5. Contingency		100.00%		0.00%						
6. Architectural and Engineering Oversight		100.00%		0.00%						
7. Tests and Inspections		100.00%		0.00%						
A. Tests										
B. Inspections										
8. Construction Management & Labor Compliance Program (if justified)		100.00%		0.00%						
A. Construction Management										
B. Labor Compliance Program										
9. Total Construction Costs (items 4 through 8 above)										
10. Furniture and Group II Equipment Estimate EPI: 3125		100.00%		0.00%						
11. Total Project Cost (items 1, 2, 3, 9, and 10)										
12. Project Data	Outside GSF	Assignable Square Feet	Ratio ASF/GSF	Unit Cost Per ASF	Unit Cost Per GSF	14.	State Funded	District Funded		District Funded Total
Construction						Acquisition	Supportable	Non Supportable		
Reconstruction						Preliminary Plans				
13. Anticipated Time Schedule							Working Drawings			
Start Preliminary Plans		Advertise Bid for Construction				Construction				
Start Working Drawings		Award Construction Contract				Equipment				
Complete Working Drawings		Advertise Bid for Equipment				Total Costs				

QUANTITIES AND UNIT COSTS SUPPORTING THE JCAF 32

Include a detailed cost estimate *in lieu of this sheet.*

Board of Governors Energy and Sustainability Policy

The Energy and Sustainability Policy of the Board of Governors of the California Community Colleges (CCC) provides goals and guidance for districts to achieve energy conservation, sustainable building, and physical plant management best practices necessary to reduce energy consumption. All major capital outlay projects starting design should at a minimum outperform by at least 15% the current Title 24 Standards (California Energy Code) for new construction and should at a minimum outperform the current Title 24 Standards by at least 10% for all major renovation projects. The following elements should be considered in the design of all buildings for the CCCs:

Siting and design considerations that optimize local geographic features to improve sustainability of the project, such as proximity to public transportation and maximizing use of vistas, microclimate, and prevailing winds;

Durable systems and finishes with long life cycles that minimize maintenance and replacement;

Optimization of indoor environmental quality for occupants;

Utilization of environmentally preferable products and processes, such as recycled-content materials and recyclable materials;

Procedures that monitor, trend, and report operational performance as compared to the optimal design and operating parameters;

Space should be provided in each building to support an active program for recycling and reuse of materials.

Sample Language

This project will be designed to exceed Title 24, Part 6 Energy Code by 15%, consistent with the Board of Governors Energy and Sustainability policy. The design should incorporate sustainable goals for site, energy efficiency, water use reduction, storm water management, occupant health as well as minimizing the buildings impact on the environment both by design and construction. Strategies will consider:

Natural and native planting materials will be incorporated around the building to minimize, if not eliminate, the irrigation demand.

Concrete walkways will be minimized to reduce storm water runoff and promote natural filtration into the soil as well as a reduction in the heat island effect.

Overhangs have been incorporated to shade glazing.

Low E dual glazing will be incorporated to reduce heat gain.

Roofing will incorporate cool roofing to reduce the heat island effect and heat gain.

Heating and cooling will be provided by a highly energy efficient HVAC system.

Independent HVAC controls provided where applicable.

Natural lighting will be incorporated into most spaces.

Energy saving lighting with automatic lighting controls and sensors.

Interior materials will be low in volatile organic compounds, high in recycled content.

Water efficient fixtures, faucets and devices will be incorporated.

A strict recycling program will be required during construction.

Requested participation in the local utility's energy incentive program.

Photovoltaic panels will be incorporated where appropriate.

Capital Outlay Budget Change Proposal (COBCP) — Cover Sheet

DF-151 (REV 06/17)

FISCAL YEAR	BUSINESS UNIT	DEPARTMENT	PRIORITY NO.
BUDGET REQUEST NAME		CAPITAL OUTLAY PROGRAM ID	CAPITAL OUTLAY PROJECT ID (7 DIGITS. FOR NEW PROJECTS LEAVE BLANK)
PROJECT TITLE		Project Status and Type STATUS: <input type="checkbox"/> NEW <input type="checkbox"/> CONTINUING TYPE: <input type="checkbox"/> MAJOR <input type="checkbox"/> MINOR	

Project Category (Select one)

CRI (CRITICAL INFRASTRUCTURE) **WSD (Workload Space Deficiencies)** **ECP (ENROLLMENT CASELOAD POPULATION)** **SM (SEISMIC)**

FLS (FIRE LIFE SAFETY) **FM (FACILITY MODERNIZATION)** **PAR (PUBLIC ACCESS RECREATION)** **RC (RESOURCE CONSERVATION)**

TOTAL REQUEST (IN THOUSANDS) \$	Phase(s) to be Funded	Estimated Total Project Cost (in thousands) \$
---	-----------------------	---

BUDGET REQUEST SUMMARY

******* THIS PAGE IS TO BE COMPLETED BY FPU. *******

REQUIRES LEGISLATION <input type="checkbox"/> YES <input type="checkbox"/> NO	CODE SECTION(S) TO BE ADDED/AMENDED/REPEALED	CCCI
REQUIRES PROVISIONAL LANGUAGE <input type="checkbox"/> YES <input type="checkbox"/> NO	BUDGET PACKAGE STATUS <input type="checkbox"/> NEEDED <input type="checkbox"/> NOT NEEDED <input type="checkbox"/> EXISTING	

IMPACT ON SUPPORT BUDGET

ONE-TIME COSTS YES NO **FUTURE COSTS** YES NO
 Future Savings YES NO Revenue YES NO

IF PROPOSAL AFFECTS ANOTHER DEPARTMENT, DOES OTHER DEPARTMENT CONCUR WITH PROPOSAL? YES NO

ATTACH COMMENTS OF AFFECTED DEPARTMENT, SIGNED AND DATED BY THE DEPARTMENT DIRECTOR OR DESIGNEE.

PREPARED BY	DATE	REVIEWED BY	DATE
DEPARTMENT DIRECTOR	DATE	AGENCY SECRETARY	DATE

DEPARTMENT OF FINANCE USE ONLY	
PRINCIPAL PROGRAM BUDGET ANALYST	DATE SUBMITTED TO THE LEGISLATURE

A. Purpose of the Project: (problem, program need, infrastructure deficiency)

1. Executive Summary
2. Problem Statement
3. Solution Criteria

B. Relationship to the Strategic Plan: (relevance of problem/need to mission and goals)

C. Alternatives: (for each, describe the proposed alternative and provide a brief summary of scope, cost, funding source, program benefits, facility management benefits, and impact on support budget)

1. Alternatives
2. Solution Criteria Matrix
3. Economic Analysis Matrix

D. Recommended Solution:

1. Which alternative and why?
2. Detailed scope description.
3. Basis for cost information.
4. Factors/benefits for recommended solution other than the least expensive alternative.
5. Complete description of impact on support budget.
6. Identify and explain any project risks.
7. List requested interdepartmental coordination and/or special project approval (including mandatory reviews and approvals, e.g. technology proposals).

E. Consistency with Government Code Section 65041.1:

Consistent with the provisions of Government Code Section 65041.1 - 65042, the California Community Colleges are exempt from these provisions of this government code section.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

(Reference: California Code of Regulations, Title 5 Section 57121)

District will have CEQA review requirements completed prior to request for Preliminary Plans approval

ANALYSIS OF FUTURE COSTS

Provide an economic analysis of additional instructional, administrative, and maintenance cost resulting from the proposed project, including personnel years. Disclose all new courses or programs to be housed in the project that may need Chancellor's Office review.

Personnel Cost

Certificated:

Classified:

Depreciation, Maintenance and Operation

Program/Course/Service Approvals

List all new programs/courses/services to be housed in this project or its secondary effects and give the date of approval. If there are no new programs/courses/services for which approval is required, please so state. This is not required for equipment-only projects.

Name of New Program/Course/Service

Date of Approval

DIAGRAMS OF CAMPUS, PROJECT SITE, BUILDING AREAS, AND ELEVATIONS

Provide the following pre-schematics in lieu of this sheet: Campus Plot Plan, Site Plan, Floor Plans, and Exterior Elevations. If the project has unusual characteristics that require further explanation, please provide the following conceptual drawings as needed: Electrical Plans and Mechanical Plans.

REVISED LEVEL OF DETAIL FOR FLOOR PLANS AND ELEVATIONS

(Sample)

CFIS #: 40.

To JCAF31

Help Me!

[View/Print Title 5 Summary]
[Show Detail]

JCAF 33- FPP Sample

EPI: 3202 (12/13) v

Rm. Type	Description	TOP No.	Department	No. Rms	No. Sta	Room No.	ASF	Sec. ASF	Increase In Space	Equip Cost Per ASF	Total Allowable Cost
											\$0
Totals:											

* Indicates manual override

JUSTIFICATION FOR ADDITIONAL COSTS EXCEEDING GUIDELINES

Construction (including Group 1 equipment), Equipment (Group 2 and Furniture)

District: _____ **College:** _____

Project: _____

Please use this and additional pages or diagrams to explain and justify items of cost not easily explained on other forms. Examples of items needing justification: site improvements, unusual or high-cost construction methods, or items of equipment that exceed ASF cost guidelines. This form, when completed, supplements both the "Quantities and Unit Costs Supporting the JCAF 32" and the "Guidelines-based Group 2 Equipment Cost Estimate" forms.

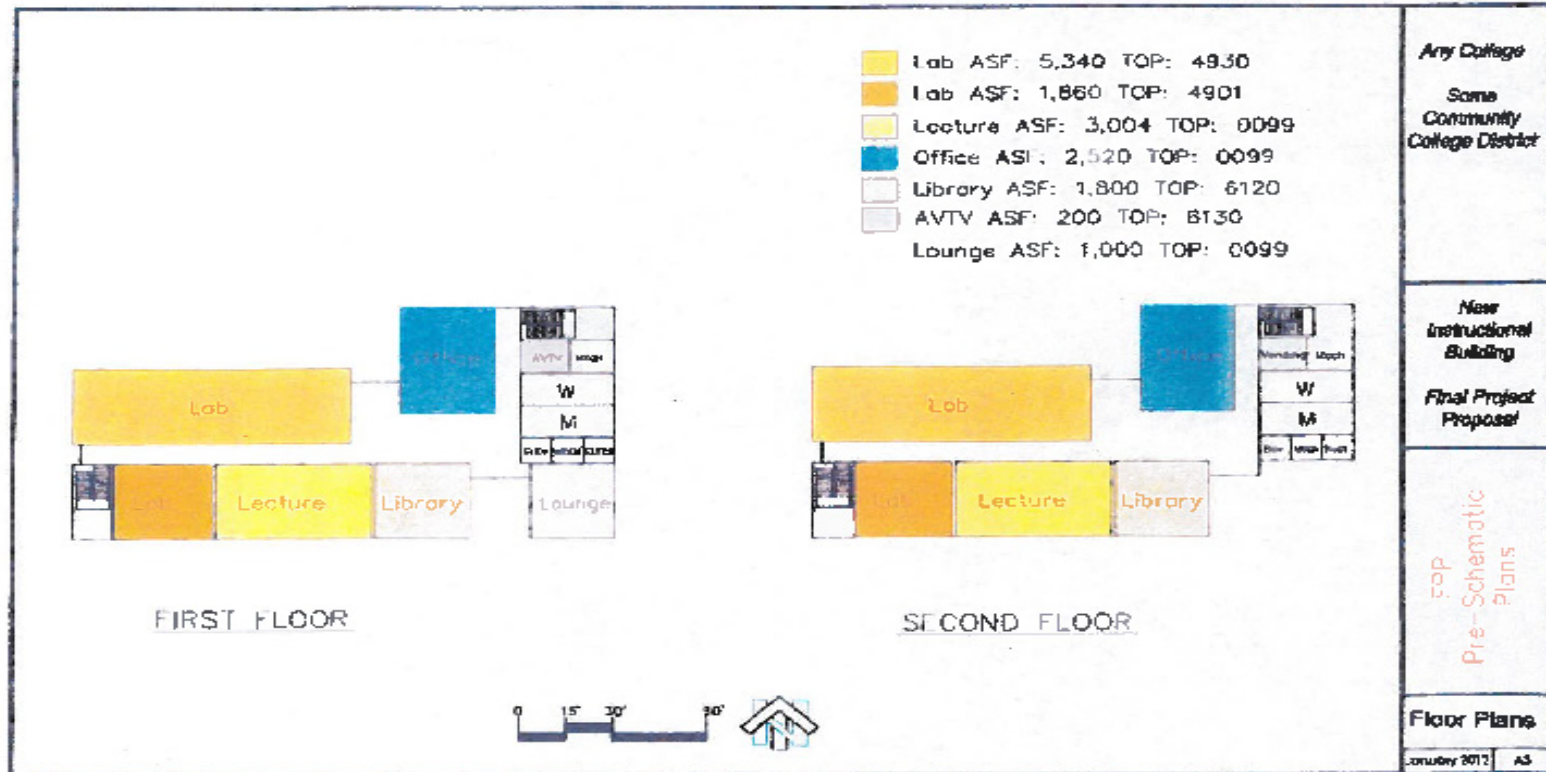
**DETAILED EQUIPMENT LIST
(SAMPLE)**

College: _____ Project: _____

Item #	Item Name ¹	Units	Cost per Unit	Total Cost
1	File cabinet	45	\$196.00	\$8,820.00
2	Monitor	15	\$225.00	\$3,375.00
3	Computer	15	\$1,200.00	\$18,000.00
<div data-bbox="365 781 1247 1029" style="border: 1px solid black; background-color: #cccccc; padding: 10px;"> <p>List to be provided when the Plan Year of funding the equipment phase is due to FPU:</p> <ul style="list-style-type: none"> • Ready Access= no change/due at FPP submittal • Traditional= due year after initial FPP submittal </div>			Total	\$30,195.00

¹ Cost requests for equipment are to be limited to those required for new programs or for net expansion space in existing programs.

APPENDIX F: SAMPLE FLOOR PLANS





APPENDIX G: FINAL PROJECT PROPOSAL CHECKLIST

- 1) Appoint project team and manager.
- 2) Review Master Plans, Five-Year Plans and previous FPPs and COBCPs.
- 3) Explore alternatives for executing this project and examine availability of like facilities/program offerings within the community.
- 4) Obtain objective quantitative data as justification for the project.
- 5) Find out if any new programs/courses are to be accommodated in this project or its secondary effects and initiate action for official approval of them.
- 6) Begin the process for obtaining the EIR Initial Study.
- 7) Investigate availability of alternative funding for energy systems.
- 8) Assemble the FPP, obtain the necessary approvals and submit electronically in FUSION and mail 2 hard copies (1 with original signatures) of the FPP to the Chancellor's Office.

APPENDIX H: FINAL PROJECT PROPOSAL COMPLETION CHECKLIST

The FPP shall consist of the following information, preferably in the sequence listed below.

- 1) Final Project Proposal Approval Sheet (with original signatures)
- 2) Project Terms and Conditions
- 3) Analysis of Building Space Use and WSCH (JCAF 31)
- 4) Cost Estimate Summary and Project Time Schedule (JCAF 32)
- 5) Quantities and Unit Costs Supporting the JCAF 32
- 6) Responses to Specific Requirements of the State Administrative Manual
- 7) California Environmental Quality Act (CEQA) Final Notice of Determination
- 8) Outline of Specifications
- 9) Federal Funds Detail (if applicable)
- 10) Analysis of Future Costs
- 11) Campus Plot Plan
- 12) Diagrams of building areas, site plans, elevations, and floor plans (Scaled drawings, 11" x 17", may be folded into the back of the guide.)
- 13) Guideline-Based Group 2 Equipment Cost Estimates (JCAF 33) [Report new construction separately from reconstruction]
- 14) Justification of Costs Exceeding Guidelines [Report construction and equipment costs separately]
- 15) Detailed Equipment List

APPENDIX I: PROJECT STATUS REPORT

PROJECT MANAGEMENT

District:		College:
Project Name:		
CO Contact:		Phone #:

Appropriations

Chapter #	Item #	CFIS #	Amount	Phase
	6870-	40.		
	6870-			
	6870-			
	6870-			
	6870-			
	6870-			

PHASE:

A = acquisition, **PP** = preliminary plans, **WD** = working drawings, **C** = construction, **E** = equipment

Consultants

Planner/Programmer:	
Project/Construction Management:	
Construction Manager:	
Architect/Engineer:	
Other:	
Other:	

Acquisition Detail

Amount authorized:		Date:	
Date Escrow Completed:		Deed of Trust Date:	
Appraisal Amount:		Date:	
Location: County/Parcel References			
Land: Donated or Purchased		Date:	
Funding source {circle choice}: 1) District, 2) State, 3) Other			
Restrictions on use:			

Preliminary Planning Detail

Amount authorized:		Date:	
% complete:		Date:	
Date CEQA completed:			
Date PPs submitted:			
Date PPs approved:			
Comments on changes in scope or budget:			

Working Drawing Detail

Amount authorized:		Date:	
% complete:		Date:	
Date sent to DSA:			
Date DSA Code Approval			
Date construction documents submitted to CO:			
Date construction documents approved by CO:			
Comments on changes in scope or budget:			

Construction Detail

Amount appropriated:		Date:	
Amount authorized for award:		Date:	
Start Date:		End Date:	
Name of Contractor:			
Inspector:			
% Complete:		Date:	
Comments on changes in scope and budget:			

Equipment Detail

Complete:		Date:	

List of Procurements {for large equipment items to go to bid on}

Date	Equipment	Amount	Balance

Progress Payments (By Appropriation):

Chapter _____

Date	\$Requested	\$Paid	Phase	Date of Pymt.	Balance

PHASE:

A= acquisition, PP = preliminary plans, WD =working drawings, C = construction, E = equipment

APPENDIX J: PROJECT DESIGN DEVELOPMENT TASKS CHECKLIST

Phase	Information Items	Completed
Master Plans	<ol style="list-style-type: none"> 1) Master plans are credible and up-to-date. 2) The objectives for the project or the project itself are included in the plans. 	
Initial Project Plans	<ol style="list-style-type: none"> 1) Project concept and parameters are defined. 2) Project scope and budget is established. 3) Expenditures and funding sources are identified. 4) The initial feasibility review is favorable. 	
Five-Year Construction Plans	<ol style="list-style-type: none"> 1) The five-year construction plan is credible and up-to- date. 2) The project is included in the five-year construction plan. 	
Final Project Proposal (COBCP)	<ol style="list-style-type: none"> 1) Review the final project proposal for project purpose, program, scope, calendar, and cost estimate. 2) Identify any problems with the scope, calendar or budget (cost estimate/quantities and unit costs supporting the JCAF 32). 3) Identify the project delivery methodology (e.g., traditional, ready access, multiple-prime, etc.) in the SAM narrative. 	

Phase	Information Items	Completed
Project Organization	<ol style="list-style-type: none"> 1) Define project administration during design. 2) Assemble the project management team. 3) Select consultants. 4) Contract with consultants. 5) Develop the workplan. 6) Select project delivery method. 7) Develop initial quality assurance plan. 8) Team review of previous planning and proposals. 	
Site Acquisition	<ol style="list-style-type: none"> 1) Site information complete. 2) Site approved by State Public Works Board (PWB). 3) Final appraisal and relocation costs completed. 4) PWB approves acquisition. 5) Acquisition completed. 	
Programming	<ol style="list-style-type: none"> 1) Initiate project administration and reporting procedures. 2) Monitor the workplan. 3) Monitor scope, calendar and cost 4) Coordinate district-supplied data. 5) Analyze project site including geotechnical findings and reports. 6) Complete initial environmental studies and reports. 7) Complete programming. 8) Update feasibility review. 9) Complete quality assurance plan. 	

Phase	Information Items	Completed
Schematic Design	<ol style="list-style-type: none"> 1) Project administration and reporting. 2) Monitor the workplan. 3) Monitor quality assurance plan. 4) Produce design alternatives. 5) Select design. 6) Prepare schematic documents. 7) Review design. 8) Prepare categorical exemption, negative declaration or draft EIR report. 	
Design Development	<ol style="list-style-type: none"> 1) Project administration and reporting. 2) Monitor the workplan. 3) Monitor scope, calendar, and cost. 4) Monitor quality assurance plan. 5) Evaluate educational systems and building systems alternatives. 6) Develop the design. 7) Design development documents. 8) Plan and design equipment and systems. 9) Conduct value engineering, if necessary. 10) Concurrent plan review. 	

Phase	Information Items	Completed
Preliminary Plans	<ol style="list-style-type: none"> 1) Complete Final EIR. 2) Consult with DSA periodically, if necessary. 3) Send geo-hazard/tech report to the CA Geological Services via DSA for approval. 4) Prepare preliminary plan package with scope, calendar and cost information. 5) Submit preliminary plans (schematic design) to Chancellor's Office for review and approval and to the State Public Works Board for review and approval. 6) Incorporation of any modifications per prior approvals. 	
Construction Documents	<ol style="list-style-type: none"> 1) Project administration and reporting. 2) Monitor the workplan. 3) Monitor scope, calendar and cost. 4) Monitor quality assurance plan. 5) Produce construction documents. 6) Perform plan check and code review. 7) Complete construction documents. 8) Activate the contract with the construction manager if not already active. 9) Coordinate and document plan check. 10) Submit working drawings and specifications to DSA and obtain approval. 	

Phase	Information Items	Completed
Bidding and Award of Contract	<ol style="list-style-type: none"> 1) Submit to Department of Finance for approval to bid. 2) Project administration and reporting. 3) Monitor the workplan. 4) Monitor quality assurance plan. 5) Prepare the bid documents. 6) Submit to CO and DOF for approval to bid. 7) Advertise bid and provide instructions to bidders. 8) Conduct pre-bid meetings and addenda. 9) Bid opening and evaluation. 10) Monitor scope, calendar, and cost. 11) Submit to CO and DOF for approval to award the bid. 12) Receive contractor submittals. 13) Award construction contract. 	
Pre-Construction Organization	<ol style="list-style-type: none"> 1) Determine project administration and any partnering agreements for construction. 2) Receive contractor schedule of values, construction schedule, substitutions. 3) Select and contract for testing and inspection. 	

Phase	Information Items	Completed
Construction	<ol style="list-style-type: none"> 1) Project administration and reporting. 2) Monitor workplan. 3) Monitor quality assurance plan. 4) Coordinate district supplied materials and systems. 5) Monitor testing and inspection. 6) Monitor mitigation measures. 7) Participate in construction meetings. 8) Review contractor submittals. 9) Review construction schedule. 10) Negotiate change orders. 11) Negotiate disputes and claims. 12) Conduct site reviews and photography. 13) Close contract. 	
Systems and Group 1 and 2 Equipment	<ol style="list-style-type: none"> 1) At 50% completion of construction, request authority from the CO and DOF to release Group 2 equipment funds. 2) Procure and install Group 1 and 2 equipment. 3) Commission the development/installation of Group 1 and 2 equipment. 	
Post Construction	<ol style="list-style-type: none"> 1) Project administration. 2) Document coordination. 3) Move-in. 4) Warrantee coordination. 5) Post-construction evaluations: Six-month evaluation. Twelve-month evaluation. 	

When bid results are more than the approved appropriation and additional state funds are not available (due to the full commitment of authorized funds and our policy of no augmentations, increases in State funding at this stage of a project generally are no longer available).

Item #	Items to Submit	# of Copies	Completed
1	Letter from the district identifying deductive alternates to apply or other efforts taken or planned to reduce project costs to level of available funds. If applicable, letter also details plans to provide additional non-state capital outlay funds to the project.	2	
2	Revised JCAF 32 if cost changes due to bid award.	2	
3	Tabulation of the base bids and all the bid alternates.	1	
4	A copy of the bid the district intends to accept.	2	
5	Reason for not awarding to the lowest bidder, if applicable.	2	
6	Board of Trustees approved action item selecting lowest qualified bidder.	1	

**REQUEST FOR AUGMENTATION
Submittal Checklist**

Augmentations are *not* considered for the following:

- Delays in placing the project out to bid or during construction due to the need for further design development or in anticipation of a better bid market resulting in lost purchasing power over time;
- Delays caused by regulatory agencies;
- Inaccurate estimating — bid results that substantially vary from the pre-bid cost estimate;
- District- or architect-initiated changes to the project (see item one above);
- Building a modified scope by including additive alternates (or not applying deductive alternates) as agreed when project was approved to go to bid (i.e., when the project obtained proceed to bid authority per a signed DF 14D).

	Items to Submit	# of Copies	Completed
1	A bid tabulation comparing the authorized funds with all bids after application of all deductive alternates.	2	
2	A district letter requesting the augmentation with: a. A final cost estimate at current building construction cost index based on receipt of bids, b. A complete narrative description justifying the need for such an augmentation.	2	
3	Explanation of the efforts made to reengineer the project and reduce costs.	2	
4	Calculation of the amount to be requested after applying all deductive alternates and subtracting all change orders not initiated as a result of increased regulatory requirements or unforeseen site conditions.	2	

APPENDIX K: ENROLLMENT GUIDE

GUIDE FOR COMMUNITY COLLEGE DISTRICTS

Projection of Enrollment and Annual Average Weekly Student Contact Hours for New Colleges and Educational Centers

Background

To ensure that enrollment projections are based upon comparable population data and projections, and upon reasonable and comparable assumptions, enrollment projections for new centers and campuses that are to be included in a Needs Assessment/Request for Approval require approval by:

- The Chancellor's Office, Facilities Planning Unit, and
- The Department of Finance, Demographic Research Unit

When submitting a request for approval, districts should allow a minimum of eight weeks for review. Facilities Planning Unit and Demographic Research Unit staff are available on a limited basis to meet with districts during the development of a projection and discuss issues such as data, projection methodology, and assumptions to assure conformity with guidelines.

Any request for approval of enrollment projections should be submitted to:

Demographic Research Unit
Department of Finance
915 L Street
Sacramento, CA 95814-3701
(916) 322-4651

Facilities Planning Unit
California Community Colleges Chancellor's Office
1102 Q Street, Suite 4554
Sacramento, CA 95811-6539
(916) 322-1438

Documentation

A request for approval of an enrollment projection must include the following documentation:

- Copy of the Letter of Intent (with any attachments)

- Authorization from the Board of Governors to proceed with a Needs Study/acceptance of the Letter of Intent
- Site description
- Maps of district and service area showing locations of current facilities, commute times, and any other relevant details
- Description of proposed curriculum and time line for development
- Population projections for the district and service area, preferably from the local council of governments or county planning agency
- Historical enrollment data (unduplicated fall term- end enrollment, consistent with official data reported to and accepted by the Chancellor's Office)
- Historical annual average Weekly Student Contact Hours (WSCH), consistent with apportionment data reported to the Chancellor's Office on the report CCFS-320 (see simplified computation below)
- And enrollment projections that meet the following guidelines:
 - For a proposed new educational center, enrollment projections for each of the first five years of operation (from the center's opening date) must be provided.
 - For a proposed new college or university campus, enrollment projections for each of the first ten years of operation (from the college or campus opening date) must be provided.
 - When an existing educational center is proposed to be converted to a new college or university campus, the centers previous enrollment history or the previous ten year's history (whichever is less) must be provided.

Recommended Methodology

Identify the primary service area of the new facility: The service area should be within a reasonable commute radius (generally no more than 30 minutes) and closer to the new facility than to any other existing community college facility. Enrollment data tabulated by ZIP code is useful in establishing attendance patterns and service area boundaries. Population must be based within district boundaries.

Obtain historical and projected population data for the district and the identified service area: Resources of population data are typically the Department of Finance, Demographic Research Unit, local councils of government (COGs), and county planning agencies. Projections produced by private vendors should be consistent with, or controlled at the county level to, official numbers.

Calculate adult population: Identify the population age between 18-64.

Document historical enrollment and WSCH patterns for your district and for the students residing within the identified service area: Totals for the district must be consistent with those reported by the Chancellor's Office.

Calculate historical participation rates: Divide enrollment by population (population age 18-64, if possible).

Project enrollment: To project enrollment after the new institution opens, multiply the projected service area population by the projected participation rate for each year. Participation rates are generally assumed to approach but not exceed the district's participation rate as curriculum expands at the new center or campus.

Generally, the WSCH/enrollment ratio is expected to gradually increase to more closely resemble the district's ratio as the new facility grows.

Calculate annual average WSCH for the projection period: Multiply enrollment by the ratios developed in the previous step.

Enrollment projection methods other than that discussed above may be acceptable, provided they are

- Adequately documented,
- Based upon official population projections, and
- Based upon reasonable, justified assumptions.

If a method other than the recommended method is used, the district should discuss the method with staff from the Facilities Planning Unit of the Chancellor's Office and the Demographic Research Unit of the Department of Finance.

Annual Average Weekly Student Contact Hours (Simplified)

To calculate Annual Average Weekly Student Contact Hours, from the annual or revised annual CCFS-320 Apportionment Report and academic calendar that the district submits to the Fiscal Services Unit of the Chancellor's office:

- Use the 35-week academic year calendar as a baseline for all colleges, including compressed academic calendar colleges.
- Include student contact hours of both resident and nonresident students.
- Add total hours of daily census procedure courses, alternative attendance accounting procedure-daily courses*, and actual hours of attendance procedure courses (i.e., "positive attendance"). Divide that total by the 35-week academic year and add it to the "day" and

“extended day” mean of all weekly census procedure courses and alternative attendance accounting procedure-weekly courses* (first census WSCH for each term, divided by the number of terms). **Note:** summer intersessions are not included in these calculations.

*Per Title 5 Section 58003.1(f): the Alternative Attendance Accounting Procedure is the required procedure for Cooperative Work-Experience courses, Independent Study courses, and for Distance Education Courses that do not qualify any of the basic attendance accounting procedures (i.e., Weekly Census, Daily Census, or Positive Attendance).

APPENDIX L: STATE CAPITAL OUTLAY FUND RELEASE PROCESS

Items required from the district prior to releasing funds.

Release Preliminary Plans

- 1) IOU Letter of Intent (for 2010-11 projects only; effective 2011-12, letter required at FPP submittal)

Approve Preliminary Plans / Release Working Drawings

- 1) District request letter
- 2) Copy of Preliminary Plans (half size is preferable; full size is okay)
- 3) Preliminary Specifications
- 4) JCAF32 – revised if necessary
- 5) Cost details (quantities and unit costs) that tie to JCAF32
- 6) Construction Schedule (found on the base of the JCAF32)
- 7) JCAF31
 - a) If the space array changed, district must provide a side-by-side comparison with justification for the change from FPP.
- 8) IOU Checklist letter
- 9) Project's CEQA document

Approve Working Drawings / Request Proceed to Bid

- 1) District request letter
- 2) JCAF32 – revised if necessary
- 3) Cost details (quantities and unit costs) that tie to the JCAF32
- 4) Construction Schedule (found on the base of the JCAF32)
- 5) JCAF 31
 - a) If the space array changed, district must provide a side-by-side comparison with justification for change from FPP/preliminary plans.
- 6) DSA Stamped Plans (half size is preferable; full size is okay)
- 7) DSA Stamped Bid Specifications
- 8) 2 copies 11" x 17" DSA Stamped site plan, elevations and floor plans

9) Bid Format Information

- a) Additive and Deductive alternates with estimated costs

10) Title 24 Energy letter from the district's utility or DSA confirming the percentage that the district exceeded Title 24 (Board of Governor's Energy and Sustainability policy)

Request Bid Award

1) District's letter requesting approval to award the bid to the lowest responsive bidder (insert name) in the amount of (state bid amount), and identify which alternates, if any, are elected;

- a) If the district does not wish to award the bid to the lowest responsive bidder, please explain.
- b) If the lowest responsive bid exceeds the state appropriation, please state how the excess amount will be covered, e.g. the district will fund all costs that exceed the state appropriation.
- c) The letter should include the following certifications:
 - i) Project meets CEQA compliance requirements;
 - ii) Project scope has not changed from that as defined in previous reporting;
 - iii) Costs, funding and schedules have not changed from that as defined in previous reporting.

2) All bid tabulations, arrayed with base bid and alternates (if any) separately (or each multiple prime bid, if applicable)

3) Actual lowest responsive bid (do not include bonds, subcontractor lists, etc., unless specifically requested); actual lowest responsive bids for each prime contractor (if multiple prime bid)

4) Board of Trustees approved action item selecting the lowest qualified bidder – it is required that the district's Board of Trustees adopt the resolution "contingent upon state approval".

5) JCAF32, if cost changes due to bid award

Release of Equipment Funds

1) District request letter

2) Copy of Inspector of Record certifying (stating) construction is at least 50% complete

3) Revised group 2 equipment list of state supportable items

Project Cost or Scope Change

- 1) District request letter
- 2) JCAF32 – revised if necessary
- 3) Cost details (quantities and unit costs) that tie to the JCAF32
- 4) JCAF31
 - a) If the space array changed, district must provide a side-by-side comparison with justification for the change from FPP.
- 5) Revised plans may be required
- 6) Justification and Explanation of the change(s)

APPENDIX M: PROJECT CLOSEOUT

State administrative regulations require that all projects financed with state bonds comply with Project Closeout procedures. The Chancellor's Office last issued Project Closeout procedures in a December 2008 memo. This communication supersedes the December 2008 memo and revises the Project Closeout procedures in response to communications received from the Office of State Audits and Evaluations at the Department of Finance (DOF) regarding the 2009 audits of state funded projects.

The Project Closeout procedures on state funded projects continue to be administered through the FUSION system. The main objectives of the closeout procedures are to ensure the following:

- 1) The project is complete *with all state funds claimed* and all disputes regarding project costs, if any, resolved;
- 2) The project scope is consistent with that approved by the Department of Finance and the Legislature;
- 3) FUSION has been updated to show *final* Project Costs per the JCAF 32 and final Quarterly Report;
- 4) The final JCAF31 in FUSION is consistent with the project as depicted in the district's certified Space Inventory; and
- 5) The district followed Public Contract laws and regulations in the construction of the project.

The procedures detailed below will ensure that projects are closed out in compliance with state requirements. Once projects have the appropriate closeout documentation, the projects can be removed from the FUSION Project module and the district's five year plans. ***All projects will remain in the FUSION Project module until all project closeout documentation as detailed below has been received by the Chancellor's Office.***

CLOSEOUT PROCEDURES

There are two phases in the Project Closeout process involving two Change Requests in the FUSION Project module.

- 1) **Project “Online” Change Request:** Formal notification from the district that the facility is “Online” (i.e., occupied/in use) and the space created by the project, if any, included in the district’s Space Inventory.
- 2) **Project “Completed” Change Request:** Formal notification from the district that the project is “Completed,” i.e., all state funds have been claimed, all disputes resolved, and the district has received a “Certification & Close of File” letter on the project from the Division of the State Architect (DSA).

Project “Online” Change Request

- Create a new change request in the FUSION PROJECT module.
- Designate project as “Online” by clicking the “Online” box in the project’s title screen.
- Revise the JCAF31 to reflect the final project space. This should be consistent with the project space entered into the district’s Space Inventory (note: this final JCAF31 will provide a record of the project space. FUSION will remove the space from the district’s 5-Year Plan when the Change Request is approved).
- Attach a side-by-side comparison of the project space as approved at Working Drawings and as entered into the JCAF31 and the district’s Space Inventory.
- Attach a copy of the Notice(s) of Completion to the Change Request.
- Submit the Change Request to the Facilities Planning Unit (FPU) for approval.
- E-mail the district’s FPU Specialist to alert them that a Change Request is pending approval.

Project “Completed” Change Request

The district cannot submit a Change Request in FUSION to show the project as “Completed” until:

- 1) Any costs in conflict between the district, state, and/or other parties have been resolved;
- 2) The district has finished its efforts to seek state reimbursement of expenditures from the state;
- 3) The project fiscal accounts at the state level can be closed and **any remaining funds can be reverted**; and
- 4) The district has received DSA's "Certification & Close of File" letter on the project.

Project "Completed" Procedures:

- Create a Change Request in the FUSION PROJECT module.
- Designate the project as "Completed" by clicking the "Completed" box in the project's title screen.
- Attach a letter on district letterhead to the Change Request certifying:
 - 1) the project is complete and all reimbursement claims are settled;
 - 2) the project was constructed as approved by DOF and the Legislature and as depicted in the district's certified Space Inventory Report (if applicable); and
 - 3) the district followed Public Contract law in the construction of the project.
- Revise the JCAF32 to reflect actual project costs (both state and local) and the actual project calendar.
- Complete the Final Quarterly Report for the project. The project costs should be consistent with the Final JCAF32.
- Check that the JCAF32 costs and the Quarterly Report costs are consistent with the Claims shown in FUSION.
- Attach the following PDF files to the Project "Completed" Change Request:
 - 1) DSA "Certification & Close of File" letter;
 - 2) DSA 6 forms (including: DSA6; DSA6 A/E; and DSA-168);
 - 3) Space Inventory Report 17 page(s) from the district's latest certified Space Inventory; and
 - 4) Final list of equipment purchased (for projects receiving release of equipment after 6/1/2012). Submit the change request to FPU for approval.

- E-mail the district's FPU Specialist to alert them that a Change Request is pending.

A sample Project Closeout package has been posted to the Chancellor's Office website (<http://extranet.cccco.edu/Divisions/FinanceFacilities/FacilitiesPlanning/ProjectCloseout.aspx>). The package includes an example of a project closeout letter, side-by-side comparison, and final equipment list as well as all the other forms previously discussed.

APPENDIX N: NON-COLLUSION AFFIDAVIT

PCC §7106: Every bid on every public works contract of a public entity shall include a declaration under penalty of perjury under the laws of the State of California, in the following form:

“NONCOLLUSION DECLARATION TO BE EXECUTED BY
BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____[date], at _____[city], ___[state].”

APPENDIX O: QUARTERLY REPORTS

In 2003, the Chancellor's Office suspended the requirements for submitting Capital Outlay Quarterly Reports due to state budgetary reductions to staffing levels. Since that time the Chancellor's Office has been out of compliance with the State Administrative Manual (SAM) Section 6864 which requires each state agency with a capital outlay appropriation to submit to the Department of Finance a quarterly report by the 15th of each month following the close of a quarter.

In addition to the SAM requirement for quarterly reporting the passage of Prop 1D in 2006 carried with it a requirement for more project information transparency. Beginning with those projects funded by Prop 1D proceeds the Chancellor's Office must provide periodic project status updates to the Governor's Bond Accountability website. We have been quite successful in doing data capture from FUSION (the CCC system's facilities management database), however there is a significant amount of local funding, change order, and timeline changes that are not currently available in the FUSION database.

In order to bring the Chancellor's Office back into compliance with SAM reporting requirements and to provide full project information to the Governor's Bond Accountability website, the FUSION programmers have developed a streamlined Quarterly Report that can be completed and submitted electronically to the Chancellor's Office. The FUSION Quarterly Report is available in the FUSION Project Module, organized by district/campus and project name. District staff familiar with preparing and submitting Claims will find the Quarterly Report tab on the same pull down menu as the Claims tab in the Project Module. In order to diminish the amount of data entry required the programmers have created a report that will reach into the various modules of FUSION and self-populate as much of the Quarterly Report as possible.

The Quarterly Report data to be filled out by District staff will consist of the following information:

- Current local financing budget by phase
- Current project to date **local** expenditures by phase (FUSION is already capturing and reporting state expenditures)
- Number of Change Orders
- Current project to date cost of Change Orders

- Actual Completion Date of project (not entered until reached)
- Beneficial Occupancy Date (not entered until reached)
- Close Fiscal Accounts Date (not entered until reached)
- Comments explaining delays, major change orders, etc. as necessary
- There is a provision for attaching documents to the Report if necessary

We are requiring all Districts that have received state funding beginning with the 2007 fiscal year to start submitting Quarterly Reports at the close of the 7/1–9/30/2010 quarter. All future **quarterly reports will be due by the 15th of the month following the closure of that quarter.**

In order to assist District staff in populating the FUSION Quarterly Reports, the programmers have developed a self-help tool that can be found in the eManual portion of FUSION. Staff can contact the FUSION Help Desk at fusionhelp@foundationccc.org or call 1-866-325-3222 for further assistance if needed. The Quarterly Report will be included in future FUSION Training Sessions to be scheduled around the state.

We recognize this may require a bit of an increase in project management and reporting requirements on the part of the District, however we feel that it is imperative that the Chancellor's Office get back into compliance with the Department of Finance and the Administration in order to not jeopardize future Community College State Capital Outlay Program funding. There will be a silver lining to this effort in that as the FUSION database becomes more fully populated with not only state expenditures but also the District's portion of funding for projects a clearer picture of actual project costs will become available to assist the Chancellor's Office in evaluating its building cost guideline allowances.

APPENDIX P: DF14D

REQUEST FOR APPROVAL TO PROCEED OR ENCUMBER FUNDS

The Department of California Community Colleges hereby requests PWB / DOF action related to the following project:

1. Project ID: 40.xx.xxx Project Title: _____ District Name CCD: _____
Chap/Item: Ch. xx/xx, 6870-xx-xxxx(x) PWCE* Project Name: _____
College: _____
2. Requested PWB/DOF Action Date: xx/xx/20xx Date of Last Approval: xx/xx/20xx
3. Requested Action: (all reporting requirements related to this request as defined in SAM, are attached)
Site Acquisition — Section 6848 (an agenda package has been submitted to DGS)
Approve Preliminary Plans — Section 6851
Approve Working Drawings — Section 6852
Approve Proceed to Bid — Section 6852
- X Approve Construction Contract Award — Section 6853 — C Total = \$x,xxx,000
(Encumber & release state funds = \$xx,xxx,000; local funds = \$xx,xxx,000)
Request for Augmentation / Reversion — Section 6861, 6862
Approve Scope Change — Section 6863
- X Other, Specify:
Bid Savings (State) reverted at a later date.
4. Project Completion Reporting: (reporting requirements as defined in Section 6856 are attached)
Project Occupancy
Project Completion — Estimated
Project Close-out
5. Project Certifications:
CEQA Compliance: (reporting requirements as defined in Section 6850 are attached)
- X This project meets CEQA compliance requirements.
The action requested does not invalidate the CEQA compliance.
The action requested mandated a review of the CEQA compliance.
Scope Changes: (reporting requirements as defined in Section 6863 are attached)
- X Project scope has not changed from that as defined in the previous reporting.
A change in project scope is necessary in order to proceed with the project.
Costs/Funding/Schedule Changes: (reporting requirements as defined in Section 6861 are attached)
- X Costs, funding, and schedules have not changed from that as defined in the previous reporting.
Changes in cost, funding and/or schedules are necessary in order to proceed with the project.

I hereby certify that the above is accurate and that the necessary reporting requirements as defined in SAM are included with this request.

Project Manager _____ Date _____ Department Director/Designee _____ Date _____

RESULTING ACTION

_____ The above action(s) are approved. Authority is granted to proceed when funding authority permits.

_____ The following must be addressed prior to granting approval of all actions:

Department of Finance _____ Date _____ DF 14D (rev 7/97)

*See applicable budget language on page 2.

SEC. 1.80

- (a) The following sums of money and those appropriated by any other sections of this act, or so much thereof as may be necessary unless otherwise provided herein, are hereby appropriated for the use and support of the State of California for the 20xx–xx fiscal year beginning July 1, 20xx, and ending June 30, 20xx. All of these appropriations, unless otherwise provided herein, shall be paid out of the General Fund in the State Treasury.
- (b) All capital outlay appropriations and reappropriations, unless otherwise provided herein, are available as follows:
 - Studies, preliminary plans, working drawings, and minor capital outlay funds are available for expenditure until June 30, 20xx.
 - Construction funds are available for expenditure until June 30, 20xx, if allocated through fund transfer or approval to proceed to bid by the Department of Finance by June 30, 20xx. Any funds not allocated by June 30, 20xx, shall revert on July 1, 20xx, to the fund from which the appropriation was made.

All other capital outlay funds are available until June 30, 20xx.

APPENDIX Q: DF14D APPROVAL LETTER

STATE OF CALIFORNIA

ELOY ORTIZ OAKLEY, CHANCELLOR

**CALIFORNIA COMMUNITY COLLEGES
CHANCELLOR'S OFFICE**

1102 Q STREET
SACRAMENTO, CA 95811-6549
(916) 445-8752
<http://www.cccco.edu>



PRELIMINARY PLANS FUNDS APPROPRIATION AND
RELEASE OF PRELIMINARY PLANS FUNDING ONLY

July xx, 201x

First Last Name, Vice President Operations or Director of Facilities

ABC College

Walt Reno Avenue

Rogaski, California 9XXXX

Site: ABC College

Project Name: Fine Arts Complex

CFIS Number: 40.XX.XXX

DOF Project ID: 0001234

Dear Vice President Last Name:

Funds for the above project have been appropriated from the 2016 California Community College Capital Outlay Bond Fund in fiscal year 2017-18 in the amount of \$945,000 for Preliminary Plans.

What We Have Now

Attached is a form DF 14D releasing the preliminary plans funds for district use. Subject to local actions, this authorizes the district to expend funds for preliminary plans only for this project and to submit reimbursement claims for these funds. Please note that any claims for preliminary plans prior to the latest signature date on this DF 14D (July 24, 2017) cannot be reimbursed.

What the District Does Next

Prior to releasing working drawings (construction drawings) funds, **the preliminary plans for this project must be approved by the State Public Works Board (SPWB)**. The approval must be received prior to the end of fiscal year 2017-18 (June 30, 2018). The project's schedule calls for the preliminary plans to be approved no later than June 30, 2018. To help accomplish this and to avoid delay in the funding of future phases, the preliminary plans package should be submitted to the Chancellor's Office no later than **January 15, 2018** (if there are no changes in scope and/or costs) to meet the March or April SPWB meeting, and it must consist of the following:

1. Completed preliminary plans, half-size is preferred (including 2 11" x 17" copies of the site plan, elevation and floor plans) and specifications;
2. JCAF 32 - updated cost summary and project schedule, if necessary;
3. Architect's estimate (cost details, i.e. Quantities and Unit Costs which tie to the JCAF 32);
4. JCAF 31 – Analysis of Building Space Use and WSCH
 - * If there are space changes, contrast FPP to preliminary plans, i.e. a side-by-side comparison with justification for change from FPP.
5. Final CEQA determination stamped by the State Clearinghouse—**all CEQA waiting periods must be completed before the preliminary plans can be approved by the SPWB**. Please note that filing only with the county is not adequate for state funded projects.
6. Design recommendations by IOU/POU called for approval of preliminary plans.
7. District letter requesting the approval of preliminary plans and release of working drawings (sample attached). This letter must certify that the project is:
 - a. Within scope as approved by the Legislature
 - b. Within cost as approved by the Legislature
 - c. The CEQA requirements have been met
 - d. That community college districts are local entities and the State does not have title to their real property, hence districts acknowledge that they have full responsibility for clearing due diligence issues for general obligation bond projects

If the project is not within scope and/or cost, please discuss the changes with the Chancellor's Office in advance of submitting your preliminary plans package, and allow an additional eight to twelve weeks for processing for SPWB approval.

When the preliminary plans have been approved and working drawings funds have been released, we will advise the district via another signed DF 14D that provides for these actions. The district must not commence with working drawings prior to receipt of the signed DF 14D.

The Whole Picture

The DF 14D form documents the official actions taken by the Chancellor's Office and the Department of Finance. These documents are important and copies should be kept with the project file and with your accounting/claims department. Costs incurred for any project phase prior to the latest signature date on the appropriate DF 14D will not be reimbursed. DF 14Ds are required for the following actions:

- encumbrance and release of preliminary plans funds
- approval of preliminary plans
- encumbrance and release of working drawings funds
- authority to proceed to bid and/or rebid
- encumbrance and release of construction funds providing the authority to award bid
- encumbrance and release of Group II equipment funds, once construction is at least 50% complete according to the inspector of record's report
- approval of scope and/or cost changes at any stage (if necessary)
- augmentation/reversion of funds (Chancellor's Office/Department of Finance initiated action)

Quarterly Reports

The State Administrative Manual (SAM) Section 6864 requires each California Community College District with an active capital outlay appropriation to submit a quarterly report. In addition to the SAM requirement for quarterly reporting, the passage of Prop 1D in 2006 and Prop 51 in 2016 carried with them a requirement for more project transparency.

Quarterly reports are due by the 15th of the month following the closure of the fiscal year quarter, i.e. Jan 15, April 15, July 15 and October 15. If quarterly reports are not submitted on time, the district potentially risks: 1) delayed authorization to release additional state funds for a project; and/or 2) suspension of pending or future claims submitted for reimbursement.

Please see FP 10-07 and FP 16-11 for additional guidance and policy. Districts are required to submit quarterly reports on a project until the project has been completely closed out (phase 2 of project close out).

We are here to help

We look forward to a project that is completed under budget, within scope and on schedule. If you have any questions, please contact me at XXXXX@cccco.edu or (916) 123-4567.

Sincerely,

Specialist/PA2
Facilities Planning

cc: First Last Name, Associate Superintendent/Vice President, Administrative Services

PRELIMINARY PLANS PACKAGE SAMPLE LETTER

Chancellor's Office Specialist
California Community Colleges
Chancellor's Office
1102 Q Street, 6th Floor
Sacramento, California 95811

Dear _____:

XXX Community College District is requesting approval of preliminary plans and release of working drawings for the XXX Project at XXX College. Enclosed are the following:

- _____ Preliminary Plans (including 2 11" x 17" copies of the site plan, elevation, and floor plans) and Specifications
- _____ JCAF 32 — Cost Estimate Summary and Anticipated Project Schedule
- _____ Quantities and Unit Costs Supporting the JCAF 32 (architect's cost estimate)
- _____ Final "Notice of Determination" *stamped by the State Clearinghouse*
- _____ Design recommendations by IOU/POU called for approval of preliminary plans
- _____ JCAF 31 — Analysis of Building Space Use and WSCH (space array)

I certify the following:

- The scope and costs of the project are consistent with the project as approved by the Legislature in the 20XX-XX budget;
- CEQA requirements for this project have been met; and
- Community college districts are local entities and the State does not have title to their real property and XXX CCD acknowledges that XXX CCD has full responsibility for clearing due diligence issues for general obligation bond projects.

Authorized Signatory

APPENDIX R: AGENCY CONTACT INFORMATION

Project Planning Resources

Department of Transportation — Aeronautics Program

Aeronautics Evaluations MS 40 P.O. Box 942874
Sacramento, CA 94274-0001
PH: (916) 654-4959
www.dot.ca.gov/hq/planning/aeronaut/index.htm

Department of Conservation — Division of Mines and Geology

Attn: Seismic Hazard Assessment
801 K Street, MS 12-30
Sacramento, CA 95814
PH: (916) 324-7324
FX: (916) 445-3334
www.conservation.ca.gov/cgs/geologic_hazards/earthquakes/Pages/index.aspx

Department of General Services — Office of State Publishing

Office of State Publishing, IMS P-06
344 North Seventh Street
Sacramento, CA 95811-0212
PH: (916) 445-5386
www.dgs.ca.gov/osp

Project Design Resources

Department of General Services — Division of the State Architect

Division of the State Architect
1102 Q Street, Suite 5000
Sacramento, CA 95811
PH: (916) 327-3369
www.dgs.ca.gov/dsa/Programs/progProject.aspx

**Department of General Services —
California Building Standards Commission**

Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833
PH: (916) 263-0916
FX: (916) 263-0959
Email: cbsc@dgs.ca.gov
www.bsc.ca.gov/Home.aspx

California Energy Commission — Energy Assessments Division

California Energy Commission Supply Analysis Office
1516 Ninth Street, MS-20
Sacramento, CA 95814
PH: (916) 654-4755
www.energy.ca.gov/assessments/

Funding and Budget-Related Agencies

**California Governor’s Office of Emergency Services (CalEOS)
Recovery Section**

California Office of Emergency Services Main Office
3650 Schriever Avenue
Mather, CA 95655-4203
PH: (916) 845-8510
www.caloes.ca.gov/Cal-OES-Divisions/Recovery

Department of Finance

www.dof.ca.gov

Legislative Analyst’s Office

www.lao.ca.gov

Department of General Services

www.sam.dgs.ca.gov/Home.aspx

Environmental Reports and Project Approvals

California Community Colleges, Chancellor's Office — Facilities Planning and Utilization Unit

California Community Colleges, Chancellor's Office

Attn: Facilities Planning and Utilization

1102 Q Street

Sacramento, CA 95811-6549

PH: (916) 445-8283

FX: (916) 322-4783

www.extranet.cccco.edu/Divisions/FinanceFacilities/FacilitiesPlanning.aspx

Governor's Office of Planning and Research — State Clearinghouse

State Clearinghouse

1400 Tenth Street

Sacramento, CA 95814

PH: (916) 445-0613

FX: (916) 323-3018

www.opr.ca.gov/m_stateclearinghouse.php

APPENDIX S: CIVIL CODES

SB 189 *CIVIL CODE* SECTION CHANGES

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3081.1	8014	NOT CONTINUED	3131 (2nd paragraph)
3081.1	8300	NOT CONTINUED	3086(b)
3081.2	8302	NOT CONTINUED	3097(p)
3081.3	8304	NOT CONTINUED	3098(e)
3081.4	8306	NOT CONTINUED	3105
3081.5	8308	NOT CONTINUED	3123(c)
3081.6	8310	NOT CONTINUED	3149
3081.7	8312	NOT CONTINUED	3204
3081.8	8314	NOT CONTINUED	3260(c)(2)
3081.9	8316	NOT CONTINUED	3260(c)(1)
3081.10	8318	NOT CONTINUED	3260(a)
3082	8000	NOT CONTINUED	3260.2(g)
3083	8506	8000	3082
3083	8532	8004	3085
3084	8416	8006	3087

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3085	8004	8008	3088
3086 (except sub (b))	8180	8014	3081.1
3086 (except sub (b))	9200	8016	3088
3086(b)	NOT CONTINUED	8018	3095
3087	8006	8024	3089
3088	8008	8024	3111
3088	8016	8028	3090
3089	8024	8034	3097
3090	8028	8034	3098
3092	8188	8036	3099
3092	9202	8038	3100
3093	8182	8040	3101
3093	8184	8042	3102
3093	9204	8044	3103
3093	9208	8046	3104
3094	8444	8050	3106

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3095	8018	8054	3266
3096	8606	8056	3259
3096	9554	8060	3258
3097	8034	8062	3263
3097	8200	8102	3097(c)
3097(a)	8200	8104	3097(k)
3097(b)	8200	8116	3097(f)
3097(c)	8102	8118	3097.1
3097(c)	8202	8122	3262(a)
3097(d)	8204	8124	3262(a)
3097(e)	8212	8126	3262(b)(1)
3097(f)	8116	8128	3262(b)(2)
3097(g)	8206	8130	3262(c)
3097(h)	8216	8132	3262(d)(1)
3097(i)	8172	8134	3262(d)(2)
3097(j)	8174	8136	3262(d)(3)

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3097(k)	8104	8138	3262(d)(4)
3097(l)	8170	8152	3225
3097(l)	8208	8154	3226
3097(m)	8170	8160	3109
3097(m)	8208	8160	3156
3097(n)	8210	8170	3097(l)
3097(o)	8214	8170	3097(m)
3097(p)	NOT CONTINUED	8172	3097(i)
3097.1	8118	8174	3097(j)
3098	8034	8180	3086 (except sub (b))
3098	9300	8182	3093
3098(a)	9300	8184	3093
3098(a)	9302	8186	3117
3098(a)	9303	8188	3092
3098(a)	9304	8190	3259.5
3098(b)	9306	8200	3097

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3098(c)	9300	8200	3097(a)
3098(d)	9304	8200	3097(b)
3098(e)	NOT CONTINUED	8202	3097(c)
3099	8036	8204	3097(d)
3100	8038	8206	3097(g)
3101	8040	8208	3097(l)
3102	8042	8208	3097(m)
3103	8044	8210	3097(n)
3103	8502	8212	3097(e)
3103	8506	8214	3097(o)
3103	9352	8216	3097(h)
3103	9354	8300	3081.1
3104	8046	8302	3081.2
3105	NOT CONTINUED	8304	3081.3
3106	8050	8306	3081.4
3109	8160	8308	3081.5

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3110	8400	8310	3081.6
3110	8404	8312	3081.7
3110	8430	8314	3081.8
3110	9100	8316	3081.9
3110.5(a)(1)	8700	8318	3081.10
3110.5(a)(2)	8700	8400	3110
3110.5(b)	8710	8402	3112
3110.5(b)	8720	8404	3110
3110.5(b)(1)	8722	8404	3112
3110.5(b)(2)	8724	8410	3114
3110.5(b)(3)	8726	8412	3115
3110.5(b)(3)	8728	8414	3116
3110.5(c)	8712	8416	3084
3110.5(c)	8730	8422	3118
3110.5(d)	8716	8422	3261
3110.5(e)	8702	8424	3143

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3110.5(f)	8704	8424	3144.5
3110.5(g)	8714	8430	3110
3111	8024	8430	3123(a)
3111	9100	8430	3123(b)
3112	8402	8432	3124
3112	8404	8434	3140
3112	8440	8440	3112
3112	9100	8440	3128
3114	8410	8442	3128
3115	8412	8442	3129
3116	8414	8444	3094
3117	8186	8446	3130
3118	8422	8448	3131 (1st paragraph)
3123(a)	8430	8450	3134
3123(b)	8430	8452	3138
3123(c)	NOT CONTINUED	8454	3135

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3124	8432	8456	3136
3128	8440	8458	3137
3128	8442	8458	3139
3129	8442	8460	3144
3130	8446	8460	3145
3131 (1st paragraph)	8448	8461	3146
3131 (2nd paragraph)	NOT CONTINUED	8462	3147
3134	8450	8464	3150
3135	8454	8466	3151
3136	8456	8468	3152
3137	8458	8470	3153
3138	8452	8480	3154(a)
3139	8458	8480	3154(h)
3140	8434	8480	3154(i)
3143	8424	8484	3154(b)
3144	8460	8486	3154(c)

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3144.5	8424	8486	3154(d)
3145	8460	8486	3154(e)
3146	8461	8488	3154(b)
3147	8462	8488	3154(e)
3148	8490	8488	3154(f)
3149	NOT CONTINUED	8488	3154(g)
3150	8464	8490	3148
3151	8466	8490	3154(f)
3152	8468	8500	3264
3153	8470	8502	3103
3154(a)	8480	8502	3159(a)
3154(b)	8484	8504	3168
3154(b)	8488	8506	3083
3154(c)	8486	8506	3103
3154(d)	8486	8508	3159
3154(e)	8486	8508	3160

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3154(e)	8488	8510	3171
3154(f)	8488	8520	3158
3154(f)	8490	8522	3161
3154(g)	8488	8530	3159
3154(h)	8480	8532	3083
3154(i)	8480	8534	3163
3156	8160	8536	3159(a)
3158	8520	8536	3162(a)
3159	8508	8538	3159(a)
3159	8530	8538	3162(a)
3159(a)	8502	8540	3167
3159(a)	8536	8542	3159(b)
3159(a)	8538	8542	3159(c)
3159(b)	8542	8542	3162(b)
3159(c)	8542	8542	3162(c)
3160	8508	8544	3166

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3161	8522	8550	3172
3162(a)	8536	8552	3175
3162(a)	8538	8554	3173
3162(b)	8542	8556	3174
3162(c)	8542	8558	3176
3163	8534	8560	3176.5
3166	8544	8600	3235
3167	8540	8600	3236
3168	8504	8602	3236
3171	8510	8604	3237
3172	8550	8606	3096
3173	8554	8608	3267
3174	8556	8609	3239
3175	8552	8610	3240
3176	8558	8612	3242
3176.5	8560	8614	3227

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3179	9000	8700	3110.5(a)(2)
3181	9100	8700	3110.5(a)(1)
3183	9500	8702	3110.5(e)
3184	9356	8704	3110.5(f)
3185	9362	8710	3110.5(b)
3186	9358	8712	3110.5(c)
3187	9360	8714	3110.5(g)
3190	9450	8716	3110.5(d)
3191	9452	8720	3110.5(b)
3192	9454	8722	3110.5(b)(1)
3193	9456	8724	3110.5(b)(2)
3196	9364	8726	3110.5(b)(3)
3197	9400	8728	3110.5(b)(3)
3198	9402	8730	3110.5(c)
3199	9404	8800	3260.1
3200	9406	8802	3262.5

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3201	9408	8810	3260(b)
3202	9410	8812	3260(c)
3203	9412	8814	3260(d)
3204	NOT CONTINUED	8814	3260(e)
3205	9414	8816	3260(f)
3210	9502	8818	3260(g)
3211	9504	8830	3260.2(a)
3212	9508	8832	3260.2(a)
3213	9510	8834	3260.2(a)
3214	9506	8836	3260.2(a)
3225	8152	8838	3260.2(c)
3226	8154	8840	3260.2(a)
3227	8614	8842	3260.2(b)
3227	9562	8844	3260.2(d)
3235	8600	8846	3260.2(e)
3236	8600	8848	3260.2(f)

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3236	8602	9000	3179
3237	8604	9100	3110
3239	8609	9100	3111
3240	8610	9100	3112
3242	8612	9100	3181
3247	9550	9200	3086 (except sub (b))
3248	9554	9202	3092
3249	9558	9204	3093
3250	9564	9208	3093
3251	9552	9300	3098
3252	9560	9300	3098(a)
3258	8060	9300	3098(c)
3259	8056	9302	3098(a)
3259.5	8190	9303	3098(a)
3260(a)	NOT CONTINUED	9304	3098(a)
3260(b)	8810	9304	3098(d)

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3260(c)	8812	9306	3098(b)
3260(c)(1)	NOT CONTINUED	9350	3264
3260(c)(2)	NOT CONTINUED	9352	3103
3260(d)	8814	9354	3103
3260(e)	8814	9356	3184
3260(f)	8816	9358	3186
3260(g)	8818	9360	3187
3260.1	8800	9362	3185
3260.2(a)	8830	9364	3196
3260.2(a)	8832	9400	3197
3260.2(a)	8834	9402	3198
3260.2(a)	8836	9404	3199
3260.2(a)	8840	9406	3200
3260.2(b)	8842	9408	3201
3260.2(c)	8838	9410	3202
3260.2(d)	8844	9412	3203

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3260.2(e)	8846	9414	3205
3260.2(f)	8848	9450	3190
3260.2(g)	NOT CONTINUED	9452	3191
3261	8422	9454	3192
3262(a)	8122	9456	3193
3262(a)	8124	9500	3183
3262(b)(1)	8126	9500	3265
3262(b)(2)	8128	9502	3210
3262(c)	8130	9504	3211
3262(d)(1)	8132	9506	3214
3262(d)(2)	8134	9508	3212
3262(d)(3)	8136	9510	3213
3262(d)(4)	8138	9550	3247
3262.5	8802	9552	3251
3263	8062	9554	3096
3264	8500	9554	3248

<u>Civil Code</u> section BEFORE July 1, 2012	<u>Civil Code</u> section AFTER July 1, 2012		<u>Civil Code</u> section AFTER July 1, 2012	<u>Civil Code</u> section BEFORE July 1, 2012
3264	9350		9558	3249
3265	9500		9560	3252
3266	8054		9562	3227
3267	8608		9564	3250
3267	9566		9566	3267

APPENDIX T: SITE ACQUISITIONS FOR NEW COLLEGE AND CENTER DEVELOPMENT CHECKLISTS

Letter of Intent (LOI) Checklist CCC Educational Center and Colleges

The district prepares and submits an LOI to the Chancellor’s Office no sooner than two years prior to the first year of operation of a new Educational Center. The Chancellor’s Office will transmit a response to the district within 90 days of submittal of a **complete** LOI.

The following list identifies those documents required in the Letter of Intent:

RECEIVED (✓)	REQUIRED ELEMENT
	1.1 Preliminary five-year enrollment projection and attendance (headcount & FTES) for the new Educational Center (from opening date) (10 years for new colleges)
	1.2 Enrollment history of locations other than the main campus that are being relocated and replaced by the new Educational Center
	1.3 The location of the proposed new Educational Center with a brief description of each site under consideration
	1.4 Maps of the area in which the proposed Educational Center is to be located, including a map of the proposed center, service area, population density, road/highway configurations, sphere of influence, topography, neighboring institutions, and any other features of interest
	1.5 The identification of neighboring public and independent institutions in the area in which the proposed campus is to be located
	1.6 Timeline for development of new Educational Center, and enrollment levels at opening, mid-point, and final build out
	1.7 Tentative five-year capital outlay budget starting with first appropriation for the new Educational Center
	1.8 Copy of Board of Trustees formal resolution authorizing the new Educational Center
	1.9 Copy of the Preliminary Notice Letter
	1.10 Copy of district’s most recent five-year construction plan
	1.11 Copy of Letters of Support

Needs Assessment Checklist: Educational Center California Community Colleges (CCR Title 5, § 55180-55185)

Once the Letter of Intent is reviewed and approved by the Chancellor’s Office, an approval letter is transmitted to the district. The next step is the development of a Needs Assessment per California Community College (CCC) Guidelines. The following list identifies the discussions and documents required in the Needs Assessment:

RECEIVED (✓)	REQUIRED ELEMENT FOR NEEDS ASSESSMENT GUIDELINES
	<p>1.1 General Discussion & Overview (CCR title 5, § 55180- 55184)</p> <ul style="list-style-type: none"> • Description of proposal • Physical description of site, including maps (population densities, topography, road and highway configurations, etc.) • Social & demographic analysis of service area • Socioeconomic profile of service area • Identify preferences and needs for community college programs, student services, and any other services on the part of individuals in the service area • Identify present and future labor market requirements for the proposed service area, region, and state • Reconcile labor market requirements and community program preferences • Demonstrate significant community support and identify possible community opposition
	<p>1.2 Enrollment Projections (10 years from opening date) (CCR title 5, § 55180- 55182)</p> <ul style="list-style-type: none"> • Provide historical enrollment data that includes Fall, Spring, and Annualized Headcount, FTES, and WSCH per Headcount • Projections include Fall, Spring, and Annualized Headcount, FTES, and WSCH per Headcount • Ensure projections justify regional demand for Educational Center status, taking neighboring districts and their excess capacity into account • DOF Demographic Research Unit approval • If existing District Colleges & Centers enrollments do not exceed planned enrollments, justification of regional or local need for the new center

RECEIVED (✓)	REQUIRED ELEMENT FOR NEEDS ASSESSMENT GUIDELINES
	<p>1.3 Alternative Discussion covers the following (CCR title 5, § 55184):</p> <ul style="list-style-type: none"> • Expansion of existing institutions (more space) • Increased utilization of existing institutions (longer hours, weekends) • Shared use of facilities with other postsecondary institutions • Use of non-traditional instructional delivery • Private fund raising or donations of land or facilities • Alternate sites considered • Cost-benefit analysis on all alternatives and sites, strong sole sourcing justification if property already owned, discussion on cost-benefit of selling owned site & purchase of another site • The proposed operation must be most effective and equitable for providing the intended programs and services based on the selection criteria of: <ul style="list-style-type: none"> ○ Accessibility of programs and services to the individuals to be served ○ Content, quality and cost of programs and services
	<p>1.4 Academic Planning & Program Justification (Ed. Code, section 70901, 70902; CCR title 5, § 51008, 55180, 55183)</p> <ul style="list-style-type: none"> • Incorporate district education master plan that includes proposed center and academic programs that have been approved by the Chancellor's Office • Identify preferences for community college programs on the part of individuals in the service area • Description of proposed academic certificate programs and objectives for meeting the educational needs and preferences • Description of the range of Basic Skills and ESL courses to be offered (as appropriate) • List of all course offerings (Degree and non-degree) • Description of center academic and occupational organization

RECEIVED (✓)	REQUIRED ELEMENT FOR NEEDS ASSESSMENT GUIDELINES
	<p>1.5 Student Services and Outreach (CCR title 5, § 55180, 55182, 55183)</p> <ul style="list-style-type: none"> • Identify preferences and needs for community college student services on the part of individuals in the service area • Description of how the services provided match the needs of the student population • Description of how support services are planned, staffed, and evaluated at the center • Description of each of the services planned, including but not limited to: orientation; assessment; counseling, advising and other education planning services; admissions and records; financial aid; California Work Opportunity and Responsibility to Kids (CalWORKs); Cooperative Agency Resources for Education (CARE); Disabled Students Programs and Services (DSPS; Extended Opportunity Programs and Services (EOPS)); supports for foster youth; health and student mental health services; library services; tutoring; transfer and articulation services; and veterans services • Description of support service staffing for each of the services planned, in relation to the projected number of students to be served • Description of expected hours of operation for each of the services to be offered • Description of the plans for student outreach, ADA services accessibility of facilities, and outreach student confidentiality and record keeping for services offered
	<p>1.6 Support & Capital Outlay Projections (CCR title 5, § 55180, 55181)</p> <ul style="list-style-type: none"> • Describe plan to continue center operation for 10 years or more • Include district facilities master plan that incorporates the proposed center • Include a Capital Outlay 5-Year Plan for the new Educational Center • Include total ASF for each projection with cost per ASF projected • Include a 5-year support budget including administration, academic, academic support, student services, and other site related costs • Number of Personnel Years required for each year projected • Include organizational chart that identifies on-site administrator and leadership structure

RECEIVED (✓)	REQUIRED ELEMENT FOR NEEDS ASSESSMENT GUIDELINES
	<p>1.7 Geographic & Physical Accessibility (CCR title 5, § 51008, 55181, 55182, 55184)</p> <ul style="list-style-type: none"> • Include a transportation plan (bus service, parking, etc.) • ADA Access Plan • Estimated commute times for service area
	<p>1.8 Effects on Other Institutions (CCR title 5, § 55180, 55181, 55182, 55183, 55184)</p> <ul style="list-style-type: none"> • Letters of support from the community, postsecondary institutions • Letters of support from the adjacent Community College Districts (CCD) • Justification that the new Educational Center will not impact enrollment projections for adjacent CCDs that would cause negative financial impacts • Demonstrate significant community support and identify possible community opposition • Ensure projections justify regional demand for Educational Center status, taking neighboring districts and their excess capacity into account
	<p>1.9 Environmental Impact (CCR title 5, § 55181, 55184)</p> <ul style="list-style-type: none"> • Include copy of Final EIR for center site
	<p>1.10 Economic Efficiency (CCR title 5, § 55181, 55184)</p> <ul style="list-style-type: none"> • Priority given to centers that create no financial burden for the State • A similar priority given to centers that engage in collaborative efforts with other segments to expand educational access in underserved regions of the State

GLOSSARY

Except where definitions are prescribed by law, regulation or policy, the California Community College Facilities Planning Manual defines terms broadly to allow for innovation and differences among the 72 districts.

- **Adequacy:** From a capital outlay prospective, if a facility can support instructional delivery systems, it is considered adequate. If it cannot, it is considered inadequate and either the facility must be changed, or the instructional delivery system or the instructional course or program must be changed or abandoned in favor of one that can be taught effectively within the available facility. Facility designs must now be evaluated to see if they are educationally adequate for specific learning outcomes given better understanding of what kinds of experiences and facilities are essential to these outcomes.
- **Appropriation Expiration Date:** Budget appropriations have limited time when claims may be made against the funds. All appropriations have a period of time where claims may be encumbered (reserved) and a period of time where cash may be distributed to cancel the encumbrances. The last day that cash may be distributed to pay the claims is called the appropriation expiration date. Funds not yet distributed return back (revert) to the authorizing account after the appropriation expiration date.
- **As Built:** As-built drawings record the locations, sizes, and nature of concealed items such as structural elements, accessories, equipment, devices, plumbing lines, valves, mechanical equipment, and the like as constructed in the project. These records (with dimensions) form a permanent record for future reference.
- **Assignable Square Feet (ASF):** ASF is used in conjunction with the Taxonomy of Programs to define capacity space standards in terms of square footage allowable per 100 Weekly Student Contact Hour (WSCH). If the campus has less space available than the amount allowable for every 100 WSCH, a capital outlay project may be justified especially if re-alignment of existing space is not an option.
- **Budget Change Proposal (BCP):** The documents prepared each year by State and local agencies to advocate changes in a State agency's budget. BCPs are reviewed by the State Department of Finance and the Office of the Legislative Analyst and, if approved, are used to modify the budget bill before it undergoes Legislative review.
- **Building Reconstruction:** The process of renovating buildings that have reached the end of their life span.

- **Campus:** An institution that is like a college in most respects, but may not offer a full complement of programs or services and is combined with other campuses or a college into a single institution for accreditation purposes.
- **Capacity:** The amount of enrollment that can be accommodated by an amount of space given normal use levels. In terms of facility space standards, it is defined as the number of ASF per 100 WSCH.
- **Capital Improvements or Capital Improvement Process:** Activities concerned with planning, defining capital projects (demolition, alterations, additions, or new facilities), securing funding, and developing each project: programming, design, bid, and construction. Activities are expanding to encompass the development or modification of new forms of educational delivery systems beyond those currently identified (classroom, laboratory, office, library, and audio visual/television).
- **Capital Outlay Budget Change Proposal (COBCP):** A type of Budget Change Proposal concerned with the construction of facilities and their related aspects. (See also Budget Change Proposal) Under the procedures proposed in this handbook, a community college COBCP is composed of three major components: an Initial Project Proposal (IPP), a Final Project Proposal (FPP) and a Project Summary transmittal form.
- **Capital Outlay Budgeting:** The process of applying for capital funds, securing approvals, using and accounting for the funds.
- **Capital Outlay Expansion:** See **Capital Improvements**.
- **Capital Projects:** Are specific construction projects, such as land, utilities, roads, buildings, and equipment projects. Capital projects may also be thought of in terms of 'facilities systems.'
- **Change Order:** Any change made to a signed contract is called a "**change order.**"
- **Closed Specifications:** limits competitive bidding by establishing such stringent requirements that only a single material or system can meet them. Closed specifications cannot be used on public projects except: 1) in an emergency, 2) when they are part of an existing system, 3) when it has been determined to be in the public's best interest or 4) it is required for a test of a material or product to determine its suitability for future use.
- **Collaborative Learning:** Instruction method in which students move about, working in small groups, sometimes with specially designed workstations.

- **College:** A degree-granting institution intended to provide instruction through the second year of college, including but not limited, to one or more of the following categories:
 - 1) standard collegiate courses for transfer to higher institutions
 - 2) vocational and technical fields leading to employment; or
 - 3) general or liberal arts courses for which institution the district intends to obtain accreditation

- **College Master Plan:** The written plan that results from the process by which a college determines the educational needs of its service area, identifies its priorities for meeting these needs, based partly upon state standards and priorities, and assures that all of its educational operations, facilities and other resources are effectively directed towards meeting these needs.
 - **College Master Plan** is defined as a comprehensive planning document encompassing all of the functions of the college or district. Given the complexities of most communities, the master planning process is not a step-by-step, linear process but a dynamic process consisting of a mix of methods. Information and ideas are exchanged at every level, combined and recombined, until a particular approach emerges as a good choice. That approach is developed, often leading to new ideas and combinations, until a feasible plan is constructed and accepted. The plan must be idealistic enough to inspire improvement and change and realistic enough to be implemented successfully over time.

- **Community Liaison Committee:** Assists in the planning process on a periodic or ongoing basis. Such a committee typically has representatives from education, business, government, and service organizations to the extent that their participation is relevant.

- **Condition:** Demands from aging have been compounded by changes in facilities codes and regulations. When many utility systems, roads, and buildings were built, they were considered static, as buildings had been for decades. The magnitude of regulations that have intervened (asbestos, PCBs, seismic retrofit, handicap access, and more), requiring constant reconstruction and in many cases shortening the effective life span of a facility, is staggering. Demands go beyond the capability of operations and maintenance departments and require phased capital outlay improvement projects.

- **Construction Administration or Construction Management:** The purpose of the '**construction management**' phase is to build the project as defined by the contract documents and any formal changes made to the contract. Construction administration by the owner's representative includes interaction with the: 1)

contractor on meetings, submittals, clarifications, change orders, payments, schedule, inspections, records, contract close-out procedures and all other aspects of construction; 2) district representatives on progress and expenditure reports, change orders, code approval reviews, and decisions; and 3) the architect and the inspector on their work. Aspects of construction administration such as ongoing quality control testing and inspections, contract change orders, disputes and claims, contract close-out procedures, equipment commissioning, and post-occupancy procedures are discussed in the remaining parts of this chapter.

- **Cost Efficiency:** A new factor to consider when evaluating capital improvements. In some circumstances, it is cost efficient to make a one-time capital improvement in exchange for an ongoing reduction in operation budget or a reduction in financial risk. With a broader definition of capital outlay, new possibilities arise with regard to cost efficiencies. It may be appropriate to provide the funds for a one-time capital outlay project, if there is an ongoing reduction in operations cost or financial risk. It also may be appropriate to provide funds for installation of an electronic delivery system in lieu of building construction.
- **Curriculum Cycle:** The continuously evolving process of educational planning, approval, reporting, monitoring the conduct of, evaluating, and improving upon the curriculum of a college.
- **Distance Education:** Instruction in which the instructor and student are separated by distance and interact through the assistance of communication technology.
- **District Office:** is an administrative, generally non-instructional, facility at a location separate from a college or campus. They are most common in multi-campus districts where more than one college and/or campus is served by a single administrative staff.
- **Educational (Master) Plan:** That part of the master plan that defines the learning outcomes the college seeks and the existing and projected curricular offerings intended to achieve those outcomes.
- **Educational Center:** A postsecondary operation established and administered by an existing college or district at a location away from the campus of the parent institution. An educational center is an operation planned to continue for three or more years and expected to enroll over 500 FTES by the third year of operation. The center typically has an on-site administrator and may offer programs leading to certificates and/or degrees conferred by the parent institution.
- **Educational Delivery Systems or Learning Environments:** combinations of space and equipment. For example, lecture classes are increasingly supplanted

or supplemented by assignments and classwork that use varying combinations of small groups working collaboratively, often at computerized learning stations. The 'lab,' 'shop' and 'studio' are becoming the central rather than the peripheral model for instruction. The definition used by California Community Colleges for a capital outlay project reflects the State definition — a new construction, alteration, extension, or betterment of existing structure in excess of \$250,000. However, to accommodate an additional 300,000 students and the potential for meeting this need through a variety of new instructional methodologies (including distance learning technologies such as telecommunication networks and television broadcast stations with cable hookups), community colleges interpret the definition of capital outlay more broadly. The definition is extended to all forms of 'educational delivery systems' where a site, building, equipment, or physical system is required.

- **Educational Operations:** All of the activities of the college.
- **Educational Programs:** Sets of courses required to complete specified degrees and certificates.
- **Enrollment: Enrollment:** The level of student participation at a college. For the purposes of determining capital outlay funding, total enrollment is converted to FTES and WSCH.
- **Facilities:** All of the capital assets of the college.
 - 1) The facilities may be divided into their physical components: Site, Buildings, Equipment, Systems
 - 2) The facilities may be divided by function into:
 - a. Facilities systems based on physical function e.g., transportation, drainage
 - b. Educational delivery systems (e.g., distance education)
- **Facilities Systems:** What used to be thought of as land, utilities, roads, buildings, and equipment is now thought of in terms of 'facilities systems' where all physical components are educationally defined, interrelated and interdependent.
- **Final Project Proposal (FPP):** Establishes the project justification, *final* scope and estimated costs for implementation of all acquisition, infrastructure, facility and systems projects. An FPP is a contractual grant application from a district and includes the following components:
 - 1) Project scope
 - 2) Analysis of Building Space Use and WSCH — JCAF31

- 3) Cost Estimate Summary — JCAF32
 - 4) Quantities and Unit Costs supporting the JCAF32
 - 5) Board of Governors Energy and Sustainability Policy
 - 6) Justification (SAM Narrative)
 - 7) CEQA
 - 8) Analysis of Future Costs
 - 9) Pre-Schematic Plans — includes campus plot, site, and floor plans and exterior elevations
- **Five-Year Construction Plan (5-YCP):** That part of the facility master plan that defines the capital improvements the college will need to have if it is to achieve the learning outcomes specified in its College master plan.
 - **Float:** (extra time) on the schedule.
 - **Future Site:** is a parcel of land acquired for future development and subsequently approved by the Board of Governors as eligible to receive State capital outlay funds to develop into a college or educational center.
 - **Gross Square Feet (GSF):** The sum of all areas on all floors of a building included within the outside faces of its exterior walls, including all vertical penetration areas, for circulation and shaft areas that connect one floor to another.
 - **Group 1 — Fixed Equipment:** Otherwise known as building fixtures and service systems, Group 1 has the following characteristics:
 - 1) It is securely attached to the facility.
 - 2) It functions as part of the building.
 - 3) Removal of the equipment results in visible damage to the building or impairs the designed use of the facility.
 - 4) The equipment is generally interpreted to be real property rather than personal property.
 - 5) Once installed, the piece of equipment loses its identity as a separate unit.
 - **Group 2 — Movable Equipment:** The designation given to equipment not identified as Group 1 — Fixed Equipment. Such equipment usually can be moved from one location to another without significantly changing the effective functioning of facilities at either location. If appropriate, existing equipment for an active program should be transferred into remodeled or expanded space before new equipment is considered. The need for new Group 2 Movable Equipment

and its related cost request should be reduced as much as possible through the transfer of any existing equipment.

- **Information Technology:** All electronic and optic educational delivery systems including multi-media, computer, telecommunications, networks, and broadcast.
- **Initial Project Proposal (IPP):** To introduce the concept and impacts on space intended by each initial project proposal so that efforts can be made to determine which projects should continue into more detailed planning and development.
- **Institutional Planning Committee:** that represents each major college constituency, e.g., administration, faculty, student services, students, facilities, finance, and human resources. This committee is normally responsible for developing a statement of educational philosophy and college priorities to the satisfaction of all the constituencies. Moreover, educational planning is carried out in a working relationship with the Academic Senate, the curriculum committee, and/or a committee established specifically to address such issues, while the institutional planning committee focuses more upon the communal and regional issues and the implications of the educational planning for the overall development of the college.
- **Interactive Distance Education:** Distance education in which the technology employed provides an immediate opportunity for exchange between participants.
- **Investment Parcel:** A parcel of land acquired for future development or disposal at a profit depending upon district growth patterns, but the ultimate status of the parcel cannot now be determined. Given its undetermined status, it is not eligible to receive State capital outlay funds for development.
- **Learning Communities:** Courses in different subjects, designed to be interdependent, and taught to a common group of students, by faculty working as a team.
- **Learning Environments:** Combinations of curriculum and facilities to create specific learning experiences.
- **Lecture Hall:** A setting designed to deliver in person lectures and demonstrations to as many students as possible, with students in fixed locations, and traditionally without access to equipment or workstations. (New technology can allow each seat to be “wired,” permitting both electronic collaborative learning and facilitating two- way interaction with the instructor.)
- **Letter of Intent:** is formal correspondence sent to the Chancellor’s Office for review and approval which notifies concerned parties that a district elects to purchase or develop a site with the assistance of State capital outlay funds.

- **Notice of Completion:** A notice filed by the owner of a construction project, in the county records office completed and all creditors have been paid.
- **Notice-to-Proceed:** Establishes the date of the start of construction and gives the contractor permission to commence work.
- **Off-site Instruction:** Courses and learning experiences designed and supervised by a college that occur in a work or service setting or at a location specific to the course content (e.g., an outdoor location, another city or country).
- **Open Specifications:** Nonspecific specifications that allow for competitive bid. Materials or systems referred to by trade name have two or more trade or brand names listed followed by the words 'or equal.'
- **Operations and Maintenance:** Operations, maintenance, equipment upgrades and replacement, and minor remodeling because of change of occupant or program were defined as '**operations and maintenance**,' funded under the State operations budget.
- **Outreach Operation:** An off-campus enterprise administered by an existing college or district and offering courses in leased or owned facilities which have not been formally approved by the Board of Governors. It is often located in other government facilities, usually enrolls less than 500 FTES (approximately 1,000 headcount) and may not be considered as having the potential to grow, over a period of time, into a college, campus or educational center. Outreach operations are combined with a college for accreditation and reporting purposes.
- **Participation Goals:** for minority, women, and disabled veterans business enterprises (M/W/DVBE) on all contracts awarded by a district based upon the State-wide levels. Participation goals are set at fifteen percent (15%) for minority business enterprises, ten percent (10%) for women business enterprises and three percent (3%) for disabled veterans business enterprises. This statutory requirement is implemented by regulations promulgated in California Code of Regulations, Title 5, Section 59500-59509. Neither the statute nor the regulations impose an absolute requirement that contracts awarded by a district meet the M/W/DVBE participation goals. The statute, regulations and applicable law prohibit the application of strict numerical set asides unless there has been a prior factual finding of discriminatory practices. Accordingly, the failure of a bidder to have met the participation goals will not by itself render the bidder non-responsive so long as there is a show of good faith efforts by the bidder to meet the participation goals.
- **Payback:** The most obvious example of cost efficient projects are energy conservation projects. Improving lighting, fans, and controls, or refitting the central plant for thermal storage or cogeneration can reduce utility costs to

produce a **'payback'** of the project cost in a few years. For every year of operation after the payback of the up-front construction costs, there is a clear reduction in annual operating cost.

- **Payment Bond:** A bond with sufficient sureties for the payment in full of the claims of all concerned parties. The bond takes effect to the benefit of all claimants so as to give them rights of action to recover upon this bond any suit brought to foreclose the liens provided for in law.
- **Performance Setting:** A laboratory, studio, hall, shop, athletic facility, or other setting, usually with specialized equipment, designed for the performance of activities that can specifically require such a setting.
- **Post-occupancy Evaluation:** is normally done by the architect, the project or construction manager, and operations and maintenance staff. This review tends to be ignored, yet it can be extremely important. The primary purpose of this evaluation is to discover possible problems before the warranties have expired.
- **Preliminary Notice [of non-payment]:** A Preliminary Notice (also known as a Notice to Owner, Materialmen's Notice to Owner, Notice of Furnishing, Contractor/Subcontractors Notice to Owner, and others) is a notice sent by the general contractor, subcontractor, materialmen, equipment lessors or other parties to a construction project not to create a Mechanics lien but rather to establish the right to file a Mechanics lien in the event of nonpayment.
- **Project Management:** The management of a capital project from planning through construction.
- **Project Summary:** A standard state form used to transmit any capital outlay budget change proposal.
- **Punch List:** The contractor owns the job until it is fully complete, or the owner has designated it substantially complete for purposes of occupancy and listed any remaining items to be completed or resolved. These items are called a **'punch list'** and, in essence, become the uncompleted contract. The district representative, project manager, construction manager, architect and inspector should all agree on the list. Final commissioning and occupancy of the building must be coordinated to allow the contractor to continue work and complete the punch list.
- **Recognized Deficits:** Cost increases above the original estimate necessitating that additional funding may be needed prior to bidding to build a project as designed and should be discussed with the Chancellor's Office prior to the request for approval to proceed to bid.

- **Request for Approval:** An agenda item reviewed by the Board of Governors and, if approved, authorizes a specific site as eligible to receive State capital outlay funds. State regulations stipulate that a Request for Approval shall contain:
 - 1) An assessment of needs and preferences of the area to be served.
 - 2) Identification of instructional and service objectives of the site.
 - 3) An analysis of alternative delivery systems.
- **Record Drawings:** See As-Built
- **Schedule of Values:** A prorated calculation of construction costs
- **Scope:** Is what will be constructed (or acquired) and why. Scope encompasses both the physical characteristics of the project and the intended program use. Scope is established initially in the COBCP, with key elements reiterated (or restricted) in supplemental language to the Budget Act. The preliminary plans—and later the working drawings—refine scope in terms of the physical characteristics of the project (refer to the State Administrative Manual, Chapter 6800, section 6863).
- **Stop Notice:** to require the district to hold a specified amount from the contractor's payment. The district should hold enough of the retention to cover any stop notices.
- **Scope Change:** A substantial change made to a project. Section 13332.11 (b) of the Government Code states that "no substantial change shall be made from the preliminary plans or working drawings as approved by the State Public Works Board (PWB) and the Department of Finance (DOF) without written approval by the Department of Finance." This approval must be granted before the department can make any expenditures to redesign the project or to revise the plans, unless those revisions are authorized in the budget act or other subsequent legislation. Scope changes require DOF approval.

Subparagraph (9) of Section 13332.11 (b) requires DOF to report approved scope changes to the Legislature. In practice, this restriction and related notification requirement begins with project authorization, even before preliminary plans are considered by PWB.

After DOF approves a scope change and the Legislature has been noticed, PWB "recognizes" the scope change in a board item, incorporating it into the board's official record for the project. As appropriate, PWB may also require that a formal revision to the preliminary plans be submitted for approval.

- **Support Programs:** Basic skills and other transitional instruction, learning resources, student services, and categorical programs and services designed to attract students and to enable them to successfully complete courses and educational programs.
- **Stop Notice:** Requires the district to hold a specified amount from the contractor's payment. The district should hold enough of the retention to cover any stop notices.
- **Substantial Completion:** The stage of a construction or building project or a designated portion of the project that is sufficiently complete, in accordance with the construction contract documents, so that the owner may use or occupy the building project or designated portion thereof for the intended purpose.
- **Support Programs:** Basic skills and other transitional instruction, learning resources, student services, and categorical programs and services designed to attract students and to enable them to successfully complete courses and educational programs.
- **Telecommunications:** All communications via telephone wire and non-wire networks.
- **Value Engineering:** A review of engineering systems in a project to verify that the best system has been chosen given the budget and the functional criteria.
- **Weekly Student Contact Hours (WSCH):** the number of students in the program multiplied by the number of hours students spend in the program. Enrollment is divided by programs and translated into '**weekly student contact hours**' (WSCH) — the average number of hours of student instruction conducted in a week in a primary term of an academic year.

ABBREVIATIONS

ADA	Americans with Disabilities Act
ANSI	American National Standards Institute
AQCD	Air Quality Control District
ASF	Assignable Square Footage
ASTM	American Society of Testing and Materials
BSC	Building Standards Commission
CalTrans	California Department of Transportation
CBC	California Building Code
CCCI	California Construction Cost Index
CCI	Construction Cost Index
CCR	California Code of Regulations
CE	Construction and Equipment phase
CEC	California Energy Commission
CEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CLC	California Labor Code
COBCP	Capital outlay Budget Change Proposal
COE	US Army Corps of Engineers
DHS	Department of Health Services
DIR	Department of Industrial Relations
DOF	Department of Finance
DSA	Department of General Services, Division of the State Architect
DSPS	Disabled Students Programs and Services

DVBE	Disabled Veteran Business Enterprises
DWR	Department of Water Resources
EIR	Environmental Impact Report
EOPS	Extended Opportunity Programs and Services
FAA	Federal Aviation Administration
FPP	Final Project Proposal
FTEF	Full-time Equivalent Faculty
FTES	Full-time Equivalent Students
FUSION	Facility Utilization Space Inventory Option Net
GO	General Obligation
GSF	Gross Square Footage
ICBO	International Conference of Building Officials
IPP	Initial Project Proposal
JCAF 31	Analysis of Building Space Use and WSCH
JCAF 32	Cost Estimate Summary
JCAF 33	Guideline-based Group 2 Equipment Cost Estimate
LAO	Legislative Analyst's Office
MEP	Mechanical, Electrical and Plant
NEC	National Electrical Code
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Standards Board
OSHPD	Office of Statewide Health Planning and Development
PCC	Public Contract Code
PW	Planning and Working Drawing phase
PWB	Public Works Board

QUC	Quantities and Unit Costs Supporting the JCAF 32
SAE	Society of American Engineers
SAM	State Administrative Manual
SFM	State Fire Marshall
SHB	State Historical Buildings Code Advisory Board
SPOC	Single Point of Contact
TOP	Taxonomy of Programs UBC Uniform Building Code
UFC	Uniform Fire Code
UL	Underwriters Laboratories
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
VOC	Volatile Organic Compounds
WSCH	Weekly Student Contact Hours

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