CHAPTER 05 - ARCHITECTURAL PROGRAM

5.1 PLANNING AND DESIGN GUIDELINES

INTRODUCTION

The following issues will play an important part in the consideration of planning for the new educational building for the East Campus:

A. Laboratory module
B. Shared resources as central activity area and circulation node
C. Public access to auditorium
D. Indoor/outdoor connectivity
E. Split level, multi floor configuration
F. Building layout that considers sustainable issues; i.e. light, air, view, etc. (LEED)
G. Two buildings from the outside, one, integrated building on the inside
H. Circulation

The following specific criteria should be considered in the planning and design of the building site at the East Campus:

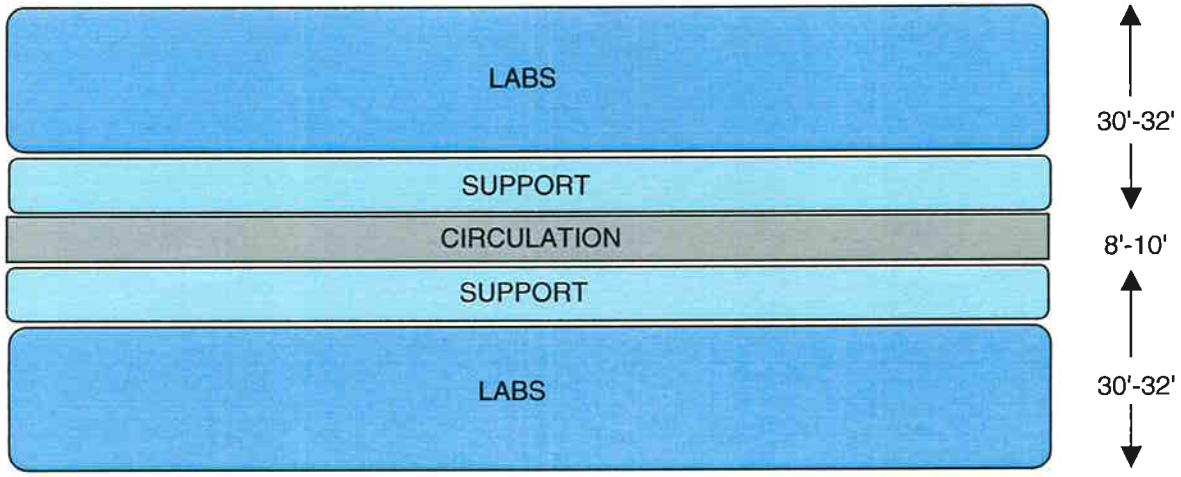
A. The connection of the East Campus to the Main Campus should be deliberate and meaningful.
B. Visual connection of Buildings 5 and 6 and the Parking Structure to the adjacent PE building should be addressed.

The following specific criteria should be considered in the planning and design of Buildings 5 and 6 on the East Campus:

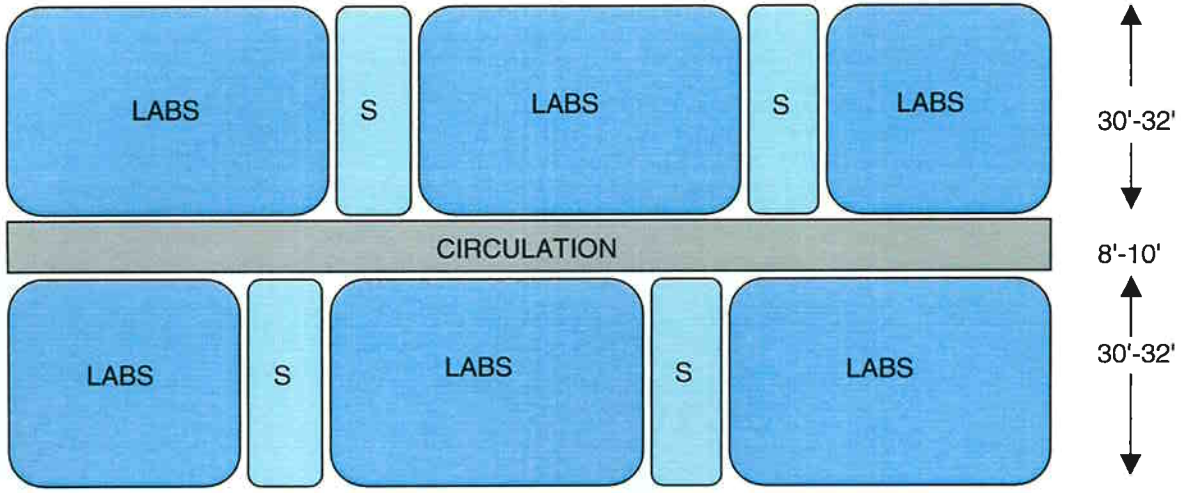
A. The higher volume functions should be located on the ground floors of Buildings 5 and 6.
B. Computer Labs should be designed for flexibility that enable them to also be utilized as Lecture Rooms.
C. The Auditorium , as well as two classrooms, should be designed to accommodate distance learning with a full range of audio-visual facilities. All other classrooms will need to be pre-wired in anticipation of future distance learning utilization.
D. Laboratory planning module (LPM)– a typical laboratory planning module is the smallest practical laboratory work environment and is the basis for all other laboratory sizes. LPM's can be combined and/or subdivided to create the optimal sized laboratory based on occupancy and function. The planning module for this project is dimensioned as follows:

Width: 11'-6"
Depth: 32'-0"

The laboratory planning guideline that supports the space allocation in the space summary is illustrated in Exhibit VI as the Alternating Configuration.



LINEAR CONFIGURATION



ALTERNATING CONFIGURATION

CHAPTER 06 – CIVIL PROGRAM

6.1 PARKING STRUCTURE AND ROADWAY CONNECTION

The parking structure shall consist of 400 vehicle parking spaces. Accessible parking shall be provided in accordance with Title 24 of the California Code of Regulations (California Building Code). The structure shall provide office and storage for the LAMC Facilities Department and LA County Sheriff Representatives. The parking structure shall contain automated revenue machines and emergency phones. Suitable vehicle access to the parking structure shall be provided from the existing roadways and future roadway connections.

Connection roadways shall be constructed of asphalt concrete pavement to a depth designated by the soils engineer. Concrete curb and gutters shall be constructed to assist in directing storm water. Roadways within the project site shall be designed and constructed in accordance with current City of LA standards and requirements.

6.2 SITE IMPROVEMENTS

Accessible and safe pedestrian pathways shall be provided to and from the parking structure, the Health and PE Building (H&PE) - currently under construction by a separate contractor - and the new educational buildings. Adequate pedestrian lighting and emergency phones shall be provided for security purposes.

Parking and directional signage shall include identification, regulatory and informational signs. Accessible signage shall be compatible with local, state, and federal regulations.

Fire hydrants and fire department access shall be provided around the perimeter of the project site in accordance with City of Los Angeles Fire Department.

The landscape development associated with the site development will buffer neighboring residential properties, provide shade, reinforce pedestrian connections to the H&PE, compliment storm water management practices and provide vegetative cover for unimproved areas. The site improvements include a large landscape component which is further described in Section 11 included herein.

6.3 STORM WATER

Currently, the project site is undeveloped and storm water sheet flows across the project site from the north to the south. A storm water detention basin designed to handle a 25-year storm event will be constructed south of the project site under a separate contract. The detention basin will treat the storm water runoff and roof drains from the project site development and new educational buildings in compliance with local and state storm water regulations. Treated storm water will be detained by the detention basin and infiltrated through the surface ground cover. Details of the storm water discharge and storm water regulations may be found in the *Storm Water Master Plan; Volume 2 (Final Draft)*, dated September 8, 2007.

6.4 CIVIL UTILITIES

Psomas has been asked to research, map, and evaluate the existing off-site utility infrastructure, and to provide a concept layout for improvements that will serve the proposed development of the "East Campus". This information may be found in the *Conceptual Utility Infrastructure Requirements Report (Final Draft)* and *Appendix G - Utility Research & Record Documentation Report*, dated January 12, 2007.

A. Storm Drainage

The project site will generally be graded so storm water is collected through a series of catch basins connected by underground storm drain pipes, which will discharge the storm water to the detention basin south of the project site. The storm drain pipes will also be connected to the building and parking structure downspouts and convey all roof drainage. To reduce the amount of piping within the site, storm water may also be collected and conveyed through bioswales. Bioswales shall be planted with appropriate grasses and plants, erosion resistant and tolerant of periodic flooding. The planted bioswales shall filter storm water as it is conveyed to the detention basin. The storm water detention basin will be part of a separate contract. However it will act as a BMP and treat the storm water from the project site.

B. Water Distribution

The on-site water system will be serviced from a Los Angeles Department of Water and Power (LADWP) connection from Harding Street. The site shall be fed by two water service connections provided by LADWP at the property line along Harding St.; one for a combined domestic and fire water main and one for irrigation water. A combined water main will be brought onsite and separate domestic and fire water service laterals will be constructed to the new buildings. Installation of private fire hydrants within the project site will be served from the combined water main. The irrigation water for the site will serve landscape and planting areas. The irrigation system will utilize overhead spray equipment. The system will be designed to be water efficient and minimize surface run off. Equipment will be selected to be compatible with the LAMC campus central control systems.

Details of the LADWP water connections may be found in the *Conceptual Utility Infrastructure Requirements Report (Final Draft)*, dated January 12, 2007.

C. Sanitary Sewer

A gravity sanitary sewer system shall be constructed onsite and shall discharge to the City of Los Angeles sewer system in Harding Street. This onsite sewer shall pick up domestic effluent from the buildings.

Details of the sanitary sewer connections may be found in the *Conceptual Utility Infrastructure Requirements Report (Final Draft)*, dated January 12, 2007.

CHAPTER 07 - STRUCTURAL PROGRAM

7.1 GENERAL DESCRIPTION

A. Building 5

The building is anticipated to be a classroom/laboratory type facility with a total gross square footage of approximately 42,000 GSF. It is anticipated to be approximately 2-3 stories.

B. Building 6

The building is anticipated to be a classroom/laboratory type facility with a total gross square footage of approximately 42,000 GSF. It is anticipated to be approximately 2-3 stories.

C. Parking Structure

The parking structure is anticipated to be a multi-level parking structure with a capacity of 400 parking stalls.

7.2 BUILDING FOUNDATION SYSTEMS

A. Building 5

It is anticipated the building foundation system will comprise of a shallow type conventional concrete foundation with a grade beam tie system.

B. Building 6

It is anticipated the building foundation system will comprise of a shallow type conventional concrete foundation with a grade beam tie system.

C. Parking Structure

It is anticipated the parking structure foundation system will comprise of a shallow type conventional concrete foundation with a grade beam tie system. The shear wall will be on continuous grade beams.

7.3. BUILDING STRUCTURAL SYSTEMS

A. Building 5

1. Vertical Load Carrying System

a. Roof System: Metal deck with insulating concrete fill supported by structural steel framing.

b. Floor System: Metal deck with lightweight concrete fill supported by structural steel framing. Structural framing is to utilize the floor slab for composite action.

c. Column System: Structural steel column.

2. Lateral Force Resisting System

a. Roof Diaphragm: Metal deck system with shear transfer capacity/connection.

b. Floor Diaphragm: Composite metal deck system with shear transfer capacity/connection.

c. Lateral Frame: Frame systems to comprise of Special Steel Concentrically Braced Frames or Special Steel Moment Frames.

B. Building 6

1. Vertical Load Carrying System

a. Roof System: Metal deck with insulating concrete fill supported by structural steel framing.

b. Floor System: Metal deck with lightweight concrete fill supported by structural steel framing. Structural framing is to utilize the floor slab for composite action.

c. Column System: Structural steel column.

2. Lateral Force Resisting System

a. Roof Diaphragm: Metal deck system with shear transfer capacity/connection.

b. Floor Diaphragm: Composite metal deck system with shear transfer capacity/connection.

c. Lateral Frame: Frame systems to comprise of Special Steel Concentrically Braced Frames or Special Steel Moment Frames.

C. Parking Structure

1.Vertical Load Carrying System

a. Roof System: Post-tensioned concrete slab on pre-cast post-tensioned concrete beam/girder system.

b. Floor/Ramp System: Post-tensioned concrete slab on pre-cast post-tensioned concrete beam/girder system.

c. Column and Wall System: Cast-in-place concrete column and wall system.

2. Lateral Force Resisting System

a. Roof Diaphragm: Reinforced structural concrete diaphragm.

b. Floor Diaphragm: Reinforced structural concrete diaphragm.

c. Lateral Walls: Cast-in-place Special Reinforced Concrete Shear Walls.

D.Other

A preliminary geotechnical evaluation was performed in 2006 by Lowney Associates on the site and around half a dozen borings were taken.

CHAPTER 08 – LEED PROGRAM

8.1 LEED PLATINUM CERTIFICATION REQUIREMENTS

A. Project shall qualify for LEED Platinum certification. This is a mandatory requirement pursuant to the Measure J Bond financing requirements. Design -Build team has flexibility in determining what specific LEED points to include in the mix.

B. LEED Criteria and requirements shall conform to LEED Version ---- as published by USGBC. The Design-Build team shall be responsible to track ongoing changes to the above reference document during the design and construction effort and ensure that the project will meet applicable current requirements for securing the certification

C. Design-Build team shall be responsible for filing (electronic or otherwise) with USGBC all required design, construction, commissioning and M&V related documentation related to the project in a timely manner. A copy of all filing shall be concurrently provided to LAMC in a paper and electronic format.

D. Design-Build team shall be responsible for providing monthly status updates to LAMC on the progress of LEED related documentation and submission status to USGBC, until project officially receives the LEED Platinum certification.

E. Although LAMC has currently renewable energy resource generation at the campus at the Parking Structure-A Photovoltaic project and is currently in the process of developing another campus-wide PV farm, the Design-Build team shall plan for additional Photovoltaic potential on the new parking structure (and / or new buildings) in order to secure the LEED points that apply to renewable energy resources.

F. Design-Build team shall include fundamental commissioning and enhanced commissioning processes as part of the Project (as defined and required under LEED requirements). LAMC shall appoint an independent commissioning agent who will interface with LAMC and the Design-Build team during the design, construction and performance verification phases of the project. Commissioning agent will also provide an additional review of the project performance approximately 2-months prior to the expiration of the first year warranty period.

G. Design-Build team shall make itself familiar with other ongoing projects at the campus that have an impact on site conditions including landscape, storm drain, erosion control measures, parking, etc. to determine what specific LEED points can be claimed as part of the proposed project. Design-team shall also coordinate with LAMC in defining the project boundary for LEED certification purposes.

H. Design-Build team shall survey existing site conditions, topography, adjacencies, existing building structures and their disposition with respect to the proposed project site to ensure that there are no show-stoppers for achieving the proposed LEED points under each of the categories.

I. Design-Build team shall provide the building energy performance modeling reports to LAMC during the Schematic, Design Development, and 50% CD phases of the project to confirm that the project achieves the energy performance goals required for LEED certification. The Design-Build team may use eQUest, EnergyPro or other CEC certified computer programs for the same.

J. Design-Build team shall provide Photo Voltaic modeling reports ~~using PvWatts during~~ the Schematic, Design Development, and 50% CD phases of the project to

demonstrate the amount of renewable energy proposed to be generated by a potential PV system included with the project.

8.2 DELIVERABLES IN THE BID

A. A letter acknowledging that the team fully understands the LEED certification requirements and will engage appropriate qualified resources and design strategies to obtain certification.

B. Proposed LEED Accredited professional or firm that will be responsible for submitting all required documents.

C. LEED Point List showing points that the project will achieve to qualify for LEED Platinum certification

D. A brief explanation of how the Project is expected to achieve each of the points, especially where it is not obvious.

E. Pictorial presentation (where applicable) showing architectural rendering or other sketches illustrating the design element (such as PV on a parking structure) associated with the LEED credit

F. List of specific LEED points the Design-Build team would depend on LAMC to develop through other ongoing projects at the campus.

G. Schedule for the LEED certification process

H. Alternate mix of LEED points may be proposed at this phase to achieve certification, so long as each mix of points conforms to securing Platinum certification.