

Sustainability

Critical Sustainable Design Coordination Among Various Parties

Integrated design through timely coordination between various disciplines will ensure a quality sustainable design delivery. Details of the coordination meetings required, who they are chaired by, goals and outcomes of the meeting and each party's responsibility are listed in this section.

Programming

Meeting Name (can be touch base/email)	USGBC Registration
Chaired by	Program Management Office (PMO), Sustainability Manager (SM)
Participants and responsibilities	College Project Team (CPT) or District Project Manager (DPM), Programming Criteria Architect
Goals and outcomes	<p>Establish a project registration, rating system and number for the project on LEED Online from LACCD pre-registered projects.</p> <p>Confirm timeline and registration info for team member to accurately complete LEED online registration (for Design-Build teams on boarding).</p> <p>Architect (Design-Bid-Build) or Design-Build team to invite PMO and CPT or DPM to LEED Online with PM level access.</p>

Meeting Name	Programming Meeting
Chaired by	Programming Criteria Architect (PCA) and the MEP criteria engineers
Participants and responsibilities	<p>CPT or DPM to coordinate meeting invitation list and logistics</p> <p>Campus Facilities, Building User Group (BUG), SM, Relocation Project Manager (RPM)</p>
Goals and outcomes	<p>Develop carbon Reduction Goals (ie. operational and embodied carbon reduction), energy Goals (ie. exceeding title 24, Renewable systems level of generation, use of refrigerant). Discuss orientation and massing for passive design features. Discuss total Cost of Ownership of the building. Develop goals for longevity and flexibility.</p> <p>During Programming, alternative heating, cooling and ventilation systems should be evaluated. The use of natural ventilation, radiant floors, passive and active chilled beams, underfloor air distribution, and displacement ventilation should be studied by the PCA and their MEP teams. The program should be reviewed in its DRAFT form with the BUG and CPT or DPM and alternative systems study should be presented.</p> <p>The MEP programming criteria team should list specific criteria for rooms where these systems are considered.</p>

Each project should have its own Owner Project Requirements (OPR) tailored to the program of the project. The meeting should occur after program has been established. The Program and the OPR should be coordinated. Programming Criteria Architect, RPM and SM is required to coordinate with the Whole Building Commissioning Agent (WBCxA) and review the OPR for coordination.

Meeting Name	OPR BUG Meeting
Chaired by	WBCxA (or project Commissioning Agent (CxA))
Participants and responsibilities	CPT or DPM to coordinate meeting invitation list and logistics Campus Facilities, BUG, PMO WBCxA, SM, RPM CxA (or WBCxA) to develop an OPR based on this meeting with BUG
Goals and outcomes	Define training requirements overview based on building needs.

100% Schematic Design, 50% & 100% Design Development, 100% Construction Documents and DSA Documents

Meeting Name	Energy & Asset Modeling Review
Chaired by	Design Team Energy Modeler
Participants and responsibilities	PMO - SM, AE Energy Modeler, Energy Project Manager (EPM), District Facilities Office or designee as assigned. Facilities PM for Central Plants (if applicable)
Goals and outcomes	As needed, when compliance is not achieved, conduct a status meeting to confirm progress at the energy modeling milestones. Discuss central plant modeling and design criteria as applicable.

100% Schematic Design, 50% & 100% Design Development, 100% Construction Documents and DSA Documents

Meeting Name	Sustainability Review at each phase of design
Chaired by	CPT or DPM
Participants and responsibilities	AE - Design Team members as appropriate, Facilities Management - for O&M and design input, Construction Team as applicable to delivery process, PMO-SM, WBCxA, EPM, District Facilities Office or designee as assigned, Facilities PM for Central Plants (if applicable) Optional- Building Information Modeling (BIM)
Goals and outcomes	Validate design goals, status check; confirm sustainability requirements are incorporated into the design drawings. Confirm facilities training needs Confirm central plant and energy requirements and design options Coordinate with Project WBCxA

Construction Kick Off

Meeting Name	LEED Kick off, Commissioning (Cx) Kick-off and Asset Modeling Mtg.
Chaired by	Design Team Sustainability Consultant
Participants and responsibilities	CPT or DPM, CxA. Construction Team including all MEP, Building Automation Systems (BAS) and renewable energy subcontractors, PMO- SM (Can be individual or combined meeting)
Goals and outcomes	Convey contractor LEED credits roles and responsibilities Convey Whole Building Commissioning Plan and coordination with Sub-contractors Review construction schedule with respect to Cx activities at pre-functional and functional testing Kick off asset modeling criteria, requirements and roles and responsibilities

Construction – Substantial Completion

Meeting Name	Building Flush out - This can be concurrent with a WBCxA coordination meeting
Chaired by	CPT or DPM
Participants and responsibilities	WBCxA, Construction Team, ME Consultant, LEED consultant
Goals and outcomes	Confirm the flush-out duration, responsibilities, schedule and LEED deliverables and incorporation of flush-out in the project completion schedule.

Construction – Handover Process

Meeting Name	WBCxA Training
Chaired by	WBCxA
Participants and responsibilities	CPT or DPM, Building Facilities, Facilities PM for Central Plants (if applicable), Construction Team representative
Goals and outcomes	Conduct training as specified in the specifications to fulfill LEED Cx and District Cx requirements.

Construction – Post Occupancy 10 Months

Meeting Name	WBCxA Warranty Review
Chaired by	WBCxA
Participants and responsibilities	Building Facilities, Construction Team representative, CPT or DPM Optional-PMO-RPM, RPD, SM, Facilities PM for Central Plants (if applicable)
Goals and outcomes	Building performance review and report Coordination with building performance model Coordination with energy model and asset tracking

Construction – Post Occupancy Warranties

Meeting Name	11-month Post Occupancy Warranty walk
Chaired by	CPT or DPM & WBCxA
Participants and responsibilities	CxA, PMO- post construction group, Facilities manager, Construction Team
Goals and outcomes	Create 11-month warranty list Address outstanding warranty issues Review training information and questions

Sustainable Design Deliverables by Project Phase

This section is an outline of documents related to sustainable design and construction deliverables. At various stages of programming, pre-planning, design, construction and post construction, the CPT or DPM is responsible to ensure that quality sustainable design deliverables are produced by the design team. Timely review and comment on the sustainable submittals will ensure a quality project.

Programming

Document	Sustainable Design Criteria for project- included in project program
Prepared by	Programming Architect
Reviewed by	CPT or DPM, PMO- SM, EPM, District Facilities Office or designee as assigned, Facilities PM for Central Plants (if applicable)
Scope and Goal	Establishes final scope of sustainability and Energy efficiency and management best practices for the project

Document	Owner Project Requirements
Prepared by	Commissioning Agent for Building User Group, Facilities Management
Reviewed by	CPT or DPM, BUG, PMO- SM, EPM, District Facilities Office or designee as assigned, Facilities PM for Central Plants (if applicable)
Scope and Goal	Establishes system requirements for the project

Schematic Design

Document	Sustainability Narratives, Systems Narratives and Basis of Design, LEED Checklist, Schematic Energy Model, Sustainability Cover sheet & Energy Modeling cover sheet
Prepared by	Design Team
Reviewed by	CPT or DPM, SM, CxA, project LEED consultant
Scope and Goal	Establishes the sustainability criteria for the project, Design response to the OPR and identifies the sustainability features for the project. Energy model review should establish preliminary targeted energy compliance for the project. Initial Measurement & Verification (M&V) plan shall be developed.

Items to confirm with SM in schematic design phase regarding a LEED project:

- LEED boundary of the project
- Occupied space in the program
- Occupancy of project to be used for LEED submission
- Owner provided sustainability attributes (pull exhibits from the sustainability standards at back of the document that show bicycles and metro paths etc.)
- Measurement & Demand Response (M&DR)
- program interface
- Central Plant Coordination
- Project appropriate certification level (LEED certified is the program minimum)
- LEED scorecard approval from owner at 100% SD and 100% CD
- Sustainability Cover Sheet
- Energy model requirements

50% Design Development

Document	Sustainability Narratives, Systems Narratives and Basis of Design, LEED Checklist, Schematic Energy Model, Sustainability Cover sheet & Energy Modeling cover sheet
Prepared by	Design Team
Reviewed by	CPT or DPM, SM, BIM, project LEED consultant
Scope and Goal	Tracks status of sustainability. Show incorporation of sustainability features and LEED requirements in documents

100% Design Development

Document	Energy modeling cover sheet + Model + asset tracking
Prepared by	Design Team
Reviewed by	CPT or DPM , SM, BIM, project LEED consultant
Scope and Goal	Energy model in line with design progress and incorporating sustainable design goals. M&V plan shall be updated and reissued at 100% DD.

Construction Documents

Document	Sustainability Narratives, Systems Narratives and Basis of Design, LEED Checklist with action items from various design members, renewable energy allocation from campus bank and/or project renewable energy
Prepared by	Design Team
Reviewed by	CPT or DPM, SM, BIM, project LEED consultant
Scope and Goal	Tracks status of sustainability. Show incorporation of sustainability features and LEED requirements in documents. Final design energy model and M&V plan shall be issued. Confirms WBCxA and Training requirements

GBCI Design Submission

Document	LEED Online
Prepared by	Design Team
Reviewed by	CPT or DPM, project LEED consultant
Scope and Goal	Completes GBCI submission

Construction – Kick Off

Document	Contractor Project Plans MRc2, MRc4, MRc5, MRc7, EQc4.1-4.4 (as applicable)
Prepared by	Contractor
Reviewed by	CPT or DPM, project LEED consultant
Scope and Goal	Establishes projection plan for targeted credits on construction LEED scorecard

Construction – Progress

Document	Contractor credit status for all construction related sustainability items
Prepared by	Contractor
Reviewed by	CPT or DPM, project LEED consultant
Scope and Goal	Establishes construction LEED scorecard status

Document	BIM asset deliverable
Prepared by	Construction team
Reviewed by	CPT or DPM, PMO -BIM
Scope and Goal	Tracking energy model and asset management document

Document	M&DR Review
Prepared by	PMO-EPM, District Facilities Office or designee as assigned
Reviewed by	CPT or DPM, Facilities Director, project LEED consultant
Scope and Goal	Confirms compliance with District M&DR and requests additional documentation or information related to metering and demand response for the project as required by project program

Construction – Substantial Completion

Document	WBCxA Training Manuals and Schedule
Prepared by	Construction Team
Reviewed by	CPT or DPM, PMO-SM and PMO- WBCxA
Scope and Goal	Confirm training is in accordance with OPR and Specification requirements

GBCI Construction Submission

Document	LEED Online
Prepared by	Design and Construction Team
Reviewed by	CPT or DPM, Project LEED consultant
Scope and Goal	Completes GBCI submission

Construction – DSA Closeout

Document	Final OPR, Basis of Design, Construction Manual, Training Manuals, LEED Online documentation, Energy model
Prepared by	Design and Construction Team
Reviewed by	CPT or DPM Facilities Director, PMO- SM, PMO- WBCxA, PMO- Post Construction Group, EPM, District Facilities Office or designee as assigned, WBCxA
Scope and Goal	Establishes final documentation from Design and Construction Team

Construction – Post Occupancy 10 Months

Document	WBCxA Warranty Report
Prepared by	CxA
Reviewed by	CPT or DPM, Construction Team, Facilities Director, PMO- WBCxA
Scope and Goal	Review report on post occupancy information on the building, possible corrections in system