

Jubilee Daniels, M.L.A, LEED AP

LEED for Existing Building Process

and Project Highlights from

UC Office of the President

LEED EB Project

The Franklin Building

Certified: Silver, 2007

The UC/CSU/CCC Sustainability Conference

June 25th, 2007

Project Team

Michael Keleman, Associate Director Building Services

Maric Munn, Associate Director Energy and Utilities

George Getgen, Director, Facilities Administration

Jon Giacomi, Manager of Adm. & Space Planning

Matt St. Clair, Sustainability Specialist

Jubilee Daniels, LEED EB Project Coordinator

Linda Furtado, Facilities Liaison

Matthew Leet, Chief Engineer

Michael Gidding, Engineer

Sustainability Coordinators

Franklin Building Occupants

UCOP Franklin Building



Project Set-Up

- Obtain High Level Buy-In/ Support/Pressure
- Appoint Project Manager/ Project Champion
- Create Project Team*
- Choose a Building*
- Evaluate Buildings Energy Performance
- Conduct Preliminary Credit Assessment
- Decide if you will hire an environmental consultant

Potential Project Team Members

Project Manager

Building Manager

Energy Manager

Engineers

Custodial Services

Campus Recycling and Refuse

Environment, Health and Safety Officer

Grounds/Irrigation Manager

Plumber and Utility Manager

Campus Planner

Campus Sustainability Advocates
(Staff, Student and or Faculty)

Choosing a Building

Choose a Building that you have or would like to:

- Commissioning
- Perform System Upgrades
- Complete Deferred Maintenance
- Have projects you would like to do

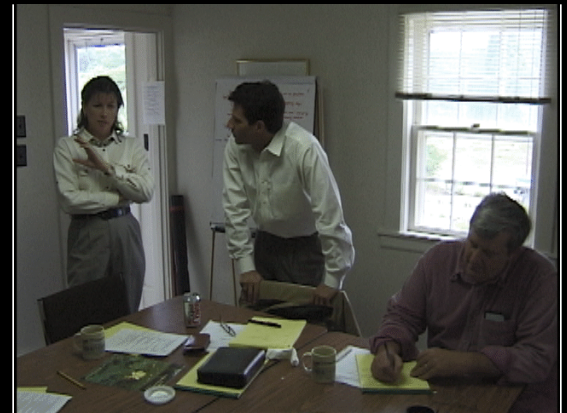
Evaluate Building Occupants:

- Are they easy to work with?
- Enthusiastic about sustainability
- Have multiple departments/ contacts?

Assessment

- Conduct an Eco-Charrette
- Identify Uncertainties for credit compliance/
assign responsibilities for resolution
- Decide on credits and assign credit
responsibilities
- Set deadlines for compliance with the credit
requirements
- Set time-line and budget

ECO-Charrette



Implementation

- Implement Credit Requirements
- Work with building occupants, physical plant and capital projects to institute operational changes
- Install System Improvements
- Conduct Maintenance
- Test Products
- Gather preliminary credit documentation*
- “1-month trial performance period”*

Green Cleaning



Performance Period and Documentation

- Must be operating as a “green building” for 3-months before applying for certification
- Continue documentation during the performance period
- Analyze monthly data to ensure credit requirements are being met
- complete documentation and apply for certification

UCOP Franklin Building, Silver, 2007

LEED for Existing Buildings v2.0

UC Office of the President

Project# 1002524

Certification Level: Silver

04/20/2007

Possible Points: 85

Points Achieved

Sustainable Sites

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- Prereq 1 **Erosion & Sedimentation Control**
- Prereq 2 **Age of Building**
- Credit 1 **Plan for Green Site and Building Exterior Management**
- Credit 2 **High Development Density Building and Area**
- Credit 3.1 **Alternative Transportation: Public Transportation Access**
- Credit 3.2 **Alternative Transportation: Bicycle Storage & Changing Rooms**
- Credit 6.1 **Heat Island Reduction: Non-Roof Surfaces**

Water Efficiency

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- Prereq 1 **Minimum Water Efficiency**
- Prereq 2 **Discharge Water Compliance**
- Credit 3.1 **Water Use Reduction: 10% Reduction**
- Credit 3.2 **Water Use Reduction: 20% Reduction**

Energy & Atmosphere

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- Prereq 1 **Existing Building Commissioning**
- Prereq 2 **Minimum Energy Performance, Energy Star Score of 60**
- Prereq 3 **Ozone Protection**
- Credit 1 **Optimize Energy Performance, Energy Star Score 63-99**
- Credit 2 **Onsite and Offsite Renewable Energy, 5-30% On-site or 25-100% Off-site**

Certified 32-39 points **Silver** 40-47 points **Gold** 48-63 points **Platinum** 64-85 points

15 Materials & Resources

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- Y Prereq 1.1 **Source Reduction and Waste Management: Waste Stream Audit**
- Y Prereq 1.2 **Source Reduction and Waste Management: Storage & Collection of Recyclables**
- Y Prereq 2.0 **Toxic Material Source Reduction: Reduced Mercury in Light Bulbs**
- 2 Credit 1 **Construction Waste Management**
- 5 Credit 2 **Optimize Use of Alternative Materials**
- 2 Credit 3 **Optimize Use of IAQ Compliant Products**
- 2 Credit 4 **Sustainable Cleaning Products and Materials**
- 3 Credit 5 **Occupant Recycling**
- 1 Credit 6 **Additional Toxic Material Source Reduction: Reduced Mercury in Light Bulbs**

4 Indoor Environmental Quality

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- Y Prereq 1 **Outside Air and Exhaust**
- Y Prereq 2 **Environmental Tobacco Smoke (ETS) Control**
- Y Prereq 3 **Asbestos Removal or Encapsulation**
- Y Prereq 4 **PCB Removal**
- 1 Credit 10.1 **Green Cleaning: Entryway Systems**
- 1 Credit 10.2 **Green Cleaning: Isolation of Janitorial Closets**
- 1 Credit 10.3 **Green Cleaning: Low Environmental Impact Cleaning Policy**

4 Innovation in Upgrades, Operations and Maintenance

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- 1 Credit 1.1 **Innovation: Optimize Use of Alternative Materials**
- 1 Credit 1.2 **Innovation: Occupant Recycling**
- 1 Credit 1.3 **Innovation: Education Program**
- 1 Credit 2 **LEED Accredited Professional**

Budget

Total Budget

Capital Costs	Annual Costs	Annual Savings	Credits	Staff and consultants hours
<u>\$37,155</u>	<u>\$1,330</u>	<u>\$30,700</u>	<u>40</u>	<u>1500</u>

Capital Costs	Annual Costs	Annual Savings			Possible Points
<u>\$0</u>	<u>\$800</u>	<u>\$0</u>	Sustainable Sites		
\$0	\$800	\$0	Credit 1.1	Plan for Green Site & Building Exterior Management - 4 specific actions	
<u>\$28,668</u>	<u>\$0</u>	<u>\$26,530</u>	Energy & Atmosphere		Possible Points
\$24,300	\$0	\$26,530	Prereq 1	Existing Building Commissioning *	
\$2,184	\$0	\$0	Credit 2.2	Renewable Energy - On-site 10% / Off-site 50%	
\$2,184	\$0	\$0	Credit 2.3	Renewable Energy - On-site 20% / Off-site 75%	
<u>\$4,000</u>	<u>\$0</u>	<u>\$5,500</u>	Materials & Resources		Possible Points
\$4,000	\$0	\$0	Credit 5.3	Occupant Recycling - Recycle 50% of the Total Waste Stream	
\$0	\$0	\$5,500	Credit 6	Additional Toxic Material Source Reduction - Reduced Mercury in Light Bulbs	
<u>\$3,620</u>	<u>\$250</u>	<u>\$0</u>	Indoor Environmental Quality		Possible Points
\$3,620	\$0	\$0	Prereq 1	Outside Air Introduction & Exhaust Systems	
\$0	\$250	\$0	Credit 5.1	Indoor Chemical & Pollutant Source Control - Reduce Particulates in Air System	
<u>\$867</u>	<u>\$280</u>	<u>\$0</u>	Innovation in Operation & Upgrades		Possible Points
\$867	\$280	\$0	Credit 1.1	Innovation in Operation & Upgrades-Optimize Use of Alternative Materials	

Received \$45,380 from the Utility Partnership for commissioning.

Estimation of 5% and 3% reduction in electricity and gas consumption respectively.

Sustainable Sites

Prior Conditions

Franklin Building Located in a Dense Neighborhood
Close to Public Transportation
Limited Underground Parking
Bike Parking and Shower Facilities

LEED EB Program

Improved Landscaping Practices of 5th Floor Garden
Switched from Fertilizer to Using Mulching
and Organic Compost
Reduced Pesticide Use



Water Efficiency

Prior Conditions

All Water Fixtures meet the 1994 Energy Code

LEED EB Program

2005: Installed Restroom Low Flow Faucet Aerators

Aerators have reduced indoor water use by more than 20%

Aerators were provided free from EBMUD



Energy and Atmosphere

Prior Conditions

Already an Energy Star Building

17% of UCOP Electrical Energy Comes from Renewable Power

No use of CFC Based Refrigerants



LEED EB Program

Building Engineers Reduced Energy Use

Retro-Commissioning of the building

will improve Building Performance

and Energy Conservation (estimated 5% and 3% reduction in electricity and gas respectively)

Material and Resources

Prior Conditions

50% of Trash is Recycled and Thus Diverted From the Landfill

LEED EB Program

Added Compost Collection -Increased Waste Diversion to 60%

Reduced Mercury in Fluorescent Light Bulbs

EPP Purchasing (Most Depts. Purchasing 30% Post-Consumer Recycled Content Paper, & Starting To Select Recycled Content Office Products)

Indoor Air Complaint Building Products Policy (All Building Products (Paints, Sealants, Carpet, etc.) are Low in Volatile Organic Compounds (VOC))

Recycle 75% of any building remodeling and construction waste



Indoor Environmental Quality

Prior Conditions

Proper Functioning Ventilation and Exhaust System
Ventilation Systems Includes Outside Air At All Times

LEED EB Program

- Low Impact Cleaning Program
- Green Seal Certified Cleaning Products
- Recycled Content Paper Products
- All chemicals in janitorial closets w/ separate exhaust system and no air recirculation
- Soap is antibiotic free
- Training of Custodial Crew



Additional Questions?

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