Green Building Policy Implementation Guidelines for Municipal Projects

PURPOSE

To provide guidelines to City and Redevelopment Agency staff on how to implement the following elements of the City's Green Building Policy, Council Policy Manual Section 8-13:

1. The City of San José shall maximize the opportunities to incorporate green building principles and practices into the planning, design, construction, management, renovation, operations and maintenance of all new and existing facilities that are constructed, owned, or managed by the City or the Redevelopment Agency. Note: These guidelines do not cover LEED certification for existing buildings.

2. In pursuit of this policy, all City or Redevelopment Agency building projects constructing or adding more than 10,000 square feet of occupied space (as defined in the adopted building code) shall be designed and constructed to achieve at a minimum the USGBC LEED Silver level of certification with a goal of reaching LEED Gold or Platinum. This shall apply to all new projects budgeted in Fiscal Year 2007-2008 or thereafter.

3. The City Council may allow exceptions to this policy on a project specific basis.

AUTHORITIES

On October 1, 2007, the Transportation and Environmental Committee authorized the City Administration and Redevelopment Agency staff to finalize and implement administrative guidelines to ensure the City’s Green Building Policy, Council Policy Manual Section 8-13, is consistently applied to municipal projects.

SCOPE OF APPLICATION

The planning, design, construction, management, renovation, operations, and demolition of all City facilities that are owned, constructed, managed by the City or Agency. These guidelines do not cover LEED certification for existing buildings nor do they cover green building programs for the private sector.

POLICY

In March 2007, the Council approved a revised Green Building Policy, Council Policy Manual Section 8-13. The following elements of the revised Green Building Policy are relevant to these Guidelines:

1. The policy requires LEED Silver certification as the minimum for all City and Redevelopment Agency building projects which are budgeted in 2007-2008 or thereafter and which construct or add 10,000 square feet or more of occupied space (as defined by the building code) with a goal of attaining Gold or Platinum.

2. The policy encourages project managers and design teams for all other City and Redevelopment Agency facility projects to apply the relevant portions of the LEED checklist and to develop goals that increase the environmental, social, and economic benefits of the project.
The United States Green Building Council (USGBC) developed the Leadership in Energy and Environmental Design (LEED) program as a nationally recognized performance oriented system designed for rating new and existing buildings or groups of buildings based on a variety of Green Building Principles. The USGBC awards different levels of LEED certification based on the total credits earned in particular Project Categories. The levels of LEED certification are Certified, Silver, Gold and Platinum, with Certified being the lowest and Platinum being the highest. The Project Categories include:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation and Design Process
- Regional Priority Credits (added in LEED V3.0)

DEFINITIONS

**Eco-Charette**

A focused workshop, in which the project team and other stakeholders on ideas for efficient use of energy and resources in the new building. The group generates goals and then develops strategies for accomplishing those goals.

**Enhanced Commissioning**

An independent Commissioning Authority (CXA) that leads, reviews, and oversees the completion of all commissioning process activities.

**Fundamental Commissioning**

The process of ensuring that systems are designed, installed, functionally tested, and are capable of being operated and maintained to perform in conformity with the owner’s project requirements.

**Measurement and Verification**

M&V (sometimes called monitoring and verification) is the capability to track the performance of a piece of equipment, a mechanical system, or an entire building. This tracking allows for adjustments that reduce resource use and operating costs.

**Analysis of Costs and Benefits**

An analysis of costs and benefits shall take into account life cycle costs as well as overall benefits.
Life Cycle costs shall include the following:

a) One time capital costs such as design and construction.

b) Ongoing costs such as maintenance and repair costs, operating costs such as energy and water costs, and other costs such as replacement of components.

c) Salvage value.

Benefits shall include the following:

a) Quantifiable benefits such as reduced energy and water costs and reduced maintenance costs.

b) Non-quantifiable benefits such as better indoor air quality, improved worker productivity and benefits to the environment as a whole.

PROCEDURES

SECTION 1: LEED CERTIFICATION STRATEGY

Refer to the USGBC website at [www.usgbc.org](http://www.usgbc.org) for information regarding the current version of LEED, the appropriate LEED program and specific information on the prerequisites and credit requirements. The current (April 2009) USGBC project checklist for New Construction can be found at the following link: [http://www.usgbc.org/ShowFile.aspx?DocumentID=5719](http://www.usgbc.org/ShowFile.aspx?DocumentID=5719)

For all construction or expansion projects involving building 10,000 square feet and over, the project manager and/or design team shall place special emphasis on certain green building elements in order to obtain the necessary LEED certification. There are three basic categories in which these green building elements can be broken down into:

1. **Mandatory Measures**
   These shall be mandatory on all projects and are in addition to the LEED pre-requisites.

2. **City Priorities**
   These are City priorities and are intended to guide the project team and Department Senior staff in making decisions during the design process.

3. **Citywide Strategies**
   These are also City priorities and shall be pursued on a citywide basis rather than on a project specific basis. They will require coordination with project teams to ensure that project design documents and specifications support these citywide measures.
Green Building Policy Implementation Guidelines for Municipal Projects

All of the measures stated below are included in the LEED scorecard.

Mandatory Measures:

1. LEED Accredited Professional - At least one principal participant of the project team shall have successfully completed the LEED Accredited Professional exam.

2. Enhanced Commissioning – Enhanced Commissioning shall be required on all projects.

3. On-Site Renewable energy – 5%-20% of the building’s total energy use to be generated on site. The mandatory measure only requires provision of basic infrastructure for solar power as part of the project and does not mandate installation of the system.

4. Low emitting materials – Adhesives, sealants, paints, carpets and composite wood with only low volatile organic compounds (VOC) content shall be specified.

5. Construction Waste Management, Divert 75% - Minimum 75% Waste Diversion from Landfills shall be required.

City Priorities

1. Optimize Energy Performance – 14%-42% more than as required by ASHRAE.

2. All of the credits under the Water efficiency category.


4. Storm water design, Quantity Control – Implement storm water management plan to handle peak flows. Design team shall refer to City policy 8-14 (Post Construction Hydromodification Management) for related mandatory measures.

5. Stormwater design, Quality Control – Treatment systems such as bioswales, infiltration trenches, porous pavement, vegetated filter strips, filtration basins and constructed wetlands in order to remove suspended solids. Design team shall refer City’s Post-Construction Urban Runoff Management Policy, Council Policy Manual Section 6-29 for related mandatory measures.

Citywide Strategies

1. Green Power – A two-year contract to purchase power generated from renewable sources

2. Innovation Credit (Green Housekeeping) – City-wide contract that requires Green Seal Certified products.

3. On-Site Renewable energy - 5%-20% of the building’s total energy use to be generated on site. Pursue opportunities for solar installations including partnerships with private entities

For all construction or expansion projects involving buildings under 10,000 square feet, the project manager and/or design team shall also take the above certification strategy into
consideration, however, the only mandatory measure that shall be required is the inclusion of a LEED Accredited Professional as part of the project team.

SECTION 2: GENERAL PROJECT MANAGEMENT

The Green Building Executive Steering Committee is required to provide an annual report to Council on the status of the Green Building Program. In order to assist the Committee in accomplishing this task, the Owner and Implementing Departments shall provide updates on the status of the project’s sustainability goals and progress. This applies to all City and Redevelopment Agency projects.

- On an annual basis at a minimum,
- Whenever significant changes are made to the sustainability goals,
- As requested by the Committee

SECTION 3: PHASE I – PROJECT FEASIBILITY

- Determine scope of project
- Determine preliminary design and budget implications
- Include appropriate funding and certification level in cost estimate and budget proposal
- Determine if project will require an exemption from the policy
- Determine project delivery model

A. Budgeting

Capital project proposals should include complete, reliable, and attainable cost estimates. The cost estimates should incorporate the costs required to deliver the project based on the LEED level of certification targeted, and budgeted according to the project estimate.

1. Budget project based on LEED Silver as target with a 1-2 % project contingency set aside to obtain Gold level.

2. As the project progresses, project team to strive to achieve Gold certification, balancing costs and benefits. Project team shall take the City LEED certification strategy into consideration during the decision making process. Project team shall include staff from the Departments of General Services and Environmental Services, in addition to the core team from the Owner and Implementing departments. Owner and Implementing Department Directors or their designees shall report on the recommended target certification level to the Executive Green Building Steering Committee.

3. Project team to document cost and benefits of LEED Gold certification and report to the Green Building Executive Steering Committee at the completion of the design phase and again at completion of the construction phase.

As approved by Council, cost estimates of all projects under 10,000 square feet or exempted from needing LEED certification shall be based upon Council adopted policies. The cost estimates shall take into consideration incorporation of green building principles and practices to the maximum extent possible.

Effective Date: June 23, 2010
Page 5 of 10
B. Exceptions to the policy

If a project requires an exemption from the policy, the Owner and Implementing Department Directors or their designees shall present the project for consideration to the Green Building Executive Steering Committee. If approved by the Executive Steering Committee, it shall be forwarded to Council for approval as part of the budget process.

C. Delivery Model

If the use of a design consultant is included as part of the delivery model the following requirements shall be in effect:

1. A LEED Accredited professional shall be required as part of the consultant team.

2. Consultant shall be required to provide LEED scorecard and cost estimate breakdown of additional costs related to achieving LEED points. Details should be provided with the scorecard and should include information on how design elements meet LEED credit requirements.

3. For projects 10,000 square feet and over, the following may also be required:
   
a. Fundamental Commissioning services to be included as part of the consultant’s basic scope of services.

b. Silver LEED certification as the minimum with Gold or higher level of certification as the project goal. City may require periodic evaluations of the costs and benefits from the consultant as part of the basic scope of services.

SECTION 4: PHASE II - PROPERTY AND LAND

Site Selection criteria

When considering site alternatives, it is important to consider environmental criteria throughout the site selection process. The project team should examine the Sustainable Sites category to examine points that may be achievable by the project when identifying sites. These requirements should be coordinated with Public Works or Agency Real Estate if a site is being considered for acquisition.

SECTION 5: PHASE III – DESIGN

For all projects: A LEED Accredited Professional shall be included as part of the project design team. Project team shall include staff from the Departments of General Services and Environmental Services, in addition to the core team from the Owner and Implementing departments.

1. For projects over 10,000 square feet the following steps shall be undertaken:
   
   • Conduct an Eco-Charette
   • Register project with USGBC
• Through the course of the design phase, project team to strive to achieve Gold certification or higher, balancing costs and benefits.
• Develop a complete set of plans and specifications to support the execution and documentation requirements for achieving the Silver of higher level of certification as determined by the project team

a. Programming

During the programming phase, the project team shall consider the underlying principles of sustainability as they relate to the siting, building orientation, design, construction and operation. The project team shall discuss strategies that result in efficiencies and building space and function to minimize built area.

b. Schematic Design

Schematic Design is a critical phase where the general scope, design, massing and relationships among the components of the project are determined.

1. Eco-Charette – The project design team shall conduct an Eco-Charette during the Schematic Design phase to evaluate the project’s opportunities and constraints for achieving LEED certification. Staff from other relevant departments such as Environmental Services, General Services, Planning, Building and Code Enforcement shall also be included in the Eco-Charette. Design and massing shall be evaluated along with the sustainability goal to explore opportunities to site the building for optimum solar orientation, to use fewer natural resources, to optimize energy and water use and to provide healthy indoor environments. All of the Mandatory Measures shall be included along with the LEED required pre-requisites. A high priority shall be placed on the following on the City Priorities as described in Section 1.

2. Registration with USGBC – Project manager shall register the project with the USGBC.

c. Design Development

The approved Schematic Design shall be developed to include a level of detail necessary to produce a clear and coordinated description of all components of the project.

1. Analysis of costs and benefits - The project team shall strive for LEED Gold level or higher.

2. The project team will evaluate the costs and benefits of achieving levels higher than LEED Silver and shall take the City LEED certification strategy into consideration during the decision making process. The Owner and Implementing Department Directors or their designees shall report on the recommended target certification level to the Executive Green Building Steering Committee.
3. In the event that there is no consensus on a specific strategy or LEED target level, the project team can refer the issue to the Green Building Executive Steering Committee for resolution.

d. Construction Documents

The approved Design Development documents shall be developed to produce a complete set of bidding and construction documents. The project documents shall clearly document all of the LEED components that shall require action and documentation by the contractor.

2. For projects under 10,000 square feet the following steps shall be taken:

- Incorporate green building practices to the maximum extent possible.
- Include LEED scorecard at project milestones as determined by the implementing department along with costs associated with achieving LEED points.
- Submit LEED scorecard along with a write up on the green building strategies at the completion of the project to the Green Building Executive Steering Committee for inclusion into the annual Green Building Program report.

SECTION 6: PHASE IV - BIDDING AND AWARD

- Advertise and bid the project
- Pre-bid meeting
- Contract award

a. Pre-bid meeting

In the bid and award phase a pre-bid meeting shall be held with prospective contractors and subcontractors, to clearly explain the City’s sustainability goals and LEED requirements.

b. Contract award

The contract award memo shall note the project’s compliance with the Green Building Policy. If the project has received an exemption from the policy through the Green Building Executive Steering Committee, the reasons shall be noted in the memo.

SECTION 7: PHASE V – CONSTRUCTION

- Pre-construction meeting
- Construction
- Testing and Commissioning
- Training
- Documents submittal to USGBC

The construction phase is a highly critical phase of the project and requires close coordination between various entities. The project manager and project inspector shall work closely with the contractor’s team to ensure compliance with the project’s LEED requirements.
a. **Pre-construction meeting**

   The general contractor and each of the subcontractors shall be required to attend the pre-construction meeting. The Project Manager and the Project Inspector shall explain the project's LEED requirements specifically in context of required action by the Contractor.

b. **Construction**

   In accordance with the project specifications, the Project Manager shall require the contractor to submit a status report on the LEED documents along with each pay application. Project manager and project inspector shall verify that each of the LEED requirements are being appropriately executed prior to approving the pay application.

c. **Testing**

   In accordance with the project specifications, the Contractor shall be required to work with Commissioning Agents to conduct testing as required.

d. **Training**

   In accordance with the project specifications, the Contractor shall be required to provide Operations and Maintenance manuals along with mandatory training to City staff.

e. **Documents submittal to USGBC**

   In accordance with the project specifications, the Design Consultant, Contractor and Commissioning Agent(s) shall be required to submit complete LEED documentation to the Project Manager for submittal to USGBC. The roles and responsibilities for the submittal process shall be clearly outlined in project contract documents. The contract documents shall also mandate submittal of any additional documentation or clarification by the Design Consultant, Contractor and Commissioning Agent(s), as requested by USGBC.

   Project contract documents shall include language to indicate that sustainable design and LEED certification are very important goals for the City and failure to perform in accordance with the project specifications shall be viewed as a breach of contract.

   The contract documents shall contain appropriate remedies, which may include liquidated damages and/or the withholding of payment, for a contractor’s failure to complete any of the work set forth in the plans and specifications directly related to obtaining LEED certification.

**SECTION 8: PHASE VI - POST CONSTRUCTION**

- Measurement and Verification
- Post-occupancy evaluation
Green Building Policy Implementation
Guidelines for Municipal Projects

6.1.8

a. Measurement and Verification

The Commissioning agent will work with City staff on the measurement and verification component.

b. Post-occupancy evaluation

The Enhanced Commissioning agent will conduct a post-occupancy evaluation of all of the building systems and prepare a report. The Commissioning agent will provide appropriate training to City staff in the event that adjustments and corrections need to be made to the systems.

SECTION 9: TRAINING AND EDUCATION

• Design and Construction
• Operations and Maintenance

a. Design and Construction

Project staff shall be encouraged to take at least one green building workshop/seminar per year to ensure that staff is up to date on the latest approaches in green building. ESD shall communicate workshop dates to relevant City staff as they become available.

b. Operations and Maintenance

General Services staff will be strongly encouraged to attend green building related workshops/seminars during the course of normal business. ESD shall communicate workshop dates to relevant City staff as they become available.

Approved:

\s\ Ed Shikada
Chief Deputy City Manager

June 23, 2010

* On October 1, 2007, the Transportation and Environment Committee approved staff’s recommendation to finalize and implement administrative guidelines pertaining to green building implementation for public projects.