

# LEED Programs in California Communities

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## Introduction

The purpose of this report is to identify the communities in California that have adopted or are in the process of adopting green building standards, and to get a better idea of how these communities are progressing with them. This report focuses more specifically on the Leadership in Energy and Environmental Design (LEED) rating system as the green building standard of interest and how it is being used in California. This project identifies the cities and other communities that use these standards in order to better understand how they were implemented and how to attain success in environmental sustainability through their usage. This document can supply information about the benefits of green building practices to other California communities that do not currently use these types of standards, and can also tell about how to adopt and successfully implement them.

The first part of this project briefly discusses the history of LEED and green building, and also contains information about the current LEED rating systems and tenets for green building. It is meant to give the reader a basic familiarity with the LEED program, its purpose, and how it operates. The second part of this report consists of a database of California agencies that currently have or are in the process of adopting LEED or other green building standards or policies. This database includes city or agency names, contact information regarding each LEED program, links to any relevant LEED or green building policies currently in place, and a brief description of what the program consists of. This database can be used as a contact tool for any community interested in finding out about green building in a similar agency. The final section of

this document includes first-hand information about six California agencies that have or are in the process of adopting LEED standards. This information was collected using five in-person interviews and one phone interview. This section is the most important part of the report, because it provides detailed research on six very different types of agencies and how they have worked to bring green building to their respective communities.

Information about LEED and green building standards is vital to the field of planning because it gives a more environmentally sustainable direction to planning practice. As communities continue to grow, LEED standards become more important because they encourage buildings that promote energy and water savings, sustainable materials usage, and high indoor environmental quality. Adopting LEED standards leads to an overall higher quality of life for current and future residents of communities while protecting natural resources at the same time.



## What are Green Buildings?

According to the United States Green Building Council (USGBC), green buildings are “environmentally responsible, profitable and healthy places to live and work” (2006). More specifically, green buildings are designed and constructed in such a way that their negative impacts on the environment are greatly reduced or even eliminated when compared to traditional methods of building.

There are many environmental, economic, and health benefits associated with building green. Some of the benefits the USGBC (2006) highlights are:

### Environmental:

- Green buildings enhance and protect surrounding ecosystems and biodiversity.
- Green buildings improve air and water quality compared to traditional building methods, and also greatly reduce solid waste production.
- Green buildings conserve precious natural resources by using alternative materials.

### Economic:

- Green buildings have reduced operating costs compared to conventional buildings.
- Green buildings optimize lifecycle economic performance.

### Health:

- Green buildings improve the indoor quality of a building, including the air, acoustic, and thermal conditions.

## ***History of the Green Building Movement***

The philosophy behind the green building movement in the United States most prominently began to develop in the 1970s during the energy crisis and subsequent environmental movement. The late 1980s and early 1990s saw a renewed interest in environmental issues when the dangers of ozone depletion and global warming came into national view (Office of the Federal Environmental Executive, 2006).

The first real green building examples were seen in the design of major United States environmental organizations' office buildings. Some of these office buildings are for the Environmental Defense Fund, the Natural Resources Defense Council, and the Audubon House. All of these buildings were constructed between 1985 and 1992, and featured aspects of green building such as natural lighting, natural materials, and energy conservation techniques (Kibert, 2005). The most highly publicized U.S. green building effort came in 1993 with the "Greening of the White House" project. This project was a success and resulted in significant energy consumption reductions, emissions reductions, and water usage reductions. This success spurred other U.S. governmental organizations to pursue green building efforts and also brought these efforts into the public eye. By 1993, the green building movement was characterized by many guides for sustainable development, international efforts, and rating systems. It was the need for consensus and a common standard of measurement for green building that the USGBC eventually created LEED (USGBC, 2006).

## ***Leadership in Energy and Environmental Design (LEED)***

The United States Green Building Council formed in 1993 out of the need to “transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life” (USGBC, 2006). The USGBC is made up of a mixture of different leaders in the building industry. Their professions include building owners, contractors, architects, engineers, materials suppliers, governmental agencies, and more (Mendler & Odell, 2000).

LEED was first conceptualized in 1994. It was created out of the need for a consensus on the definition of “green building” in the United States, and would do this by providing a standard for measurement for the “greenness” of a building. It took four years for the USGBC to develop its test version of the program. It was released in 1998 and was called LEED Version 1.0. This initial version was a success, and the highly improved LEED 2.0 was launched in 2000. This was the version that created building certification levels: with a maximum of 69 LEED credits, a building could either be rated Bronze, Silver, Gold, or Platinum. The Bronze classification was changed to “Certified” in version 2.1, which was released in 2003.

Currently, there are six sets of LEED rating standards for different types of construction. These include:

- LEED-NC (LEED for New Construction)
- LEED-EB (LEED for Existing Buildings)
- LEED-CI (LEED for Commercial Interiors)
- LEED-CS (LEED for Core and Shell)

- LEED-H (LEED for Homes)
- LEED-ND (LEED for Neighborhood Development)

These last two systems, LEED-H and LEED-ND, are still under development. LEED-H is currently accepting applications for the demonstration of its pilot program (USGBC, 2006). Each of these systems is specially tailored to a specific type of building project, and the standards within each system are slightly different to reflect the variations in all types of construction.

## **How Does LEED Work?**

The LEED rating system used most commonly in the California agencies I studied was the LEED-NC system. Though they are designed for different types of building and construction, each LEED system is very similar in its structure and how it operates and evaluates. I will use the LEED-NC 2.1 system as an example to explain the makeup of the LEED suite of standards as a whole.

The LEED rating system is based on a total of 69 credits that are available in six different categorical areas. These areas are Sustainable Sites (14 points), Water Efficiency (5 points), Energy and Atmosphere (17 points), Materials and Resources (13 points), Indoor Environmental Quality (15 points), and Innovation and Design Process (5 points). Various aspects of sustainable building and development are outlined in each category. Some examples of possible points in each category include:

### **Sustainable Sites:**

- Alternative Transportation (Public Transportation Access): 1 credit
- Light Pollution: 1 credit

### **Water Efficiency:**

- Innovative Wastewater Technology: 1 credit
- Water Use Reduction (20% Reduction): 1 credit

#### Energy and Atmosphere:

- Optimize Energy Performance: 2 credits
- Green Power: 1 credit

#### Materials and Resources:

- Building Reuse: 1 credit
- Recycled Content: 1 credit

#### Indoor Environmental Quality:

- Low-Emitting Materials: 1 credit
- Daylight and Views: 1 credit

#### Innovation and Design Process:

- Innovation in Design: 1 credit
- LEED Accredited Professional: 1 credit

The appropriate number of credits is awarded if the building exemplifies the aspect in question. An example of each of these categories and their respective point totals can be found in Appendix A. The credit points are totaled, and the number of credits achieved establishes the rating the building receives. The highest possible rating is Platinum with 52-69 points. The next best rating is Gold, with 39-51 points. Silver follows with 33-38 points. A building is rated as Certified if it attains 26-32 points. 25 points or lower achieves no LEED rating.

The number of points within each category was decided within a collaborative process involving many different stakeholders. It should be noted that the categories

with more achievable points possible (such as Energy and Atmosphere and Indoor Environmental Quality) are weighted more strongly and are considered to be more important to the green building process than the other categories (such as Water Efficiency and Innovation and Design Process).

For a building to become certified by the USGBC, its intent for certification must be registered with the USGBC, the proper paperwork must be filled out, and a registration fee must be paid. After these steps are complete, documentation must be submitted that shows evidence that the proper steps were taken to achieve each claimed credit point. Much of this documentation can now be completed on the Internet with the release of LEED Online. After a thorough review by the USGBC, a rating is decided upon and given to the building under review. An appeals process is available for any contradictions that may arise during the certification process. Lastly, the USGBC will issue a building plaque that indicates the LEED rating achieved, physically demonstrating the building's environmentally sustainable nature (Kibert, 2005).

## California LEED Database

For this section of my report, I gathered information about California agencies that had or were in the process of adopting LEED or other green building standards. This was done using many different resources. One was the United States Green Building Council, which provided me with a list of established LEED Initiatives in Governments and Schools. Another important resource was Dan Burgoyne, who helped me to identify some communities that were adopting LEED standards that were not identified within the USGBC document. My other interviewees and Internet research provided the remaining communities. Since every community in California was not surveyed, the database is in no way comprehensive. However, it is designed to help give the reader an idea of the different California communities that can be studied and contacted for advice regarding the implementation of green building policies.

The database is divided by type of agency, with representatives at the State, County, City, and University levels for a total of 22 agencies. It includes 1 representative at the State level, 3 at the County level, 15 at the City level, and 3 at the University level. Specific contact information was provided where it could be found, along with Web links to any relevant websites or policy documents concerning the program in question. Lastly, a short description of the current program status was given for each agency in the database.

In summary, the database represents at least 7 communities that have mandated green building standards or LEED certification for their public buildings, and

at least 11 have created advisory green building standards for their public buildings. 8 different communities have also created advisory policies for private construction, comprising recommendations for private developers in the form of guidelines and incentives. 2 of the communities in the database are still in the process of forming green building policies and guidelines. The California LEED and Green Building Database can be found in Appendix B.



## Case Studies and Interviews

The following section of my report represents the case studies that I conducted in order to find out more about the green building and LEED programs that are being implemented in the different agencies within the State of California. In order to obtain accurate and up-to-date information, I felt it would be beneficial to interview representatives of communities that have implemented LEED programs or policies. To get started with this task, I first contacted a member of the United States Green Building Council, the organization that created the LEED program. I received a list of government and school associations that had adopted LEED standards, and I started sending out emails asking for more information and for possible interview opportunities. Luckily, I had an overwhelmingly positive response, and I have conducted six interviews with different California agencies that are at different stages in the adoption of LEED programs.

The agencies that I interviewed were selected based on their diversity of type and size. I wanted to investigate a variety of agency types so that I could better understand the differences between their LEED programs, and so that I could provide complete and correct information to any community interested in my report, no matter what the community's nature. I ultimately interviewed one representative at the State level, one at the County level, three at the City level, and one at the University level. I feel that this mixture of representation should accurately correspond to the types of agencies that would be interested in LEED programs, with cities making up the majority.

I have divided up each interview into five different sections. The first section, **Background information**, is designed to give an idea of who is being interviewed, what they represent, and what their exact position is. The second section entitled **LEED program status** holds the bulk of the information regarding the current LEED or general green building program status. It also discusses the history of the program for that agency, and the direction that the program is currently headed. The third section, called **Supports and barriers**, is meant to outline the presences and factors within each agency that have either helped or hindered the progress of LEED as an everyday standard. The **Advice to other communities** section contains any useful information that the interviewee was able to provide to other communities trying to make or implement green building standards. The final section is called **Useful resources** and provides any Web links that are relevant to the interviewee or their agency.

Most of the information contained in the following sections comes directly from the interviewee and is written in the form of a summary. Any additional information is cited and is meant to be supplemental to the information gained firsthand from the interview.

## ***Interview 1: Dan Burgoyne, Sustainability Manager for the State of California Department of General Services***

### **Background information**

My first interview was conducted with Dan Burgoyne who works for the State of California's Department of General Services (DGS) in Sacramento. This was a face-to-face interview and was conducted on March 23, 2006.

Dan's position is an ever-changing one. He was previously the one-man Sustainability Manager for many different State departments. Now, his position has evolved into being a part of the Governor's Green Action Team whose main focus is to implement Executive Order S-20-04 (these will be discussed in the following section). His current title is Sustainability Manager for the Executive Office of the Green Team. He is also involved with the State's Environmentally Preferable Purchasing efforts, which are designed to meet the standards of EO S-20-04.

### **LEED program status**

The State of California's Department of General Services is making great strides in creating and implementing green building policies for State buildings. During the prior administration, former Governor Davis issued Executive Order (EO) D-16-00 in August of 2000. Its goal was to encourage sustainable building and energy efficiency practices among buildings constructed under State authority (California Integrated Waste Management Board, 2006). After LEED was released, the DGS used it to construct example projects in Sacramento in 2002, such as the East End Complex, which achieved a LEED Gold rating. The success of these example LEED buildings

inspired the current administration to issue Executive Order S-20-04 in December of 2004 by Governor Schwarzenegger (Appendix C). Written under the direction of the California Energy Commission, the CalEPA, and the DGS, its main purpose was to require the reduction of electricity usage by state buildings and “reduce grid-based energy purchases for state-owned buildings by 20% by 2015” (Executive Department, State of California, 2004). The first measure in the Executive Order suggests meeting this goal by “designing, constructing and operating all new and renovated state-owned facilities paid for with state funds as ‘LEED Silver’ or higher certified buildings” (Executive Department, State of California, 2004). Another policy document to accompany this EO was the Green Building Action Plan (Appendix D). This plan further outlined the specific actions that should be followed in order to implement EO S-20-04. It also established a Green Action Team whose purpose is to oversee the progress of implementation with a focus on LEED-NC and –EB, energy efficiency, solar programs, natural gas purchase programs, etc. The Green Building Action Plan also explicitly states LEED as the green building standard to be used in meeting the demands of EO S-20-04.

Three projects and a total of six buildings have been certified under the Executive Order so far. Around 15-18 projects (a total of around 40 buildings) are currently pursuing LEED compliance and are in the design or construction phases. Some of these buildings are on University of California campuses. One LEED project that was mentioned before is the East End Complex in Sacramento, which provides a good example of energy savings. This complex saves over \$100,000 per year in energy funds (these estimates are based on what would have been built otherwise,

without LEED incorporation). This building is certified LEED Gold under the LEED-NC program and is applying for LEED Platinum under the LEED-EB program.

The State of California encourages the private sector to use LEED when constructing buildings, but this program cannot be mandated. The state legislature would have to pass a law requiring the private sector to use LEED standards, and its passage and subsequent abidance is not feasible or expected. However, there are State agencies that encourage LEED usage by offering incentives, such as the California Public Utilities Commission. This agency makes about \$200 million a year from utility surcharges, and this money is used to fund energy efficiency education programs. These incentives are offered to building owners and design teams through LEED-NC.

The success thus far of Executive Order S-20-04 has caused a bill to be proposed to the California Senate that would make the EO a law. Since Executive Orders are strong recommendations but are not actually mandated, when the current administration is over its EOs will no longer be valid. This bill, AB2321, would ensure that the EO for LEED usage stays in place (California State Senate, 2006).

## **Supports and barriers**

Though they were not discussed explicitly, it can be inferred from Dan's information that there are some factors that both encourage and discourage LEED usage in the State of California. The main support seems to be in the form of the willingness of the current and recent administrations to support green building by creating legislation that addresses its necessity. The very act of bringing green building concerns into the spotlight by creating the Executive Orders has heightened awareness

of this issue and has shown both the decision-makers and residents of California that there is a way to reduce our energy consumption and our impact on the environment. The motion to pass EO S-20-04 into law is a big step forward in the green building effort. Example projects have also been a factor in LEED's progress in the State, as they have physically exemplified the tenets of green building and shown that this type of construction is feasible.

The main factor that appears to be a barrier to LEED implementation is the lack of funding or place in the State budget to support this program. The lack of funds makes it difficult to sponsor green building practices, which may cost slightly more than standard construction techniques at the beginning of projects. Also, the lack of funding makes it hard for any incentives for the private sector to be put in place to encourage LEED usage among non-State buildings.

### **Advice to other communities**

In order to inspire the use of LEED in other communities, Dan recommended a demonstration project in the form of a public building. This way, both the local municipality and the members of the community can see firsthand how a green building is constructed, what they are like, and the benefits that come from them. Also, Dan recommended starting the building in the LEED process as early as possible so that LEED can be a factor from the very beginning, instead of being worked in as an afterthought.

## **Useful resources**

The State of California's green building efforts, including building, recycling, and purchasing, are outlined at **<http://www.green.ca.gov>**.

## ***Interview 2: Keith Roberts, Energy Manager for the City of Sacramento***

### **Background Information**

The second interview I conducted was with Keith Roberts, a Senior Engineer and the Energy Manager for the City of Sacramento's Department of General Services. This interview was conducted on March 23, 2006.

Keith started working for the City about two and a half years ago, and he brought his enthusiasm for LEED with him from other jobs he had worked at in the past. He was the main catalyst for any present sustainability and LEED progress in Sacramento, and his current title is City Energy Manager. He was originally hired to reduce city utility costs, and his goal is to increase the energy efficiency of City buildings. He is also the main writer and proponent of Sacramento's Sustainability Agenda, which will be discussed in the following section.

### **LEED program status**

Sacramento currently has a resolution regarding LEED usage for city-owned buildings. However, since this has not yet been made into City policy, it basically holds the same status as an Executive Order at the State level in that it is just a strong recommendation. The LEED resolution can be considered a de-facto policy, in that it does not have legal sanction yet. Keith is trying to turn the resolution into a policy within the next six months.

The current resolution was adopted in September of 2004 by the Sacramento City Council (Appendix E). Its overall purpose is to put City-owned buildings through



the LEED process. More specifically, the resolution states that “the City will design and operate facilities to achieve the highest level Leadership in Energy and Environmental Design (LEED) rating and energy efficiency possible for that type of building” (City of Sacramento, 2004). The resolution also encourages the usage of renewable energy sources and the purchase of energy-efficient equipment and products. So far, the City has five projects registered for LEED certification. The new City Hall is registered under LEED-EB. The Mims Community Center, Crocker Museum, and North Natomas Library are all registered under LEED-NC. One last City building is registered under LEED-CI. Keith reports that the main goal in terms of LEED for the city is to aim for continuous improvement with each subsequent project.

In addition to this resolution, Keith has been working hard for the last six months on putting together a Sustainability Agenda for Sacramento. His Agenda is fully supportive of Sacramento’s goal to “achieve sustainability and livability” in the city (Roberts, 2006). The Agenda is made up of a binder full of information including the guiding principles of sustainability, draft sustainability indicators and goals, draft programs, potential funding methods, and presentation materials for educational workshops. Also included in the Agenda is the list of Urban Environmental Accords (Appendix F), which is promoted by the United Nations and is a sustainability rating program for entire cities. Sacramento wishes to add its name to the list of cities that have agreed to these accords, and Keith’s Sustainability Agenda is designed to bring this goal closer to fruition.

## **Supports and barriers**

Keith is currently having a hard time turning the LEED resolution into a policy. Though the Mayor and City Council members are supportive of this program, Sacramento's many city departments have a hard time communicating with one another. Keith's department, General Services, is responsible for most capital projects in the city. However, some departments insist on using outside contractors for their projects, which makes it difficult to establish one set of design and construction standards for everyone to use. In addition to this, there are many long-time city employees that do not want to accept change within their operations or see an increase in expenditures. Though LEED standards typically cost slightly more in the initial phases of construction, they offer lifetime savings over the long run, but this is not what many City employees want to see. They want the money first, and then they will be willing to try LEED. This makes it very difficult to convince important decision-makers to try the LEED program.

## **Advice to other communities**

Keith is a big proponent of educational programs regarding LEED and sustainability. He is currently designing a workshop for the City Council regarding his Sustainability Agenda. This type of education would be useful for the other departments within the City that rely on General Services for the completion of their capital projects. Another tip that Keith gives to encourage LEED in a community is the establishment of LEED incentives for private developers. The erasure of permit fees, permit expediting, and free parking for electric or hybrid vehicles are some simple

examples that Keith gives that would have a significant impact on green building compliance in a community.

### **Useful resources**

The City of Sacramento's website is **<http://www.cityofsacramento.org/>**.

The Urban Environmental Accords website can be found at  
**<http://www.urbanaccords.org/>**.

### ***Interview 3: Joe Sugg, Assistant Vice President of University Operations, and Don Akerland, Director of Planning and Projects for Santa Clara University***

#### **Background information**

The third LEED interview was completed on March 31, 2006. For this interview, I traveled to Santa Clara University (SCU) and talked with two University representatives, Joe Sugg and Don Akerland. Joe Sugg's title is the Assistant Vice President of University Operations, and Don Akerland's is the Director of Planning and Projects. All new building projects come through the office that Joe and Don work for, and they have lots of control over the buildings that are constructed on campus.

Although the University has had a Sustainability Policy on campus for a few years, it is not a strict LEED policy. However, LEED provides many of the criteria for the sustainability principles that are encouraged and followed on campus. Buildings on campus are rated using LEED, but they are not aimed at actual certification because of its costly nature. Some questions that are asked before construction are: do the buildings keep a sustainable balance? And, do the practices support the building? LEED acts as a guide for campus construction. So far, three buildings on campus are registered with LEED, but are not actually certified. Sustainability is the main goal at Santa Clara University. The following section contains more information about this unique approach to LEED and sustainability.

## **LEED program status**

Sustainability has been a big issue at Santa Clara University ever since its Sustainability Policy (Appendix G) was created three years ago. At this time, the school partnered with the Environmental Studies Institute at SCU to develop a sustainability policy. About ten people were involved, and they made a presentation to the President of SCU and to members of campus leadership. The Sustainability Policy was created with a very broad scope in order to allow for flexibility in implementation based on available funds and other opportunities. This policy consists of three sections: Environmental Stewardship, Environmental Education, and Environmental Service. Each of these sections states different goals for the University to accomplish in terms of sustainability.

Because of Santa Clara University's small and private nature, LEED certification is not strictly mandated in this policy. Santa Clara University receives no funding from the federal government, and LEED certification is very costly. Instead, LEED has been accepted as the system to be used in "keeping score" with the sustainability of on-campus buildings, and its tenets have been worked into the campus's sustainability program. This relationship with LEED can be seen in Santa Clara University's Sustainable Design Considerations (Appendix H). These considerations are aimed for in the decision-making process because LEED standards are still recognized as desirable to achieve. Some LEED recommendations are easy to achieve financially and are also great for the environment, and these practices have become standard. Other LEED recommendations are very costly and are not within reason for SCU to achieve.

The school promotes “sensible sustainability”, and thus uses the sustainable practices that are feasible.

Santa Clara University has taken many steps to encourage sustainability on campus. The Commons Building opened in January of 2006 and was constructed as a sustainable test building to examine the different sections of the University’s Sustainable Design Considerations. This building contains recycled glass windows, cork floors, natural ventilation, a living roof, operable windows, low flush toilets, automatic sinks, motion-sensitive lights, and many other sustainable design features. I visited this building and was amazed at its fully functional, aesthetically stunning nature. The concrete floor was made of 70% recycled material, and this method is now being examined as an alternative in a new hall on SCU’s campus. Another newly renovated building used sustainable carpets and paints and has virtually no smell because of these materials. SCU has also promoted sustainability and found success with their re-claimed water system, wind generator (which provides 5% of the campus’s energy), recycling program, and sustainable outreach program. SCU is currently working with the City of Santa Clara and other surrounding municipalities about getting their own sustainability policies on board.

### **Supports and barriers**

There are many factors that go into Santa Clara University’s Sustainability Policy. Some of the things that have helped support the success of the policy are the people involved with the University. The students in the Environmental Studies Institute and the Sustainability Coordinator have helped bring this program into the spotlight at the University. They also helped to craft the Sustainability Policy and work to uphold its

principles in their academic lives. Another great support for sustainability has been the sustainable materials test building, which has physically exemplified both the University's Sustainable Design Considerations and Sustainability Policy.

The main obstacle or opposition that the sustainability/LEED mission faces at Santa Clara University has to do with initial versus lifecycle costs. Constructing a building according to LEED or other sustainable methods sometimes costs 5-10% more in capital costs than regular construction types, and this creates a lot of opposition at the University. Some people are not willing to make the necessary changes since the initial costs are so much more. There is a lot of tension between high initial and low lifecycle costs of LEED building at Santa Clara University.

### **Advice to other communities**

Joe and Don had a lot of good advice for promoting sustainability in other communities. One recommendation is that a presentation should be made on the possibilities for sustainable policy implementation. A broad group of participants is necessary, and there must not be any threatening language in a potential policy. Another point is that education about sustainable building is highly needed if there is to be any success with this type of program. The cost of a building must not be the only focus in this respect. Lastly, language is important. Joe and Don feel that they have had more success using the term "sustainable" as opposed to "green" because it carries a more professional air and does not hold stereotypes that are too broad.

## **Useful resources**

Santa Clara University's commitment to sustainability and green building can be found online at **<http://www.scu.edu/sustainability/>**.



## ***Interview 4: Mike Foster, Green Building Coordinator for the City of San Jose***

### **Background Information**

My fourth interview was with Mike Foster, the Green Building Coordinator for the City of San Jose. This position is found within the Environmental Services Department under the Policy and Planning Division of the City government. This interview was conducted on March 31, 2006.

The issue of green building was first raised in San Jose in 1998 when the mayor started the Citizen Advisory Committee. The purpose of this committee was to find out the environmental concerns among the residents in the San Jose community.

Meetings were held with residents and professionals in related fields, such as architects, engineers, and developers. One objective that came out of these meetings was the desire of the public for the City to design and build environmentally-friendly buildings.

The mayor eventually formed the Green Building Taskforce, a group of building, housing, and community stakeholders, to refine what was to be done regarding green building in San Jose. With the help of this taskforce and the City Council and staff, it was decided that LEED should be the program of choice to reflect the green building goals of the community.

### **LEED program status**

In June of 2001, the City Council adopted the San Jose Green Building Policy (Appendix I). San Jose is the only city in Santa Clara County to have adopted green

building guidelines. The Green Building Policy states, “the City of San Jose shall adopt the ‘San Jose LEED’ Green Building Rating System as the green building design guideline for its ongoing and future program areas...” It also says that “all new construction and major retrofit projects for all City facilities and buildings over 10,000 gross square feet of occupied space shall meet a ‘San Jose LEED’ Certified rating...” (City of San Jose, 2001). Although the language of the policy makes it sound mandatory, the Green Building Policy is only advisory and cannot be mandated by law. The policy’s LEED focus is partnered along with other systems that San Jose already had in place, such as strict storm water and energy requirements, to create a sort of hybrid green building and sustainability program.

Currently, there is only one LEED-certified City building in San Jose. This is the West Valley Branch Library, and green building features were included after construction had begun. This building was certified in January of 2003 with 29 points achieved. It is the first library in the world to be LEED-certified. The reason that there is only one LEED-certified building in San Jose has to do with funding difficulties, which are discussed more in the next section. Because of these difficulties, there have been 18 buildings constructed since the LEED policy was adopted; yet only one has been certified. Buildings slip through the LEED certification process because the Green Building Policy is not a law, so it cannot be strictly enforced. Oftentimes, buildings are designed to be sustainable with green features on paper, but when it comes time for construction, these features are left out to save time and to keep initial costs lower.

In terms of the private sector, there are currently two green building projects in the City of San Jose. One is the Adobe Systems building, which is working under the

LEED-EB rating system and is striving for a Platinum rating. There is also a small development company's building that is presently in the design phase. It is planned to be a mixed-use shopping center with a LEED Silver goal.

San Jose had originally planned to provide incentives to builders in the private sector, but with the current funding problems as well as the dot com burst, the City has little money left over for these purposes. However, San Jose still provides educational seminars and training workshops for members of the private sector, and also for city staff members. The City partners with PG&E and the Pacific Energy Center to put on these types of classes 15-25 times per year. Some of these classes involve teaching home remodeling companies to become greener in their practices and also to encourage their clients to do the same.

Principles of green building can also be found in San Jose's General Plan. The Major Strategies section of the General Plan outlines the "Sustainable City" strategy (Appendix J) which calls for green building techniques, among other things. Green building tenets can be found interspersed throughout the Goals and Policies section of the General Plan as well.

### **Supports and barriers**

The City of San Jose has met a lot of opposition in terms of the implementation of its green building policy. One of the greatest barriers to LEED implementation has to do with funding. In 1998 and 2000, before the Green Building Policy was adopted, citizens passed bond measures totaling over \$1 billion that called for the rebuilding of libraries, community centers, City Hall, public safety buildings, and the expansion of the airport. Since they were passed before the Green Building Policy was adopted, they

do not include any funding measures for green building features. This creates a huge challenge to LEED certification for City building for many years to come.

Another barrier to LEED comes from the City Council and staff. Only one member of the City Council is actually supportive of the LEED program, but the other members are not supportive or do not show interest in it. These members want to see definitive proof of the cost-wise benefits of LEED and how money was saved before they will make any decisions; however, this sort of documentation is not available for the City at this time. Right now, the main example to work with is the LEED-certified West Valley Branch Library, which was increased from 5,000 to 30,000 square feet. This increase in size makes it difficult to see and understand any monetary or energy savings. Older managers on city staff are also in opposition to LEED, because they do not see a reason to implement it. They feel that the usual methods are fine, and they do not like to see change. This is a big problem because these older managers are typically the decision-makers regarding building in the City.

In spite of these barriers, there are also some sources of support for LEED in San Jose. The people that come to the educational seminars and training workshops show considerable support for green building. These members of the public are important because they help show that the residents of San Jose are interested in green building and also show the City that this issue is among their top priorities. Other support comes from Mike himself and other members of the city staff that share his enthusiasm for LEED and green building.

## **Advice to other communities**

Mike had a lot of useful suggestions for making green building and LEED successful for other communities. His first suggestion was to engage the community in the green building movement by providing educational workshops and making it a public issue. He also noted that championing the green building movement was important, and that it is also important to encourage elected officials to become champions as well. He said that decision-maker interest is vital to the success of a green building program. If a LEED-specific rating system is to be used, Mike recommends the allocation of funding and adequate resources to this purpose. This factor is one of the biggest barriers to the success of LEED in his community, so Mike knows how important it is to have. One last piece of advice is to start buildings in the LEED process as early as possible. LEED features should be incorporated from the design phase of a project and should be carried through to the end of the construction phase to ensure that they are utilized. They should not be incorporated as an afterthought, or else they might be removed by the end.

## **Useful resources**

San Jose's green building informational website can be found at

**<http://www.sanjoseca.gov/esd/natural-energy-resources/greenbuilding.htm>.**

## ***Interview 5: Jerry Loeper, Supervising Architect for the County of Alameda***

### **Background information**

I conducted my fifth interview with Jerry Loeper on April 17, 2006. Jerry is the Supervising Architect for the County of Alameda and works for the General Services Agency (GSA) Technical Services Department (TSD). Jerry is in the process of becoming a LEED-accredited professional, and another member of the County GSA-TSD staff already is.

Sustainable design has been a driving force in Alameda County for many years. They have maintained a recycle program with staff to support it and receive support from StopWaste.org, formerly called the Alameda County Waste Management Authority. There was, and still is, a high level of concern about the volume of trash and diminishing capacity in County landfills. StopWaste.org encouraged the County to be more sustainable by offering deductions on the tipping fee (the cost of dumping waste into the landfills) if they were to dump less and recycle more. The Board of Supervisors along with the LEED-accredited GSA-TSD staff member drafted the current Green Building Ordinance using LEED as one of its focal points. The language of this ordinance was modeled after other jurisdictions, including some out-of-state agencies. It was adopted in April of 2003, becoming the first LEED ordinance to be adopted by a California County.

## **LEED program status**

Alameda County's Green Building Ordinance (Appendix K) mandates that all public buildings over \$5 million need to be certified at LEED Silver or better. Any building less than \$5 million needs to obtain the equivalent of LEED Silver, but can be self-certified. These smaller projects, such as remodels, employ green design methods to be consistent with LEED standards. Some of these methods include sustainable carpeting, low VOC (volatile organic compound) paints, and low energy outlets and lights. The Green Building Ordinance (GBO) also contains regulations on construction and demolition debris. It states, "at least fifty (50) percent of the total Debris generated by the [County] project shall be diverted from landfill via Reuse or Recycling" (County of Alameda, 2003).

The GBO is written in such a way that the County is confident the private sector can accept it as well. The cost of building green is going down and in many respects is now only marginally more expensive than conventional construction costs. Some projects have been shown to have only a zero to 1% difference in cost using LEED compared to conventional construction. These reductions in cost have caused a rising level of environmental consciousness among the private sector. The County has experienced a higher level of inquiry regarding green building because of this awareness. Owners of buildings are being asked by prospective tenants if the building includes green features, and they are proud when they are able to say yes, and embarrassed to say no. Some developers are seeking green building methods for publicity and because of their growing popularity.

Results of the GBO are impressive in Alameda County. In terms of the landfill diversion rate, the County has exceeded their goal of 50% for two years running. The rate has been as high as 80-90%. In terms of LEED compliance, one large construction project stands out among the rest: the Juvenile Justice Center (JJC). It is a \$177 million project built according to the GBO and should be completed in December of 2006. As of right now, it looks like it will achieve a LEED Gold rating. Another project is the Castro Valley Library, which is in the design development stage. This building is comfortably in the LEED Silver zone right now. Another sustainable energy project of note is the Santa Rita Jail photovoltaic (PV) system. It has the largest PV array west of the Mississippi River. Its acres of PV provide 25% of the energy to a jail which houses thousands of inmates. Soon to be dedicated is the new 1mW Fuel Cell generator, bringing the self-generating capacity for this facility over 50%.

### **Supports and barriers**

The LEED program in Alameda County has seen enormous success so far. One of the things that helped with this success is the training provided to County staff members about sustainable design practices. All County staff members have had introductory and intermediate USGBC training, and some have had advanced training. This training is made possible by scholarships from StopWaste.org and GSA. These training sessions have raised awareness about the purpose and nature of LEED and have made green building practices standard within the County.

Another factor that supports LEED success in the County is sustainable design has been worked into each new project from the very start. The County wants sustainable design practices to be a conscious decision from the beginning of each



project, and not a factor that has to be worked in during construction or after the fact. The cost of building according to LEED is incorporated into the fundamental design of each project, so it cannot be easily eliminated for reasons like meeting a project's budget. This strategy ensures that LEED is used in each relevant project from start to finish.

One last support for LEED in Alameda County has to do with its necessity. The fact that sustainable building practices are mandated by the GBO guarantees these types of practices will be used for all construction projects. LEED does not become an option that may or may not be followed; instead, it is required from the very beginning that LEED will be used. This method creates successful LEED compliance with each project.

Jerry reported that there has been no recent opposition to the GBO in the County of Alameda. He said that there was some in the very beginning of the ordinance, but it came from not fully understanding LEED or green building. The Green Building Ordinance is now fully accepted with the help of education and LEED training sessions.

### **Advice to other communities**

Jerry was a big proponent of educational training sessions for staff members. This type of education eliminated resistance and motivated staff to be more conscious of green building efforts, and to reduce the amount of waste discarded into County landfills. This type of knowledge created a network of partners in the green building effort within Alameda County, which really helped with the program's success. Training

sessions should be strived for in every community, along with any available scholarship money from associations such as the local recycle/garbage/landfill organization.

### **Useful resources**

Alameda County's sustainable site can be found at

**<http://www.stopwaste.org/home/index.asp>**, which includes information about recycling, bay-friendly landscaping, and green building.

## ***Interview 6: Greg Reitz, Green Building Program Advisor for the City of Santa Monica***

### **Background information**

My final interview was with Greg Reitz, the Green Building Program Advisor for the City of Santa Monica. This interview was conducted by phone on July 18, 2006.

The Green Building Program was started out of a taskforce made up of residents with expertise in environmental fields. This taskforce formed in 1992 out of the desire to reduce Santa Monica's impact on the environment. In 1994, the City developed its own standards for community and public buildings (LEED was not yet released) with the help of this taskforce and their Green Building Program. When LEED was eventually released, the public works director adopted it as the new green building rating system at the advisement of people on the taskforce.

### **LEED program status**

The Green Building Ordinance (Appendix L) instructs that "the envelope, space-conditioning, lighting and service water-heating systems of all buildings subject to the provisions of this chapter shall be designed, constructed and installed to use no more source energy from non-renewable sources than the allowable energy budget..." (City of Santa Monica). To meet these demands, the City uses the LEED rating system as a standard method to create more environmentally-friendly buildings, with a Silver rating as the ultimate goal. LEED is not mandatory, but it is always used because of the individuals that are implementing the Green Building Ordinance, such as the City architect and other staff members. All of these people are very supportive of LEED,

because it can be justified on so many levels. From an economic standpoint, LEED saves money over a long period of time, and it is the City's responsibility to serve its residents and taxpayers in this way. The health of residents should also be protected, and LEED building supports this goal as well.

Since the City government is already wholly supportive of LEED and green building, Santa Monica focuses on spreading its usage to the private sector. The City encourages the private sector to use LEED by providing a mixture of education, incentives, and regulation. In terms of education, there is a program in place in the form of the Green Building Resource Center, which is run by Global Green. This center shows residents different green building materials and strategies. The incentive program is tied to LEED certification. If a private developer wants LEED certification for his or her building, they are eligible for grants and expedited plan review. This is outlined in the Santa Monica Green Building LEED Grant Program document (Appendix M). The regulation that is currently in place requires the private sector to include recycled content in their new structures, and to recycle 60% of their construction and demolition debris. In the future, there will be stricter energy efficiency standards that will be above Title 24. This mixture of education, incentives, and minimal regulation has proved to be successful for Santa Monica because private buildings, including homes, continue to be proposed in Santa Monica that comply with LEED standards. Also, there has been a significant reduction in greenhouse gas emissions: 1,100 tons of CO<sub>2</sub> has been reduced per year among the private sector alone.

There are many LEED projects currently underway in Santa Monica. Some examples of City buildings are the public safety facility, the Virginia Avenue Park (the

first park complex in the USA to be LEED certified), and the main library. City Hall is currently undergoing LEED-EB. Some examples of private buildings include the Natural Resources Defense Council Building, which is rated LEED Platinum, and Colorado Court, a multifamily affordable housing complex, which is rated LEED Gold.

## **Supports and barriers**

Santa Monica is a city that has met very little opposition to LEED and green building standards. One of the reasons that LEED is so successful here is because of its incorporation into the City budget and general support of City staff. These two characteristics help green building to be a natural course for new construction to take in Santa Monica. It is a widely-accepted standard, and is not looked at as an external, foreign option.

Another big factor in the success of green building is the environmental concern that has been present in the Santa Monica community. This concern has been a large issue for Santa Monica residents for a long time, and the community is used to putting environmental issues at the top of the priority list. This is a cultural phenomenon that has existed for many years in the community (for example, Santa Monica was one of the first cities to implement a curbside recycling program). This mentality helps to encourage LEED and green building in general.

Santa Monica has met virtually no opposition in terms of green building standards. Because it is such a popular place to live and work, their green building requirements have not scared away residents or developers. City officials are also in strong support of this program, which makes it even easier to implement without trouble.

## **Advice to other communities**

Greg acknowledges that in order for a green building program to be successful in a community, support has to come from its residents. With proper education, most communities shouldn't have trouble building strong support for green building because there very few arguments that can be made against it. Greg advises finding passionate community members to talk to the City Council and organize educational sessions, tours of other communities' LEED buildings, and presentations. The agency should then adopt a policy for its own buildings in order to provide good examples for the private sector and the rest of the community. Guidelines should be created, and education is very important as opposed to the imposition of green building standards. These practices should create broad support for LEED and green building standards in any community.

## **Useful resources**

Santa Monica's sustainable city site can be found at  
**<http://www.smgreen.org/>**.

## Conclusions

The conclusions that can be taken from this report include information about the prominence of green building in California and about how a community can go about adopting successful green building standards.

Through conducting this study, it can be concluded that green building practices are prominent in California and are gaining momentum and popularity. With the recent release of the USGBC's LEED rating system, the guidelines for creating sustainable, environmentally responsible buildings are within reach of agencies of all types. It is easier than ever to find out the necessary steps to creating this type of building, and more and more agencies are taking it upon themselves to do so. With the spread of knowledge and example, it can safely be said that green building practices are gaining momentum in California and should be embraced for their ingenuity and importance to the future.

The six interviews I conducted all revealed a lot about the different types and levels of green building programs and policies in the State. It can be argued that the most crucial parts of these interviews are the sections that contain advice to other communities regarding LEED implementation. This kind of experiential knowledge can be invaluable to an agency in search of a way to begin the process of green building. If green building is to be spread through California, it is this type of information that can make it happen. I have outlined a few of the common themes that are present in the interviews:

- **Education** about green building appears to be the most widely acknowledged factor in creating a successful green building program in a community. All but one of my interviewees mentioned educational programs as a key element in establishing LEED policy, whether it is in the form of presentations to the staff and community or educational training and seminars for agency staff members. This factor can spread knowledge about green building and its purpose, benefits, and mode of incorporation into present policy to create a lasting knowledge base.
- **Starting LEED early in the building process** can also have a profound effect on a program's efficacy. Experience has shown that if LEED standards are worked into the base fabric of a project, they are more likely to be carried throughout the process than if these aspects are worked in during construction. Funding should be set aside in advance for green building aspects if they are to be realized in the finished product.
- A **demonstration project** can help show the community the physical manifestation of green building standards. The agency should create this example project after **drafting its own green building policy** to show both its encouragement for and commitment to green building practices.
- **Incentives** should be provided to private developers to encourage them to use green building features. These can be as simple as



expedited permit processing, or can be in the form of grants from the agency or any local recycling or energy organizations.

In conclusion, green building standards appear to be within reach of many agencies within California. With proper education, funding, and dedication, green building and LEED accreditation can be obtained on a variety of different levels for the multitude of California's communities.

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U.S. Green Building Council's individual California chapter websites. Located at:  
Los Angeles: <http://www.usgbc-la.org/>  
Northern California: <http://www.usgbc.org/Chapters/northerncalifornia/>  
Orange County: <http://www.usgbc-oc.org/>  
Redwood Empire: <http://www.usgbc-rec.org/green.php>  
San Diego: <http://www.usgbc-sd.org/>

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## Appendices

## Appendix A

# Project Checklist

## Sustainable Sites

14 Possible Points

<input checked="" type="checkbox"/>	Prereq 1	<b>Erosion &amp; Sedimentation Control</b>	Required
<input type="checkbox"/>	Credit 1	<b>Site Selection</b>	1
<input type="checkbox"/>	Credit 2	<b>Urban Redevelopment</b>	1
<input checked="" type="checkbox"/>	Credit 3	<b>Brownfield Redevelopment</b>	1
<input checked="" type="checkbox"/>	Credit 4.1	<b>Alternative Transportation</b> , Public Transportation Access	1
<input checked="" type="checkbox"/>	Credit 4.2	<b>Alternative Transportation</b> , Bicycle Storage & Changing Rooms	1
<input checked="" type="checkbox"/>	Credit 4.3	<b>Alternative Transportation</b> , Alternative Fuel Vehicles	1
<input type="checkbox"/>	Credit 4.4	<b>Alternative Transportation</b> , Parking Capacity	1
<input type="checkbox"/>	Credit 5.1	<b>Reduced Site Disturbance</b> , Protect or Restore Open Space	1
<input checked="" type="checkbox"/>	Credit 5.2	<b>Reduced Site Disturbance</b> , Development Footprint	1
<input checked="" type="checkbox"/>	Credit 6.1	<b>Stormwater Management</b> , Rate and Quantity	1
<input checked="" type="checkbox"/>	Credit 6.2	<b>Stormwater Management</b> , Treatment	1
<input checked="" type="checkbox"/>	Credit 7.1	<b>Heat Island Effect</b> , Non-Roof	1
<input checked="" type="checkbox"/>	Credit 7.2	<b>Heat Island Effect</b> , Roof	1
<input type="checkbox"/>	Credit 8	<b>Light Pollution Reduction</b>	1

## Water Efficiency

5 Possible Points

<input type="checkbox"/>	Credit 1.1	<b>Water Efficient Landscaping</b> , Reduce by 50%	1
<input type="checkbox"/>	Credit 1.2	<b>Water Efficient Landscaping</b> , No Potable Use or No Irrigation	1
<input checked="" type="checkbox"/>	Credit 2	<b>Innovative Wastewater Technologies</b>	1
<input checked="" type="checkbox"/>	Credit 3.1	<b>Water Use Reduction</b> , 20% Reduction	1
<input type="checkbox"/>	Credit 3.2	<b>Water Use Reduction</b> , 30% Reduction	1

## Energy & Atmosphere

17 Possible Points

<input checked="" type="checkbox"/>	Prereq 1	<b>Fundamental Building Systems Commissioning</b>	Required
<input checked="" type="checkbox"/>	Prereq 2	<b>Minimum Energy Performance</b>	Required
<input checked="" type="checkbox"/>	Prereq 3	<b>CFC Reduction in HVAC&amp;R Equipment</b>	Required
<input type="checkbox"/>	Credit 1	<b>Optimize Energy Performance</b>	1–10
<input type="checkbox"/>	Credit 2.1	<b>Renewable Energy</b> , 5%	1
<input checked="" type="checkbox"/>	Credit 2.2	<b>Renewable Energy</b> , 10%	1
<input type="checkbox"/>	Credit 2.3	<b>Renewable Energy</b> , 20%	1
<input checked="" type="checkbox"/>	Credit 3	<b>Additional Commissioning</b>	1
<input type="checkbox"/>	Credit 4	<b>Ozone Depletion</b>	1
<input checked="" type="checkbox"/>	Credit 5	<b>Measurement &amp; Verification</b>	1
<input type="checkbox"/>	Credit 6	<b>Green Power</b>	1



## Materials & Resources

13 Possible Points

<b>Y</b>	Prereq 1	<b>Storage &amp; Collection of Recyclables</b>	Required
	Credit 1.1	<b>Building Reuse</b> , Maintain 75% of Existing Shell	1
	Credit 1.2	<b>Building Reuse</b> , Maintain 100% of Shell	1
	Credit 1.3	<b>Building Reuse</b> , Maintain 100% Shell & 50% Non-Shell	1
	Credit 2.1	<b>Construction Waste Management</b> , Divert 50%	1
	Credit 2.2	<b>Construction Waste Management</b> , Divert 75%	1
	Credit 3.1	<b>Resource Reuse</b> , Specify 5%	1
	Credit 3.2	<b>Resource Reuse</b> , Specify 10%	1
	Credit 4.1	<b>Recycled Content</b> , Specify 5% (p.c. + 1/2 p.i.)	1
	Credit 4.2	<b>Recycled Content</b> , Specify 10% (p.c. + 1/2 p.i.)	1
	Credit 5.1	<b>Local/Regional Materials</b> , 20% Manufactured Locally	1
	Credit 5.2	<b>Local/Regional Materials</b> , of 20% in MRC5.1, 50% Harvested Locally	1
	Credit 6	<b>Rapidly Renewable Materials</b>	1
	Credit 7	<b>Certified Wood</b>	1

## Indoor Environmental Quality

15 Possible Points

<b>Y</b>	Prereq 1	<b>Minimum IAQ Performance</b>	Required
<b>Y</b>	Prereq 2	<b>Environmental Tobacco Smoke (ETS) Control</b>	Required
	Credit 1	<b>Carbon Dioxide (CO<sub>2</sub>) Monitoring</b>	1
	Credit 2	<b>Ventilation Effectiveness</b>	1
	Credit 3.1	<b>Construction IAQ Management Plan</b> , During Construction	1
	Credit 3.2	<b>Construction IAQ Management Plan</b> , Before Occupancy	1
	Credit 4.1	<b>Low-Emitting Materials</b> , Adhesives & Sealants	1
	Credit 4.2	<b>Low-Emitting Materials</b> , Paints	1
	Credit 4.3	<b>Low-Emitting Materials</b> , Carpet	1
	Credit 4.4	<b>Low-Emitting Materials</b> , Composite Wood	1
	Credit 5	<b>Indoor Chemical &amp; Pollutant Source Control</b>	1
	Credit 6.1	<b>Controllability of Systems</b> , Perimeter	1
	Credit 6.2	<b>Controllability of Systems</b> , Non-Perimeter	1
	Credit 7.1	<b>Thermal Comfort</b> , Comply with ASHRAE 55-1992	1
	Credit 7.2	<b>Thermal Comfort</b> , Permanent Monitoring System	1
	Credit 8.1	<b>Daylight &amp; Views</b> , Daylight 75% of Spaces	1
	Credit 8.2	<b>Daylight &amp; Views</b> , Views for 90% of Spaces	1

## Innovation & Design Process

5 Possible Points

	Credit 1.1	<b>Innovation in Design</b>	1
	Credit 1.2	<b>Innovation in Design</b>	1
	Credit 1.3	<b>Innovation in Design</b>	1
	Credit 1.4	<b>Innovation in Design</b>	1
	Credit 2	<b>LEED™ Accredited Professional</b>	1

## Project Totals

69 Possible Points

	<b>Certified</b> 26-32 points		<b>Silver</b> 33-38 points		<b>Gold</b> 39-51 points		<b>Platinum</b> 52-69 points
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## Appendix B

## California LEED and Green Building Database

Name/type of agency	Contact info	Links to documents	Brief description of program
<b>State level</b>			
State of California	Dan Burgoyne (916) 376-5010 daniel.burgoyne@dgs.ca.gov	<a href="http://www.dgs.ca.gov">www.dgs.ca.gov</a> <a href="http://www.green.ca.gov">www.green.ca.gov</a>	The State has adopted an Executive Order that requires all new and renovated State facilities to achieve a LEED Silver rating.
<b>County level</b>			
Alameda County	Gerald Loeper (510) 208-9825 gerald.loeper@acgov.org	<a href="http://www.stopwaste.org">www.stopwaste.org</a>	All County projects must meet a LEED Silver rating and be registered if they are over \$5M; all County projects under \$5M must meet LEED Silver and be self-certified.
San Mateo County	Dianne Anderson (650) 599-1485 deanderson@co.sanmateo.ca.us	<a href="http://www.recycleworks.org">www.recycleworks.org</a>	A policy was adopted in 2001 that requires new County projects over 5,000 sq. ft. to be LEED certified at the highest rating possible. Smaller projects can be self-certified.
Santa Clara County	County of Santa Clara (408) 918-2712	<a href="http://www.sccgov.org">www.sccgov.org</a>	The County is in the process of developing a Green Building Program and is researching other programs in other municipalities as of Feb. 2006.
<b>City level</b>			
City of Berkeley	Rahul Young (510) 981-7535 rahulyoung@ci.berkeley.ca.us	<a href="http://www.ci.berkeley.ca.us/sustainable/government/policy.html">www.ci.berkeley.ca.us/sustainable/government/policy.html</a>	City buildings over 5,000 sq. ft. must meet a LEED Silver rating in 2006 and beyond, but certification is not required.
City of Calabasas	Glenn Michitsch (818) 878-4242 x258 gmichitsch@cityofcalabasas.com	<a href="http://www.cityofcalabasas.com/pdf/green-building-ordinance.pdf">www.cityofcalabasas.com/pdf/green-building-ordinance.pdf</a>	In 2004, the City adopted an ordinance which states that all City and private buildings between 500 and 5,000 sq. ft. must be LEED certified, and larger buildings must be LEED Silver.

# California LEED and Green Building Database

Name/type of agency	Contact info	Links to documents	Brief description of program
City of Long Beach	City of Long Beach (562) 570-6555	<a href="http://www.ci.long-beach.ca.us">www.ci.long-beach.ca.us</a>	A Green Building Policy is in place that requires LEED certification for new City construction over 7,500 sq. ft., with a goal of LEED Silver.
City of Los Angeles	Deborah Weintraub (213) 847-6370	<a href="http://www.lacity.org/ead">www.lacity.org/ead</a>	All building projects that are City funded are required to be LEED certified, as of 2003.
City of Oakland	Ferial Mosley (510) 238-7433 <a href="mailto:fmosley@oaklandnet.com">fmosley@oaklandnet.com</a>	<a href="http://www.oaklandpw.com/page273.aspx">www.oaklandpw.com/page273.aspx</a>	As of 2005, all City projects above \$3M must achieve LEED Silver certification. This is required in the new Green Building Ordinance.
City of Palo Alto	City of Palo Alto (650) 329-2100	<a href="http://www.paafd.org/sustainability/index.html">www.paafd.org/sustainability/index.html</a>	The City has not yet adopted specific green building standards, but they have a Sustainability Program for the City that encourages recycling, etc.
City of Pasadena	Lisa Fay Matthiessen (310) 393-9411 <a href="mailto:lmattiessen@davislangdon.us">lmattiessen@davislangdon.us</a>	<a href="http://www.cityofpasadena.net/councilagendas/2005%20agendas/Dec_19_05/5A1.pdf">www.cityofpasadena.net/councilagendas/2005%20agendas/Dec_19_05/5A1.pdf</a>	As of April 2006, a new City ordinance requires all new construction of certain sizes to be LEED certified at a minimum.
City of Pleasanton	Heidi Kline (925) 931-5609 <a href="mailto:hkline@ci.pleasanton.ca.us">hkline@ci.pleasanton.ca.us</a>	<a href="http://www.ci.pleasanton.ca.us/pdf/greenbidg.pdf">www.ci.pleasanton.ca.us/pdf/greenbidg.pdf</a>	All commercial construction projects over 20,000 sq. ft. must follow guidelines to be LEED Certified, though formal certification is not required.
City of Sacramento	Keith Roberts (916) 808-4726 <a href="mailto:kroberts@cityofsacramento.org">kroberts@cityofsacramento.org</a>	<a href="http://www.cityofsacramento.org">www.cityofsacramento.org</a>	A City policy was adopted in 2004 that encourages LEED Certification for City buildings, but it is not mandated yet.
City of San Diego	Tom Blair (858) 492-6001	<a href="http://www.genesis.sannet.gov/infospc/templates/esd/commercial-programs.jsp">www.genesis.sannet.gov/infospc/templates/esd/commercial-programs.jsp</a>	LEED certification is a goal for all public projects, and an incentive program is in effect for private projects.

## California LEED and Green Building Database

Name/type of agency	Contact info	Links to documents	Brief description of program
City of San Francisco	Mark Palmer (415) 355-3710 mark.palmer@sfgov.org	<a href="http://www.sfenvironment.com/aboutus/innovative/greenbldg">www.sfenvironment.com/aboutus/innovative/greenbldg</a>	All new City projects over 5,000 sq. ft. must achieve a LEED Silver certification. A LEED accredited professional must be a part of each project's design team.
City of San Jose	Mike Foster (408) 975-2601 michael.foster@sanjoseca.gov	<a href="http://www.sanjoseca.gov/esd/natural-energy-resources/gb-policy.htm">www.sanjoseca.gov/esd/natural-energy-resources/gb-policy.htm</a>	All City buildings over 10,000 sq. ft. should be LEED Certified, but the policy is not mandated.
City of San Luis Obispo	No contacts specified	<a href="http://www.slcity.org/communitydevelopment/cose.asp">www.slcity.org/communitydevelopment/cose.asp</a>	Green building standards can be found in the City's Conservation element of the General Plan as recommendations to evaluate using LEED.
City of Santa Cruz	Dick Stubendorff (831) 420-5100	<a href="http://www.ci.santa-cruz.ca.us">www.ci.santa-cruz.ca.us</a>	A Green Building Ordinance has been adopted that is based on LEED standards.
City of Santa Monica	Greg Reitz (310) 458-8549 greg-reitz@santa-monica.org	<a href="http://www.smgreen.org">www.smgreen.org</a>	The City encourages all new public buildings to achieve LEED Silver certification. The City also has a LEED incentive program for private developers.
<b>University level</b>			
Pomona College	No contacts specified	<a href="http://www.pomona.edu/cpm/environmentpolicy.shtml">www.pomona.edu/cpm/environmentpolicy.shtml</a>	Pomona encourages the LEED standard to be used for new construction and renovation projects.
Santa Clara University	Joe Sugg (408) 551-1606 jsugg@scu.edu	<a href="http://www.scu.edu/sustainability">www.scu.edu/sustainability</a>	The university encourages all new buildings to be rated using the LEED system, but formal certification is not required.
University of California	No contacts specified	<a href="http://www.ucop.edu/facil/sustain/welcome.html">www.ucop.edu/facil/sustain/welcome.html</a>	All new buildings are encouraged to be LEED Certified, but formal certification is not needed. Each campus is responsible for its own specific standards.

All information courtesy the USGBC, Dan Burgoyne, and the other interviewees.

## Appendix C

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# Executive Order

EXECUTIVE DEPARTMENT

STATE OF CALIFORNIA



**EXECUTIVE ORDER S-20-04**  
**by the**  
**Governor of the State of California**

WHEREAS, the Energy Action Plan adopted by the state's energy agencies places conservation and energy efficiency first in the loading order of energy resources because they are the least expensive and most environmentally protective resources; and

WHEREAS, commercial buildings use 36 percent of the state's electricity and account for a large percentage of greenhouse gas emissions, raw materials use and waste; and

WHEREAS, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED), the nation's leading green building rating system, promotes "high performance" building practices; energy, water and materials conservation; environmentally preferred products and practices; improvements in employee health, comfort and productivity; and reductions in facility operation costs and environmental impacts; and

WHEREAS, electricity costs for California's commercial and institutional buildings exceed \$12 billion per year, and cost-effective efficiency practices outlined in this Order can save more than \$2 billion per year; and

WHEREAS, the state's own buildings consume over \$500 million of electricity per year, and the measures outlined in this Order can save California taxpayers \$100 million per year; and

WHEREAS, high-performance schools also reduce energy and resource consumption, while creating safer and healthier learning environments; and

WHEREAS, investments in energy efficiency measures provide high returns on investment and boost California's economy, creating more jobs, local spending and tax revenue.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power vested in me by the Constitution and statutes of the State of California, do hereby order effective immediately:

1. That the state commit to aggressive action to reduce state building electricity usage by retrofitting, building and operating the most energy and resource efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded or leased by the state and to encourage cities, counties and schools to do the same.

2. That state agencies, departments, and other entities under the direct executive authority of the Governor cooperate in taking measures to reduce grid-based energy purchases for state-owned buildings by 20% by 2015, through cost-effective efficiency measures and distributed generation technologies; these measures should include but not be limited to:

2.1. Designing, constructing and operating all new and renovated state-owned facilities paid for with state funds as "LEED Silver" or higher certified buildings; and

- 2.2. Identifying the most appropriate financing and project delivery mechanisms to achieve these goals; and
- 2.3. Seeking out office space leases in buildings with a U.S. EPA Energy Star rating; and
- 2.4. Purchasing or operating Energy Star electrical equipment whenever cost-effective.
3. The Division of the State Architect in the Department of General Services should adopt guidelines by December 31, 2005, to enable and encourage schools built with state funds to be resource and energy efficient.
4. That the California Public Utilities Commission (CPUC) is urged to apply its energy efficiency authority to support a campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improve commercial building efficiency programs to help achieve the 20% goal; and submit a biennial report to the Governor commencing in September 2005, on progress toward meeting these goals.
5. That the California Energy Commission (CEC) propose by July 2005, a benchmarking methodology and building commissioning guidelines to increase energy efficiency in government and private commercial buildings.
6. That the CEC undertake all actions within its authority to increase efficiency by 20% by 2015, compared to Titles 20 and 24 non-residential standards adopted in 2003; collaborate with the building and construction industry state licensing boards to ensure building and contractor compliance; and promptly submit its report as per Assembly Bill 549 (Statutes of 2001) on strategies for greater energy and peak demand savings in existing buildings.
7. The California Public Employees Retirement System and State Teachers Retirement System are requested to target resource efficient buildings for real estate investments and commit clean technology funds to advanced sustainable and efficiency technologies.
8. Other entities of state government not under the Governor's direct executive authority, including the University of California, California State University, California Community Colleges, constitutional officers, legislative and judicial branches, and CPUC, are requested to actively participate in this effort.
9. Nothing in this Order shall be construed to confer upon any state agency decision-making authority over substantive matters within another agency's jurisdiction, including any informational and public hearing requirements needed to make regulatory and permitting decisions.
10. Commercial building owners are also encouraged to take aggressive action to reduce electricity usage by retrofitting, building and operating the most energy and resource efficient buildings by taking measures described in the Green Building Action Plan.
11. This Order is not intended to, and does not create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.
12. That as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.



**IN WITNESS WHEREOF** I have here unto set my hand and caused the Great Seal of the State of California to be affixed this the fourteenth day of December 2004.

/s/ Arnold Schwarzenegger

Governor of California

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## Appendix D



**State of California**  
**Green Building Action Plan**

*(Detailed direction that accompanies Governor's Executive Order S-20-04)*

**1. PUBLIC BUILDINGS**

**1.1. State Buildings**

All employees and all State entities under the Governor's jurisdiction shall immediately and expeditiously take all practical and cost-effective measures to implement the following goals specific to facilities owned, funded, or leased by the State:

**1.1.1. Green Buildings**

1.1.1.1. The U.S. Green Building Council (USGBC) has developed green building rating systems that advance energy and material efficiency and sustainability known as Leadership in Energy and Environmental Design for New Construction and Major Renovations (LEED-NC) and LEED Rating System for Existing Buildings (LEED-EB)

1.1.1.2. All new State buildings and major renovations of 10,000 sq. ft. and over and subject to Title 24 will be designed, constructed and certified at LEED-NC Silver or higher, (or LEED-EB as applicable.) Certification to an equivalent or higher standard is acceptable as approved by the Green Action Team. Life cycle cost assessment methodology as defined in Section 1.1.1.3 shall be used in determining cost effective criteria. Building projects less than 10,000 sq. ft. shall use the same design standard, but certification is not required.

1.1.1.3. The California Sustainable Building Task Force (SBTF) in consultation with the Department of General Services (DGS), Department of Finance (DoF), and the California Energy Commission (CEC) shall define a life cycle cost assessment methodology that shall be used to evaluate the cost effectiveness of building design and construction decisions and their impact over a facility's life cycle, and shall propose this methodology to the Green Action Team within six months of this Order.

1.1.1.4. Each new building or large renovation project initiated by the State shall also evaluate the merits of clean on-site power generation.

1.1.1.5. All existing State buildings over 50,000 square feet shall meet LEED-EB standards (including meeting an Energy Star rating of at least 75, or equivalent established by the CEC) by no later than 2015 to the maximum extent cost-effective per Section 1.1.1.3.

**1.1.2. Energy Efficiency**

1.1.2.1. All State-owned buildings will reduce the volume of energy purchased from the grid, with a goal to reduce their energy consumption by at least 20% by 2015 (as compared to a 2003 baseline) by undertaking all cost-effective operational and efficiency measures as well as onsite renewable energy technologies. Alternatively, buildings that already have taken significant efficiency actions must achieve a minimum efficiency benchmark to be established by the CEC.

1.1.2.2. Consistent with Executive Order S-12-04 all State buildings are directed to investigate "demand response" programs administered by utilities, the California Power

Authority, or the CA ISO, to take advantage of financial incentives in return for agreeing to reduce peak electrical loads when called upon, to the maximum extent cost effective for each facility.

- 1.1.2.3. All occupied State-owned buildings, beginning no later than July 2005 and completed by 2007, shall be benchmarked for energy efficiency, using guidelines established by the CEC according to Section 2.2.2. Building managers of low-rated buildings shall prepare a plan to undertake cost-effective efficiency retrofit projects.
- 1.1.2.4. All State buildings over 50,000 square feet shall be retro-commissioned, and then re-commissioned on a recurring 5-year cycle, or whenever major energy consuming systems or controls are replaced. This will assure that energy and resource consuming equipment is installed and operated at optimal efficiency;
- 1.1.2.5. DGS and other State agencies will seek out and select whenever cost-effective State facility leases for spaces of 5,000 square feet or more in buildings that meet a minimum U. S. EPA Energy Star rating whenever such spaces are cost-effective and meet the State's programmatic needs, beginning in 2006 for new leases, and beginning in 2008 for renewal leases;
- 1.1.2.6. All State agencies that purchase or operate electrical equipment such as computers, printers, copiers, refrigerators, and unit air conditioners shall insure that these are Energy Star-rated where cost-effective and that procurement goals and operating practices minimize energy and resource use and impacts.

### **1.1.3. Financing and Execution**

- 1.1.3.1. The DoF, in consultation with the CEC, State Treasurer's Office, DGS, and the Infrastructure Bank, shall identify and develop appropriate financing and project delivery mechanisms to facilitate State building energy and resource efficiency projects. These mechanisms shall include the use of the life cycle cost methodology described in Section 1.1.1.3. and shall maximize the use of outside financing, including loan programs, revenue bonds, municipal tax-exempt leases and other financial instruments supported by project savings, and to minimize the use of General Funds for these purposes. The DoF shall report its findings and recommendations on financing and delivery mechanisms to the Green Action Team by July 2005; and
- 1.1.3.2. The DoF will develop additional mechanisms to encourage and incentivize cost-effective projects improving energy efficiency, such as sharing at least 25% of the net savings with the operating department or agency.
- 1.1.3.3. DGS shall report to the Governor each year on progress toward attaining the 20% energy use reduction target for 2015 in State buildings, and make recommendations on any changes in rules or procedures to ensure this goal is met.

## **1.2. Schools**

### **1.2.1. New School Construction**

- 1.2.1.1. By December 31, 2005 the Division of State Architect (DSA), in consultation with the Office of Public School Construction, the CEC, and other appropriate organizations, shall lead the adoption of technical resources and guidelines that will enable schools built with state funds to be resource and energy efficient. The State agencies shall consider all available guidelines and technical resources including the Collaborative for High Performance Schools (CHPS), The United States Green Building Council and its LEED

guidelines, The Department of Energy's Best Practices and Federal Energy Management Program, and the Sustainable Building Industry Council.

- 1.2.1.2. Until December 31, 2005, DSA shall use best efforts to enable schools to have the technical resources and guidelines to be designed and built in a manner that is resource and energy efficient, and that enhances student performance.

## **2. ALL COMMERCIAL AND INSTITUTIONAL BUILDINGS (including private sector buildings, State buildings and schools)**

### **2.1. CPUC- Ratepayer-Supported Efficiency Programs**

- 2.1.1. The California Public Utilities Commission (CPUC) can play a major role in leading action to achieve this building-centered energy and resource efficiency agenda by funding a statewide campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures, benchmarking, and building commissioning. This campaign should seek to present integrated information in a way that motivates and enables building decision-makers to reach the 20% efficiency goal for commercial and institutional buildings. The CPUC is urged to do this in collaboration with the CEC, utilities, the real estate industry, energy service companies, architects, engineers and the Flex Your Power program's outreach efforts. These efforts should assure that that suggestions and guidelines for mechanisms to finance efficiency improvements are available via Energy Commission or other websites, utility programs, and the CPUC-sponsored statewide motivational campaign.
- 2.1.2. The CPUC should assure that ratepayer-supported efficiency incentives and technical assistance programs for commercial and institutional building owners and tenants are strengthened or improved as necessary to contribute toward a 20% or more efficiency gain improvement by 2015, compared to 2003.
- 2.1.3. The CPUC is requested, in collaboration with the CEC and all of California's utilities, to ensure that ratepayer-supported energy efficiency outreach, technical assistance and incentive programs;
- produce greater measured efficiency gains per dollar of program expenditure;
  - encourage increasing levels of efficiency investments in longer term payback measures than those now typically occurring, including the use of new or improved incentive programs, (such as utility bill discounts, incentives based on measured performance, and "on bill" financing);
  - include building commissioning and advanced metering practices in programs wherever appropriate; and
  - to submit a report to the Governor biannually, commencing September 2005, regarding those actions it has taken toward these ends.
- 2.1.4. The CPUC is requested to determine the level of ratepayer-supported energy efficiency and clean generation funding so as to contribute toward the 20% efficiency goal, and to submit its determination to this end to the Governor by September 2005.

## **2.2. CEC – Building Benchmarking and Commissioning**

- 2.2.1. A combination of benchmarking the energy efficiency of all buildings, and conducting commissioning activities that ensure that buildings and their energy systems are operated at their optimal designed efficiency, can contribute towards the overall goal of 20% by 2015.
- 2.2.2. The CEC, in consultation with other governmental agencies, public and private utilities, and representatives of the business community, shall propose by July 2005 a simple building efficiency benchmarking system for all commercial buildings in the State. This should be California-specific, coordinated with the US EPA Energy Star benchmarking system, and should clarify which buildings are energy efficient.
- 2.2.3. The CEC shall develop guidelines and standards for commissioning activities to achieve operational and maintenance efficiency savings in commercial and public buildings.
- 2.2.4. The CEC shall prepare and submit to the Governor's office by July 2005 a plan, timetable and recommendations to accomplish benchmarking of all commercial and public buildings in California, including benchmarking at the time of sale, as well as a system by which benchmarking ratings can be disclosed to tenants, buyers, and lenders to advise them in making decisions.

## **2.3. CEC and State Licensing Boards – Standards and Enforcement**

- 2.3.1. That the State agencies with responsibility for building standard amendments to the State's building code, shall develop and consider adoption of building code amendments to ensure that:
  - 2.3.1.1. All proven, cost-effective, and achievable energy and resource efficiency, health and safety technologies and design practices are considered and employed in new non-residential buildings, with the goal to increase efficiency by 20% by 2015 compared to the Title 24 non-residential building standards adopted in 2003.
  - 2.3.1.2. Standards capture increased energy and resource savings and applicability for the building floor space that annually undergoes renovation, and at specified points in the life of existing buildings; and
  - 2.3.1.3. Commissioning and other approaches ensuring the achievement and persistence of efficiency measures are incorporated into the building and appliance standards process.
  - 2.3.1.4. Training and fee-based private-sector delivery of these commissioning services is available in California.
  - 2.3.1.5. This is done on a schedule whereby strengthened standards are adopted or updated beginning in 2006.
- 2.3.2. The CEC along with the building and construction industry State Licensing Boards shall undertake an expanded standards enforcement effort. This should include development of new tools to aid building officials, communication with equipment marketers to ensure their compliance with California appliance standards, and assurance by the State licensing boards that licensed-contractors comply with the standards.

## **2.4. New Tools and Strategies**

2.4.1 The CEC shall promptly complete its report required by Assembly Bill 549 (Statutes of 2001) and submit this to the Governor's Office and Legislature by October 2005, including a plan for voluntary and regulatory strategies to capture energy and peak demand savings in existing buildings in California.

2.4.2 The Governor will ask the California Public Employees Retirement System and State Teachers Retirement System to consider:

- Cutting energy use of California real estate investment portfolio by 20% by 2015 through cost effective means including but not limited to retro-commissioning and retrofitting of energy consuming systems, and
- Adopting a commitment to seek certified LEED or Energy Star-rated buildings in their commercial real estate investments, and
- Devoting a portion of their Clean Technology investment portfolio to activities that facilitates green and advanced energy efficiency technologies in buildings.

## **3. LEADERSHIP**

### **3.1. Green Action Team**

3.3.1. That to ensure progress toward the goals of this Order, there is hereby established an interagency team know as the "Green Action Team," composed of the Director of the Department of Finance, and the Secretaries of Business, Transportation, and Housing; Environmental Protection; Resources; Education; State and Consumer Services Agencies; the Team will invite participation by a CPUC commissioner and a real estate industry representative and which will have a chair selected by the Governor.

3.3.2. That to advise the Green Action Team, a Real Estate Industry Leadership Council is hereby created, consisting of at least five private sector commercial real estate leaders.

3.3.3. That the Green Action Team, in cooperation with other agencies and organizations as appropriate, shall oversee and direct progress toward the goals of the Green Building Order, and shall recommend any additional actions, mandates or legislation that may be warranted to ensure progress consistent with the Green Building Order.

3.3.4. That the Sustainable Building Task Force, as requested by the Chair of the Green Action Team, shall perform support activities for this Order.

## Appendix E

**RESOLUTION NO. 2004-751**

ADOPTED BY THE SACRAMENTO CITY COUNCIL

ON DATE OF SEP 21 2004

**RESOLUTION AUTHORIZING AND DIRECTING THE CITY MANAGER TO DEVELOP POLICIES BASED ON PRINCIPLES THAT ESTABLISH ENERGY EFFICIENCY AND SUSTAINABLE DESIGN PRACTICES**

**WHEREAS**, the City of Sacramento recognizes that long term operating savings (energy, maintenance, employee productivity, and health) can be realized in a cost-effective manner through improvement of energy efficiency and sustainable operational and design practices:

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO THAT:**

- The City Manager is authorized and directed to develop policies or other appropriate processes that meet the intent of the energy efficiency and sustainable design principles, and green practices, as identified below:

**Sustainability Principles**

- A. The City will purchase energy efficient equipment and environmentally sensitive products for its use. In analyzing the level of efficiency, life cycle costing will be utilized to determine the best selection of products. In some cases, national standards such as "Energy Star Rating" already exist as a benchmark.
- B. The City will design and operate facilities to achieve the highest level Leadership in Energy and Environmental Design (LEED) rating and energy efficiency possible for that type of building. In analyzing the

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**FOR CITY CLERK USE ONLY**

**RESOLUTION NO.:** 2004-751

**DATE ADOPTED:** SEP 21 2004

LEED and energy efficiency levels, life cycle costing will be utilized to determine the best selection of features and components. For appropriate buildings, 5,000 square feet and larger, a minimum level of LEED Silver shall be the goal.

- C. The City will utilize renewable energy sources such as photo-voltaic panels (electricity from sunlight) to 1) reduce peak loading during high use periods (summer), and 2) to lower dependence on other sources.
- D. The City will manage its real estate assets through surveys that identify deferred maintenance, green operations, and energy efficiency issues. This will allow us to maximize asset usefulness and longevity while controlling and reducing, as rates allow, long term operational costs.

HEATHER FARGO

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MAYOR

ATTEST:

SHIRLEY CONCOLINO

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CITY CLERK

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FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2004-751

DATE ADOPTED: SEP 21 2004



## Appendix F



# Urban Environmental Accords

*Signed on the occasion of United Nations Environment Programme World Environment Day  
June 5th, 2005 in San Francisco, California*

## GREEN CITIES DECLARATION

RECOGNIZING for the first time in history, the majority of the planet's population now lives in cities and that continued urbanization will result in one million people moving to cities each week, thus creating a new set of environmental challenges and opportunities; and

BELIEVING that as Mayors of cities around the globe, we have a unique opportunity to provide leadership to develop truly sustainable urban centers based on culturally and economically appropriate local actions; and

RECALLING that in 1945 the leaders of 51 nations gathered in San Francisco to develop and sign the Charter of the United Nations; and

ACKNOWLEDGING the importance of the obligations and spirit of the 1972 Stockholm Conference on the Human Environment, the 1992 Rio Earth Summit UNCED, the 1996 Istanbul Conference on Human Settlements, the 2000 Millennium Development Goals, and the 2002 Johannesburg World Summit on Sustainable Development, we see the Urban Environmental Accords described below as a synergistic extension of the efforts to advance sustainability, foster vibrant economies, promote social equity, and protect the planet's natural systems.

THEREFORE, BE IT RESOLVED, today on World Environment Day 2005 in San Francisco, we the signatory Mayors have come together to write a new chapter in the history of global cooperation. We commit to promote this collaborative platform and to build an ecologically sustainable, economically dynamic, and socially equitable future for our urban citizens; and

BE IT FURTHER RESOLVED that we call to action our fellow Mayors around the world to sign the Urban Environmental Accords and collaborate with us to implement the Accords; and

BE IT FURTHER RESOLVED that by signing these Urban Environmental Accords, we commit to encourage our City governments to adopt these Accords and commit our best efforts to achieve the Actions stated within. By implementing the Urban Environmental Accords, we aim to realize the right to a clean, healthy, and safe environment for all members of our society.

## IMPLEMENTATION & RECOGNITION

THE 21 ACTIONS that comprise the Urban Environmental Accords are organized by urban themes. They are proven first steps toward environmental sustainability. However, to achieve long-term sustainability, cities will have to progressively improve performance in all thematic areas.

Implementing the Urban Environmental Accords will require an open, transparent, and participatory dialogue between government, community groups, businesses, academic institutions, and other key partners. Accords implementation will benefit where decisions are made on the basis of a careful assessment of available alternatives using the best available science.

The call to action set forth in the Accords will most often result in cost savings as a result of diminished resource consumption and improvements in the health and general well-being of city residents. Implementation of the Accords can leverage each city's purchasing power to promote and even require responsible environmental, labor and human rights practices from vendors

Between now and the World Environment Day 2012, cities shall work to implement as many of the 21 Actions as possible. The ability of cities to enact local environmental laws and policies differs greatly. However, the success of the Accords will ultimately be judged on the basis of actions taken. Therefore, the Accords can be implemented through programs and activities even where cities lack the requisite legislative authority to adopt laws

The goal is for cities to pick three actions to adopt each year. In order to recognize the progress of cities to implement the Accords, a *City Green Star Program* shall be created.

At the end of the seven years a city that has implemented:

- 19 - 21 Actions shall be recognized as a ★ ★ ★ City
- 12 - 18 Actions shall be recognized as a ★ ★ ★ City
- 12 - 17 Actions shall be recognized as a ★ ★ City
- 8 - 11 Actions shall be recognized as a ★ City

## ENERGY

*Renewable Energy · Energy Efficiency · Climate Change*

## WASTE REDUCTION

*Zero Waste · Manufacturer Responsibility · Consumer Responsibility*

## URBAN DESIGN

*Green Building · Urban Planning · Slums*

## URBAN NATURE

*Parks · Habitat Restoration · Wildlife*

## TRANSPORTATION

*Public Transportation · Clean Vehicles · Reducing Congestion*

## ENVIRONMENTAL HEALTH

*Toxics Reduction · Healthy Food Systems · Clean Air*

## WATER

*Water Access & Efficiency · Source Water Conservation · Waste Water Reduction*

## ENERGY

*Action 1* Adopt and implement a policy to increase the use of renewable energy to meet ten per cent of the city's peak electric load within seven years.

*Action 2* Adopt and implement a policy to reduce the city's peak electric load by ten per cent within seven years through energy efficiency, shifting the timing of energy demands, and conservation measures.

*Action 3* Adopt a citywide greenhouse gas reduction plan that reduces the jurisdiction's emissions by twenty-five per cent by 2030, and which includes a system for accounting and auditing greenhouse gas emissions.

## WASTE REDUCTION

*Action 4* Establish a policy to achieve zero waste to landfills and incinerators by 2040.

*Action 5* Adopt a citywide law that reduces the use of a disposable, toxic, or non-renewable product category by at least fifty percent in seven years.

*Action 6* Implement "user-friendly" recycling and composting programs, with the goal of reducing by twenty per cent per capita solid waste disposal to landfill and incineration in seven years.

## URBAN DESIGN

*Action 7* Adopt a policy that mandates a green building rating system standard that applies to all new municipal buildings.

*Action 8* Adopt urban planning principles and practices that advance higher density, mixed use, walkable, bikeable and disabled-accessible neighborhoods which coordinate land use and transportation with open space systems for recreation and ecological restoration.

*Action 9* Adopt a policy or implement a program that creates environmentally beneficial jobs in slums and/or low-income neighborhoods.

## URBAN NATURE

*Action 10* Ensure that there is an accessible public park or recreational open space within half-a-kilometer of every city resident by 2015.

*Action 11* Conduct an inventory of existing canopy coverage in the city; and, then establish a goal based on ecological and community considerations to plant and maintain canopy coverage in not less than fifty per cent of all available sidewalk planting sites

*Action 12* Pass legislation that protects critical habitat corridors and other key habitat characteristics (e.g. water features, food-bearing plants, shelter for wildlife, use of native species, etc.) from unsustainable development.

## TRANSPORTATION

*Action 13* Develop and implement a policy which expands affordable public transportation coverage to within half-a-kilometer of all city residents in ten years.

*Action 14* Pass a law or implement a program that eliminates leaded gasoline (where it is still used); phases down sulfur levels in diesel and gasoline fuels, concurrent with using advanced emission controls on all buses, taxis, and public fleets to reduce particulate matter and smog-forming emissions from those fleets by fifty per cent in seven years.

*Action 15* Implement a policy to reduce the percentage of commute trips by single occupancy vehicles by ten per cent in seven years.

## ENVIRONMENTAL HEALTH

*Action 16* Every year, identify one product, chemical, or compound that is used within the city that represents the greatest risk to human health and adopt a law and provide incentives to reduce or eliminate its use by the municipal government

*Action 17* Promote the public health and environmental benefits of supporting locally grown organic foods. Ensure that twenty per cent of all city facilities (including schools) serve locally grown and organic food within seven years.

*Action 18* Establish an Air Quality Index (AQI) to measure the level of air pollution and set the goal of reducing by ten per cent in seven years the number of days categorized in the AQI range as "unhealthy" or "hazardous."

## WATER

*Action 19* Develop policies to increase adequate access to safe drinking water, aiming at access for all by 2015. For cities with potable water consumption greater than 100 liters per capita per day, adopt and implement policies to reduce consumption by ten per cent by 2015.

*Action 20* Protect the ecological integrity of the city's primary drinking water sources (i.e., aquifers, rivers, lakes, wetlands and associated ecosystem);

*Action 21* Adopt municipal wastewater management guidelines and reduce the volume of untreated wastewater discharges by ten per cent in seven years through the expanded use of recycled water and the implementation of a sustainable urban watershed planning process that includes participants of all affected communities and is based on sound economic, social, and environmental principles.

## Appendix G

## Sustainability at SCU

[Return](#)  
[Web form](#)

# A Comprehensive Policy on Sustainability at Santa Clara University

As a Jesuit and Catholic University, we have the responsibility to provide leadership in developing a more sustainable way of living . By embracing sustainability, the University furthers its mission to act as a voice of reason, conscience, and service to society. The following statements affirm SCU's commitment to a more sustainable way of living through environmental stewardship, education, and service:

### **ENVIRONMENTAL STEWARDSHIP**

- We seek ways to reduce our use of non-renewable resources, minimize pollution, and live more lightly on the land. We are mindful of the need to share equitably the natural resources on which all life depends.
- We strive to instill a broader awareness of the values of sustainability.
- We consider the economic, social, and environmental consequences of our actions.

### **ENVIRONMENTAL EDUCATION**

- We seek to prepare our students by integrating sustainability into the goal of educating the whole person. We seek to support scholarship that advances our understanding and practice of sustainability.
- We recognize our role in educating the university community about the importance of both individual and institutional environmental responsibility.

### **ENVIRONMENTAL SERVICE**

- We assist communities, businesses, governments and non-profit organizations to develop in sustainable ways.
- We support the efforts of the Centers of Distinction and outreach programs to integrate sustainability into the community. We support research that expands the understanding and practice of sustainability.
- We promote public dialogue on sustainability.

**In adopting this policy, SCU further acknowledges its leadership and commitment to the practical application of sustainability by:**

- Integrating sustainable practices into the daily administration and operation of the University.
- Providing a voice for sustainability in the development of strategic planning and capital expenditures.
- Encouraging the University community to build upon this policy statement by identifying opportunities, formulating strategies, and implementing initiatives to further the move toward a more sustainable future.

⋮ [Campus Map](#) | [Directory](#) | [Site Index](#) | [About SCU](#) | [Search](#)  
⋮ Copyright 2005 Santa Clara University | [Contact Us](#)  
⋮ 500 El Camino Real Santa Clara, California 95053 | 408-554-4000

## Appendix H

**Santa Clara University  
Sustainable Design Considerations**

**1. Energy Conservation**

- A. High efficiency HVAC systems**
- B. Natural ventilation**
- C. Solar controlled lighting**
- D. Low thermal transfer roofs**
- E. Solar panels**
- F. Natural light**
- G. Occupancy sensors**
- H. Building Controls**
- I. Optimum use of outside air**
- J. Under floor cooling and heating**
- K. Ice Storage Plant**
- L. Multi-building mini-plants**
- M. Energy from ground water**

**2. Water Conservation**

- A. Reclaimed water for irrigation and flush toilets**
- B. Waterless urinals**
- C. Electronic faucets**
- D. Storm water re-use**

**3. Air Quality**

- A. Carbon dioxide sensors**
- B. Low VOC materials**
- C. Operable windows**
- D. Dust control during construction**
- E. No formaldehydes or phthalates**
- F. No CFCs or HCFCs**
- G. Minimize need for fire retardants**
- H. Minimize need for PVC**

**4. Resource Conservation**

- A. Reuse of materials**
- B. Use of recycled and recyclable material**



## Appendix I

The screenshot shows the City of San Jose's Environmental Services website. The header includes the title "Environmental Services" and the subtitle "CITY OF SAN JOSE - CAPITAL OF SILICON VALLEY". Navigation tabs include "City Home", "City Services", "About San Jose", "Visitors", "Feedback", and "Search". A secondary row of tabs lists various services: "Environmental Services Dept. (ESD) Home", "Recycling & Garbage", "Drinking Water", "Wastewater Treatment", "Water Conservation", "Water Pollution Prevention", "Recycled Water", and "Natural & Energy Resources". Below these are links for "Services for: Residents", "Businesses", "Schools", "Site Map", and "Contact Us". The main heading is "Green Building Policy", accompanied by a "GREEN BUILDING" logo. A left sidebar contains links: "What is Green Building?", "Education & Outreach", "What the City is Doing", "Case Studies", and "LEED Rating System". The "Table of Contents" lists: Vision, Purpose, Green Building Policies, Green Building Guidelines for Implementation, Next Steps, Green Building Policy Goals, and Definitions.

# Environmental Services

CITY OF SAN JOSE - CAPITAL OF SILICON VALLEY

**City Home** **City Services** **About San Jose** **Visitors** **Feedback** **Search**

Environmental Services Dept. (ESD) Home Recycling & Garbage Drinking Water Wastewater Treatment Water Conservation Water Pollution Prevention Recycled Water Natural & Energy Resources

**Services for:** Residents Businesses Schools Site Map Contact Us

## Green Building Policy

**GREEN BUILDING**

**Table of Contents**

- [Vision](#)
- [Purpose](#)
- [Green Building Policies](#)
- [Green Building Guidelines for Implementation](#)
- [Next Steps](#)
- [Green Building Policy Goals](#)
- [Definitions](#)

**What is Green Building?**

**Education & Outreach**

**What the City is Doing**

**Case Studies**

**LEED Rating System**

### Adopted

On June 19, 2001 the San José City Council accepted the staff report on the Green Building Guidelines Recommendations and adopted the Green Building Policies as developed by the members of the community with the input of City Departments. The following policies and guidelines were developed with the input of the Green Building Workgroup, City Departments, the Planning Commission and the Mayor's Green Building Taskforce.

### Vision

In August of 1994, the San José City Council adopted San José 2020 as its general plan. Included within the plan was a Major Strategy entitled the "Sustainable City Major Strategy." The Sustainable City Major Strategy is a statement of San José's desire to become an environmentally and economically sustainable city. The Sustainable City Major Strategy defines a sustainable city as "a city designed, constructed, and operated to minimize waste, efficiently use its natural resources and to manage and conserve them for the use of present and future generations." To achieve this end, the City of San José envisions a Green Building Policy that fosters long-term social, economic, and environmental sustainability in building and development while making green building the standard practice in San José and celebrating sustainability as a core value to the community. The vision for Green Building in San José is a place where the people have the knowledge and opportunities to build and occupy dwellings that have a maximum impact on the well being of the occupants and a minimal impact on the environment (adopted by the San José City Council on 4/4/00).

### Purpose

The purpose of a Citywide policy on green building is to demonstrate the City's

commitment to environmental, economic, and social stewardship, to yield cost savings to city taxpayers through reduced operating costs, to provide healthy work environments for staff and visitors, and to contribute to the City's goals of protecting, conserving, and enhancing the region's environmental resources. Additionally, the City hopes to provide leadership by setting a community standard of sustainable/green building.

### **Green Building Policies**

**Policy #1:** The City of San José shall adopt Green Building Policy goals and incorporate green building principles and practices into the planning, design, construction, management, renovation, operations, and demolition of all City facilities that are constructed, owned, managed or financed by the City.

**Policy #2:** The City of San José shall adopt the "San José LEED" Green Building Rating System as the green building design guideline for its ongoing and future program areas and incorporate this system into all City facility projects that are constructed, owned, managed or financed by the City.

**Policy #3:** The City of San José shall provide leadership and guidance to encourage the application of green building practices in private sector planning, design, construction, management, renovation, operations, and demolition of buildings by promoting the voluntary application of the San José Green Building Policy goals and the "San José LEED" Green Building Rating System.

### **Green Building Guidelines for Implementation**

#### **City Facilities**

- All new construction and major retrofit projects for all City facilities and buildings over 10,000 gross square feet of occupied space shall meet a "San José LEED" Certified rating effective with the FY 02-03 Budget Allocations.
- Staff shall review current 2001-02 Capital Budgets to determine how Green Building recommendations could be incorporated into budgeted projects, and return to Council with a report on the potential costs and impacts by winter of 2001. The report shall include information related to Green Building Guideline compliance within each Project Award memorandum.
- The Environmental Services Department (ESD) shall continue to work with the members of the Green Building Taskforce and Workgroup and other City Departments to implement the Green Building Policies and Guidelines, evaluate the program and report back to Council within one year.

#### **Exemptions**

The City of San José Green Building Policy strategy of achieving LEED Certified shall not apply to current City facilities and major renovation projects that have been proposed in the FY01-02 Capital budget. However, these projects shall still implement City of San José Green Building policy goals and strategies to the maximum extent practicable.

Documentation of ongoing efforts will be provided as part of the annual report.

Many projects do not meet the policy criteria, including buildings smaller than 10,000 gross square feet, unoccupied buildings, parks, roadways, and other infrastructure. City facility construction projects that are unoccupied or serve specialized functions (e.g. pump station, garage, storage building, etc.) are not subject to the City's green building guidelines and do not need to go through an exemption process.

Even though projects may become exempt from the City's required green building guidelines, project managers and design teams are encouraged to apply the relevant portions of San José LEED guidelines and to develop goals that increase the environmental, social, and economic benefits of the project.

### **Private Sector Facilities**

- Staff shall work with the community to encourage achievement of a "San José LEED" Certified rating and identify and provide incentives and educational programs that help achieve those efforts.
- ESD shall continue to work with the members of the Green Building Taskforce and Workgroup and other City Departments to implement the Green Building Policies and Guidelines, evaluate the program and report back to Council within one year.

### **Next Steps**

ESD staff will continue to work with the Interdepartmental Steering Committee to prepare a detailed work plan and begin implementation of the guidelines, pending resource and staffing allocations. Education and training for the private sector would also continue based on existing and/or additional resources either from City allocations or from grants as identified. In addition, staff would continue to work with the Housing Department and residential stakeholders to encourage adoption of green building practices and principles for the residential sector, including affordable housing.

The most overlooked element of green building is operations and maintenance (O&M) practices. O&M practices impact both the building owner's bottom line costs and tenants' health, comfort, and safety. Green building O&M practices enhance both environmental quality and economic performance. Developing clear O&M procedures can help the City operate facilities more effectively and maintain the integrity of the building systems. The Environmental Services Department shall work with the General Services Department and other appropriate Departments to develop San José Green Building Operations and Maintenance Guidelines for all City operations and maintenance practices undertaken by the City or its contractors.

### **Green Building Policy Goals And Definitions**

The green building policy goals will center on five main categories:

1. Sustainable Sites

- Site Selection: develop only appropriate sites and reduce the environmental impact from the location of a building on a site.
- Urban Redevelopment: channel development to urban areas with existing infrastructure, protecting green fields and preserving habitat and natural resources.
- Brownfield Redevelopment: rehabilitate damaged sites where development is complicated by real or perceived environmental contamination, reducing pressure on undeveloped land.
- Alternative Transportation: reduce pollution and land development impacts from automobile use by taking advantage of public transportation and making the site convenient for bicycle users.
- Reduced Site Disturbance: conserve existing natural areas and restore areas damaged during construction to provide habitat and promote biodiversity.
- Stormwater Management: limit disruption of natural water flows by minimizing storm water runoff, increasing on-site infiltration and reducing contaminants.
- Landscape and Exterior Design to Reduce Heat Islands: reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on micro climate and human and wildlife habitat.
- Low Maintenance Landscaping: minimize the need for excessive maintenance by using landscaping designed to be "naturally manicured" - indigenous landscaping and wildflowers chosen to promote low maintenance and to reduce cutting as well as the long-term needs for water, fertilizers and fossil fuels.

## 2. Energy and Atmosphere

- Minimum Energy Performance: establish the minimum level of energy efficiency for the base building and systems.
- Optimize Energy Performance: achieve increasing levels of energy performance above the minimum standard to reduce environmental impacts associated with excessive energy use.
- Building Commissioning: verify and ensure that the entire building is designed, constructed, and calibrated to operate as intended.
- Measurement and Verification: provide for the ongoing accountability and optimization of building energy and water consumption performance over time.
- Renewable Energy: Encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impacts associated with fossil fuel energy use.
- Green Power: encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.
- Reduce Ozone Depletion: support early compliance with the Montreal Protocol by eliminating the use of CFC-based refrigerants and reducing the use of HCFCs and halons.

## 3. Water Efficiency

- Water Use Reduction: maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

- Innovative Wastewater Technologies: reduce generation of wastewater and potable water demand, while increasing local aquifer recharge.
- Water Efficient Landscaping: limit or eliminate the use of potable water for landscape irrigation.

#### 4. Materials and Resources

- Storage and Collection of Recyclables: facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.
- Building Reuse: extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste, and reduce environmental impacts of new buildings as they relate to materials manufacture and transport.
- Construction Waste Management: divert construction, demolition, and land clearing debris from landfill disposal and redirect recyclable material back to the manufacturing process.
- Resource Reuse: extend the life cycle of targeted building materials, reducing environmental impacts related to materials manufacturing and transport.
- Recycled Content: increase demand for building products that have incorporated recycled content material, reducing the impacts resulting from extraction of new material.
- Local/Regional Materials: increase demand for building products that are manufactured locally, reducing the environmental impacts resulting from transportation, and supporting the local economy.
- Rapidly Renewable Materials: reduce the use and depletion of finite raw and long cycle renewable materials by replacing them with rapidly renewable materials.
- Certified Wood: encourage environmentally responsible forest management.

#### 5. Indoor Environmental Quality

- Minimum Indoor Air Quality (IAQ) Performance: establish minimum IAQ performance to prevent the development of indoor air quality problems in buildings, maintaining the health and well being of the occupants.
- Increase Ventilation Effectiveness: provide for the effective delivery and mixing of fresh air to building occupants to support their health, safety, and comfort.
- Construction IAQ Management: prevent indoor air quality problems resulting from the construction/renovation process, to sustain long term installer and occupant health and comfort.
- Low-Emitting Materials: reduce the quantity of indoor air contaminants that are odorous or potentially irritating to provide installer and occupant health and comfort.
- Indoor Chemical and Pollutant Source Control: avoid exposure of building occupants to potentially hazardous chemicals that adversely impact air quality.
- Controllability of Systems: provide a high level of individual occupant control of thermal, ventilation, and lighting systems to support optimum health, productivity, and comfort conditions.
- Thermal Comfort: provide for a thermally comfortable environment that supports the productive and healthy performance of the building occupants.

- **Daylight and Views:** provide a connection between indoor spaces and the outdoor environment through the introduction of sunlight and views into the occupied areas of the building.

## **Definitions**

### **Green building**

An integrated framework of design, construction, operations and demolition practices that encompasses the environmental, economic, and social impacts of buildings. Green building practices recognize the interdependence of the natural and built environments and seek to minimize the use of energy, water, and other natural resources and provide a healthy, productive indoor environment.

### **Integrated design**

A holistic process that considers the many disparate parts of a building project, and examines the interaction between design, construction, operations and demolition to optimize the energy and environmental performance of the project.

### **Whole-systems thinking**

A process through which the interconnections of systems are actively considered, and solutions are sought to address multiple problems at the same time.

### **San José LEED Green Building Rating System**

City performance-oriented green building certification system designed for rating new and existing commercial, institutional, and high-rise residential buildings based on the U.S. Green Building Council's LEED Rating System. Guidelines will reflect existing local standards, evolving national and international guidelines, and the priorities of the City of San José and its residents.

### **LEED**

Leadership in Energy and Environmental Design rating system is a third party certification system designed for rating new and existing commercial, institutional, and high-rise residential buildings developed by the US Green Building Council.

### **LEED Certification**

Different levels of green building certification - certified, silver, gold, and platinum - are awarded based on the total credits earned in each of several categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.

### **Life-cycle**

The consecutive, inter-linked stages of a product - beginning with raw materials acquisition and manufacture, the product's fabrication, construction, use, and ultimate waste management (recovery, recycle or disposal).

### **Life-cycle analysis**

An evaluation tool that assesses the net present value of the design, construction, operation, maintenance, and disassembly of a facility as well as the health and

productivity of its occupants, the costs of measurable external environmental impacts, and the cost of measurable and relevant social impacts.

**Operations and maintenance**

Costs directly related to the operation, maintenance, repair, and management of a property and the utilities that service it. These include insurance, property taxes, utilities, maintenance, and management expenses.

**Sustainable development**

"Meeting the needs of the present without compromising the ability of future generations to meet their own needs" - The World Commission on Environment and Development, The Brundtland Commission, 1987. Sustainable development seeks to balance human development, growth, and equity with ecological stewardship.

| [E-Government Policies \(PDF\)](#) | [Statement of Purpose](#) | [Privacy and Disclosure](#) | [Security](#) | [Disclaimer](#) | [Contact Us](#) |



## Appendix J

### SUSTAINABLE CITY

The Sustainable City Major Strategy is a statement of San Jose's desire to become an environmentally and economically sustainable city. A "sustainable city" is a city designed, constructed, and operated to minimize waste, efficiently use its natural resources and to manage and conserve them for the use of present and future generations. San José acknowledges that it exists within both a regional and global environment. Its decisions regarding natural resources will have impacts outside the City's jurisdiction, and the decisions of others in the region and beyond will impact the City's ability to meet its future needs. San José will encourage and participate in cooperative/regional efforts intended to improve the quality of air and water and to conserve land, soil, water, energy and ecosystems such as the Bay, forests, riparian corridors, fisheries, grasslands, etc.

The strategy seeks to reduce traffic congestion, pollution, wastefulness, and environmental degradation of our living environment. By conserving natural resources and preserving San José's natural living environment, the concept of sustainability becomes a means of encouraging and supporting a stronger economy and improving the quality of life for all who live and work in San José.

As the City's guide for growth and development, the General Plan is a unique tool for ensuring that future planning efforts minimize impacts on resource consumption and help maintain the City's overall quality of life. The successful creation of a more sustainable urban form will also help ensure that the City is able to maintain the infrastructure and services necessary to sustain San Jose's economy and quality of life.

The City operates many programs that promote the wise use of natural resources and are intended to move San José towards sustainability. These programs include recycling, waste disposal, water conservation, transportation demand management, transportation systems management, energy efficiency, and preventive maintenance of the built environment. In addition, the City also oversees hazardous materials storage, offers toxic waste minimization and pollution prevention programs, and is responsible for wastewater treatment and reclamation. The Sustainable City Major Strategy is intended to support all of these efforts by ensuring that the urban form is designed and built in a manner consistent with the objectives of efficient resource use and environmental protection.

General Plan policies specifically address issues related to efficiency in resource consumption. Green Building and site design policies improve energy, water efficiency, and reduce consumption and waste. Water resources policies address the need for the conservation and protection of watershed and groundwater recharge areas. Air quality policies require the City to regulate the sources of air pollution and monitor the cumulative impacts of development on air quality. The Greenline/ Urban Growth Boundary, the Urban Service Area and the Natural Resource policies promote the efficient use of land and prevent urban sprawl, conserve open spaces and preserve pristine natural habitats. In addition, the General Plan's continued emphasis on land use related issues such as achieving a relative job/housing balance and orienting development around transit facilities contributes to sustainability by shortening trip lengths and helping to increase the availability and convenience of transit, biking and walking. This conserves energy and improves water and air quality.

### III. MAJOR STRATEGIES

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By promoting the importance of conservation and preservation of natural resources in the City, the Sustainable City Major Strategy works with the other major strategies of the General Plan to ensure that San José will be able to provide urban services to its residents in the most efficient manner possible, and that the City will have its best chance to sustain adequate level of services into the future. ■

## Appendix K

**AN ORDINANCE ADDING CHAPTER 4.38 TO TITLE 4 OF THE  
ADMINISTRATIVE CODE OF THE COUNTY OF ALAMEDA RELATING  
TO CONSTRUCTION AND DEMOLITION DEBRIS MANAGEMENT  
AND GREEN BUILDING PRACTICES FOR CERTAIN COUNTY  
PROJECTS**

The Board of Supervisors of the County of Alameda ordains as follows:

**SECTION 1**

Chapter 4.38 is added to Title 4 of the Administrative Code of the County of Alameda, to read as follows:

**CONSTRUCTION DEBRIS MANAGEMENT AND GREEN BUILDING PRACTICES**

**Section 4.38.010 Findings**

1. The Board of Supervisors of the County of Alameda hereby finds and declares that:

A. The demolition, design, construction, and maintenance of buildings and structures within the County can have a significant impact on the County's environmental sustainability, resource usage and efficiency, waste management, and the health and productivity of residents, workers, and visitors.

B. The State of California, through its California Waste Management Act of 1989, requires that each local jurisdiction in the state divert 50% of discarded materials from landfill by December 31, 2000, and thereafter maintain or exceed that diversion rate.

C. Every city and county in California, including the County of Alameda, can face fines up to \$10,000 a day for not meeting the above mandated goal.

D. The voters of Alameda County, through the Waste Reduction and Recycling Act of 1990, adopted a policy goal to reduce the total tonnage of landfilled materials generated in Alameda County by 75% by the year 2010.

E. Based on studies by the Alameda County Waste Management Authority, construction and demolition debris comprises up to 21% of materials disposed in Alameda County landfills.

F. Reusing and recycling construction and demolition debris is essential to further the County's efforts to reduce waste and comply with California Waste Management Act of 1989 and the Alameda County Waste Reduction and Recycling Act of 1990.

G. Construction and demolition debris waste reduction and recycling can reduce the amount of such material that is landfilled, increase site and worker safety, and be cost effective.

H. Except in unusual circumstances, it is feasible to divert an average of at least fifty (50) percent of all construction and demolition debris from construction, demolition, and renovation projects, and that for certain Public Works Agency projects it is feasible to divert an average of at least seventy-five (75) percent of construction and demolition debris.

I. "Green" building design, construction, and operation can have a significant positive effect on energy and resource efficiency, waste and pollution generation, and the health and productivity of a building's occupants over the life of the building.

J. Green building benefits are spread throughout the systems and features of the building. Building "green" can include, among other things, the use of certified sustainable wood products; aggressive use of high recycled content products; recycling of waste that occurs during deconstruction, demolition, and construction; enhancement of indoor air quality by selection and use of construction materials that do not have chemical emissions that are toxic or irritating to building occupants; modification of heating, ventilation, and air-conditioning systems to provide energy efficiency and improved indoor air; use of water conserving methods and equipment; and installation of alternative energy methods for supplemental energy production.

K. The U.S. Green Building Council, developer of the Leadership in Energy and Environmental Design (LEED™) Commercial Green Building Rating System and LEED™ Reference Guide, has become a leader in promoting and guiding green building.

L. Requiring certain County projects to incorporate LEED™ green building measures is necessary and appropriate to achieve the benefits of green building.

M. Construction and demolition debris management and green design, construction, and operation decisions made by the County in the demolition, construction, and remodeling of County buildings result in environmental benefits and cost savings to the County over the life of the buildings. By calling on the County to include green building measures in its own facilities, the Board of Supervisors provides taxpayers a benefit through environmentally friendly, cheaper to operate buildings and simultaneously helps to develop markets for recycled, recyclable, and environmentally sound materials.

N. It is critical to both the economic and environmental health of the County that the County provides leadership to both the private and public sectors in the arena of energy efficiency and "green" construction. The most immediate and meaningful way to do this is to include energy efficiency and green building elements in as many public buildings as feasible.

O. It is in the public interest to address the appropriateness of mandating green building requirements for private projects separately from, and subsequent to, applying such requirements to County Projects. Accordingly, unless and until the Board of Supervisors determines otherwise, the provisions of this Chapter shall not apply to private sector

development, including, but not limited to, joint ventures between the County and a private developer; special use facilities, such as stadiums and fairgrounds; County redevelopment projects; the County's Surplus Property Authority projects; privately developed roads, bridges, and streetlights; and private sector commercial, industrial, and residential construction, demolition, and renovation activities.

#### **Section 4.38.020      Definitions**

A.      "Building" means any Structure used or intended for supporting or sheltering any use or occupancy as defined in the California Building Code.

B.      "Compliance Official" means the person who is authorized and responsible for implementing this Chapter for any given project. The Director of the General Services Agency, or his/her designee, shall be the Compliance Official for all County Projects, except Traditional Public Works Projects. The Director of the Public Works Agency, or his/her designee, shall be the Compliance Official for all Traditional Public Works Projects.

C.      "Construction" means the building of any Building or Structure or any portion thereof.

D.      "Construction and Demolition Debris" or "Debris" means used or discarded materials removed from premises during Construction or Renovation of a Structure resulting from construction, renovation, remodeling, repair, or demolition operations on any building, or other structure and shall include, but not be limited to: demolition debris; new construction debris; debris from renovation projects, including tenant improvements and additions; debris from flood control and storm drain construction and; debris from road construction; debris from construction, renovation, or demolition of pump stations and bridges, abutments; earth; and debris from construction, renovation, , or demolition of retaining walls and underground utilities. Construction and Demolition Debris does not include hazardous waste, contaminated earth or soil, and materials without any use or market value even after re-manufacturing.

E.      "County Administrator" or "CAO" means the executive officer of the County Administrator's Office of Alameda County.

F.      "County Project" or "Project" means any work of Construction, Renovation, or Demolition conducted on County-owned property, which is managed by County personnel from design through construction, including Traditional Public Works Projects. "County Project" or "Project" shall also include any Buildings constructed for the County's use under a build to suit program or project.

G.      "Demolition" means the decimating, razing, ruining, tearing down or wrecking of any facility, structure, pavement or building, whether in whole or in part, whether interior or exterior.

H.      "Divert" means to use material for any purpose other than disposal in a landfill.

I.      "Diversion Requirement" means the percentage of the total Construction and

Demolition Debris generated by a Project that is required to be diverted from landfill under this Chapter.

J. "Estimated Cost of Construction" means the total projected cost of completing a proposed Project.

K. "General Services Agency" or "GSA" means the General Services Agency of Alameda County.

L. "Green Building Practices" means a whole systems approach to the design, construction, and operation of Buildings and Structures that helps mitigate the environmental, economic, and social impacts of Construction, Demolition, and Renovation. Green Building Practices such as those described in the LEED Rating System, recognize the relationship between natural and built environments and seek to minimize the use of energy, water, and other natural resources and provide a healthy, productive environment.

M. "Initiated" means officially identified and fully funded to offset all the costs associated with the project as found on the County Capital Improvement Plan.

N. LEED™ Rating System™ means the most recent version of the Leadership in Energy and Environmental Design (LEED™) Commercial Green Building Rating System™, or other related LEED™ Rating System, approved by the U.S. Green Building Council.

O. "Public Works Agency", or "PWA", means the Public Works Agency of Alameda County.

P. "Recycling" means the process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become solid waste, and returning them to the economic mainstream in the form of raw material for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace.

Q. "Renovation" means any change, addition, or modification to an existing Building or Structure, including, but not limited to, tenant improvements.

R. "Reuse" means further or repeated use of Construction or Demolition Debris.

S. "Structure" means that which is built or constructed, an edifice or building of any kind or any piece of work artificially built or composed of parts joined together in some definite manner and permanently attached to the ground.

T. "Traditional Public Works Projects" means heavy construction projects, such as pump stations, flood control improvements, roads, bridges, as well as traffic lights, sidewalks, bike paths and associated infrastructure on County-owned and maintained property.



#### **Section 4.38.030 Construction And Demolition Debris Management**

1. The Construction and Demolition Debris generated by County Projects Initiated on or after July 1, 2003, shall be diverted from landfill as follows:

A. County Projects (except Traditional Public Works Projects) with a total Estimated Cost of Construction of \$100,000 or greater and County Projects consisting primarily of Demolition with a total Estimated Cost of \$25,000 or greater shall meet the following Diversion Requirements:

1) At least fifty (50) percent of the total Debris generated by the project shall be diverted from landfill via Reuse or Recycling.

B. Traditional Public Works Projects with a total Estimated Cost of Construction of \$100,000 or greater shall meet the following Diversion Requirement:

1) At least seventy-five (75) percent of the asphalt, concrete, and earth Debris generated by the project shall be diverted from landfill via Reuse or Recycling.

2) At least fifty (50) percent of the total of all other Debris generated by the project shall be diverted from landfill via Reuse or Recycling.

3) Debris consisting of hazardous waste, contaminated earth or soil, and materials without any use or market value even after re-manufacturing shall be exempted from the foregoing Diversion Requirements.

#### **Section 4.38.040 Green Building Practices**

1. All County Projects initiated on or after July 1, 2003, except Traditional Public Works Projects, shall meet a minimum LEED™ "Silver" rating under the LEED Rating System, or a County-approved equivalent.

2. Traditional Public Works Projects: The Public Works Agency shall promptly undertake research to identify suitable mechanisms for applying Green Building Practices to Traditional Public Works Projects. Within twelve (12) months of the effective date of this ordinance, the Director of the Public Works Agency shall submit proposed regulations to the CAO requiring the application of appropriate Green Building Practices to Traditional Public Works Projects.

#### **Section 4.38.050 Compliance**

1. The County Administrator shall promulgate any rules and regulations necessary or appropriate to achieve compliance with the Diversion Requirements and Green Building Practices stated in this Chapter. The initial rules and regulations shall be promulgated after securing and reviewing comments from affected County agencies and departments, but no later than June 30, 2003. The Director of the General Services Agency and the Director of the Public Works Agency shall jointly submit to the County Administrator an initial set of proposed rules

and regulations pursuant to this Section within 30 (thirty) days of the effective date of this ordinance.

2. The rules and regulations promulgated by the County Administrator's Office under this section shall provide for at least the following:

A. An inflation indexing mechanism to escalate or lower the \$100,000 and \$25,000 thresholds contained in this Chapter;

B. The incorporation of the Diversion Requirements and Green Building Practices of this Chapter into the appropriate design and construction contract documents prepared for the applicable County Projects;

C. The designation of an appropriate Compliance Official(s) who shall have the responsibility to administer and monitor compliance with the Diversion Requirements and Green Building Practices set forth in this Chapter and with any rules or regulations promulgated thereunder, and to make recommendations to the Board of Supervisors concerning the granting of waivers or exemptions from the requirements of this Chapter.

#### **Section 4.38.060 Unusual Circumstances Recognized by the Board of Supervisors**

Compliance with the provisions of this Chapter may be waived in unusual circumstances where the Board of Supervisors has, by resolution, found and determined that the public interest would not be served by complying with such provisions

### **SECTION II SEVERABILITY**

If any chapter, section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or any part thereof, is for any reason held to be unconstitutional, invalid, or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Ordinance or any part thereof. The Board of Supervisors hereby declares that it would have passed each chapter, section, subsection, subdivision, paragraph, sentence, clause, and phrase of this Ordinance irrespective of the fact that one or more chapters, sections, subsections, subdivisions, paragraphs, sentences, clauses, or phrases be declared unconstitutional, invalid, or effective. To this end, the provisions of this Ordinance are declared to be severable.

### **SECTION III**

#### **EFFECTIVE DATE**

This ordinance shall take effect and be in force thirty (30) days from and after the date of passage and before the expiration of fifteen (15) days after its passage it shall be published once with the names of the members voting for and against the same in the Inter-City Express, a newspaper published in the County of Alameda.

Adopted by the Board of Supervisors of the County of Alameda, State of California, on the day of April 29, 2003, by the following vote:

AYES: Supervisors: Carson; Haggerty, Lai-Bitker, Miley & President Steele - 5

NOES: None

EXCUSED: None

ABSTAIN: None

*Gail Steele*  
President, Board of Supervisors

ATTEST:  
Crystal Hishida, Clerk  
Board of Supervisors

By: *Rosalinda K. Caballero*  
Deputy

File: 17843

Agenda No.: 11

Document No.: 0-2003-63

Approved as to Form  
RICHARD E. WINNIE, County Counsel

By *R. Brune*

## Appendix L

ORDINANCE NUMBER \_\_\_\_\_(CCS)  
(City Council Series)

AN ORDINANCE OF THE CITY COUNCIL  
OF THE CITY OF SANTA MONICA  
AMENDING SECTIONS 8.108.030 AND 8.108.040 OF  
THE SANTA MONICA MUNICIPAL CODE  
WHICH ADOPTS SANTA MONICA AMENDMENTS  
TO THE CALIFORNIA BUILDING STANDARDS CODE  
RELATING TO GREEN BUILDING STANDARDS

WHEREAS, on June 8, 1999, the City Council adopted Ordinance Number 1945 (CCS), which adopts the California Building Standards Code, Santa Monica amendments to the California Building Standards Code; and other technical codes; and

WHEREAS, Health and Safety Code Sections 18938 and 17958 provides that the California Building Standards Code establishes building standards for all occupancies throughout the State; and

WHEREAS, Health and Safety Code Section 18941.5 provides that the City may establish more restrictive building standards if they are reasonably necessary due to local climatic, geological or topographical conditions; and

WHEREAS, on December 15, 2000, the City Council adopted Ordinance Number 1995 (CCS) which, in part, required building permit applicants of new and renovated commercial and multi-family residential construction to significantly reduce non-renewable energy consumption below 1998 State Title 24 energy efficiency standards; and

WHEREAS, after the City's adoption of Ordinance 1995 (CCS), in response to California's current energy crisis, the State Legislature enacted AB

970, which required the California Energy Commission to strengthen Title 24 standards; and

WHEREAS, the Energy Commission subsequently adopted a set of significantly strengthened energy performance standards for new commercial and residential construction; and

WHEREAS, in light of these changes in State law, the City has reevaluated the computer energy models of the prototypical Santa Monica buildings used to establish the City's building energy performance standards to determine the appropriate required reductions in allowable energy budgets established by local law; and

WHEREAS, the proposed amendments in this ordinance reflect the results of the City's reevaluation of the computer energy models and

WHEREAS, additional clarifications to Ordinance Number 1995 (CCS) are also appropriate; and

WHEREAS, the City Council has considered the 1998 edition of the California Building Standards Code, which incorporates by reference the 1996-1997 editions of the Technical Codes, and all of the referenced standards, tables, matrices and appendices of each of these codes therein; and

WHEREAS, based upon the findings contained in the Resolution adopted concurrently with this Ordinance, the City Council has found that certain modifications and additions to the California Building Standards Code are reasonably necessary based upon local climatic, topographical and geological conditions; and

WHEREAS, Public Resource Code Section 25402.1(h)(2) says that a local enforcement agency may adopt more restrictive energy standards when they are cost-effective and approved by the Energy Commission; and

WHEREAS, the City hired a private consultant to conduct a cost study of the proposed changes and said study demonstrated the cost effectiveness of these changes; and

WHEREAS, the State Energy Commission has reviewed the proposed standards on October 17, 2001, and approved the recommended changes;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA MONICA DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 8.108.030 and Section 8.108.040 of the Santa Monica Municipal Code are hereby amended to read as follows:

**8.108.030 Compliance Methods.**

(a) Except as provided in subsections (b) and (c) of this Section, the envelope, space-conditioning, lighting and service water-heating systems of all buildings subject to the provisions of this chapter shall be designed, constructed and installed to use no more source energy from non-renewable sources than the allowable energy budget calculated in accordance with the performance approach set forth in Chapter 8.36 and reduced in accordance with Section 8.108.040.

(b) Multi-family residential buildings that have three or less habitable stories may use the prescriptive approach set forth in Chapter 8.36 for the envelope, space-conditioning, lighting and service water-heating systems if these buildings also meet the following requirements:

(1) all windows and glass patio doors are equipped with double glazed, low emissivity glazing, with center of glass U value not more than 0.32 Btu/(hr.sq.ft. deg. F.), and Solar Heat Gain Coefficient not more than 0.37;

(2) fixed lighting fixtures installed within the dwelling units have a combined average efficacy of not less than 40 lumens per watt;

(3) water heaters have a minimum energy factor of 0.60; and

(4) space cooling appliances (if installed) have a Thermostatic Expansion Valve, or a Seasonal Energy Efficiency Ratio (SEER) of not less than 12.

(c) When building designs, materials or devices cannot be adequately modeled by the performance approach, alternate calculation methods may be used when approved by the California Energy Commission pursuant to their administrative regulations for exceptional methods.

#### **8.108.040 Reductions in Allowable Energy Budgets.**

Allowable energy budgets shall be the allowable energy budget determined in accordance with Chapter 8.36 and reduced by the following factors for the occupancy types shown in Table 8.108-A. Required reduction factors for occupancies not shown in Table 108-A shall be determined by the Building Officer for the most similar energy consuming use.

**Table 8.108-A**  
**Required Reduction Factors**  
**for Allowable Energy Budgets**

Multi-family Residences	10%
Hotels and Motels	15%
Commercial and Institutional Offices	15%



Light Industrial	15%
Retail	10%

When determining compliance with the percentage reduction, alternate calculation methods that consider energy savings in addition to those recognized in Chapter 8.36 may be used when approved by the Building Officer. These savings may include, but are not limited to, efficiency of fan systems with motors less than twenty-five horsepower and garage ventilation controls.

SECTION 2. Any provision of the Santa Monica Municipal Code or appendices thereto, inconsistent with the provisions of this Ordinance, to the extent of such inconsistencies and no further, are hereby repealed or modified to that extent necessary to effect the provisions of this Ordinance.

SECTION 3. If any Section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of any competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each and every Section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the Ordinance would be subsequently declared invalid or unconstitutional.

SECTION 4. The Mayor shall sign and the City Clerk shall attest to the passage of this Ordinance. The City Clerk shall cause this ordinance, or a summary thereof to be published once in the official newspaper within 15 days after its adoption. This Ordinance shall be effective immediately.

APPROVED AS TO FORM:

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MARSHA JONES MOUTRIE

City Attorney

## Appendix M

## **The Santa Monica Green Building LEED™ Grant Program**

The goal of the Santa Monica Green Building Grant Program is to encourage private sector builders to build sustainable buildings that will serve as examples for future projects to emulate. Providing incentives for the design of buildings certified under the US Green Building Council's LEED™ Green Building Rating System underscores the City's commitment to improving the quality, cost effectiveness, and safety of the built environment while reducing stress on the natural environment.

Green Building Grants will be awarded to successful applicants as follows:

- LEED™ Certified: \$20,000
- LEED™ Silver: \$25,000
- LEED™ Gold: \$30,000
- LEED™ Platinum: \$35,000

The grants will be approved on a first-come, first-served basis. Grantees will be required to provide verification of LEED™ registration, execute a Letter of Agreement with the City and receive their City building permit before any grant funds are released.

### **About the LEED Green Building Rating System™**

The U.S. Green Building Council is the nation's foremost coalition of leaders from across the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work. The USGBC created LEED™ to:

- define "green building" by establishing a common standard of measurement

- promote integrated, whole-building design practices
- recognize environmental leadership in the building industry
- stimulate green competition
- raise consumer awareness of green building benefits
- transform the building market

More information on the USGBC and LEED™ is available at [www.usgbc.org](http://www.usgbc.org).

### **Eligibility**

All new construction or major remodel of commercial, affordable housing, mixed use, and multi-family residential properties are eligible for LEED™ grants. City employees are not eligible for grants.

### **Application**

Complete applications will consist of the following. Grant funds will be reserved for all projects with complete applications.

- Complete Application Form
- Provide verification of LEED™ registration
- Provide LEED™ Checklist
- Signed Letter of Agreement

### **The Requirements of Grant Recipients**

Letter of Agreement commits grantees to the following:

- Provide verification of project completion to the level specified in application by submitting the LEED™ Certification document from the U.S. Green Building Council;
- Allow the City to evaluate the payback and performance of LEED™ building;
- Cooperate in the creation of educational materials, case studies, or photos;
- Agree to make their facilities available for green building tours;
- Forfeit or refund grant award if other items in Letter of Agreement are not completed.

### **Approval Process**

#### **1) Submit Application**

Applications along with supporting documentation are to be submitted to the City's Green Building Program Advisor.

#### **2) Review and Selection by Panel**

a. Review. Completed applications will be reviewed by the committee  
Review will occur on a bi-monthly basis.

b. Selection. All projects with complete applications that meet eligibility requirements will be awarded grants. Funds will be placed in reserve until building permit is attained or reserve period expires.

#### **3) Funding**

a) Funds will be held in reserve one year. Grant will be void if a building permit is not issued within one year of acceptance of the grant application.

Extensions may be granted by the selection committee if grantee presents a request providing adequate justification.

- b) Funds will be released when building permit is issued and review committee has verified all LEED™ credits in application are accounted for in the project specifications. Project plans and specifications must be submitted to the review committee for their review to determine that all LEED™ points are accounted for.

#### 4) Forfeiture of Funds

Funds must be refunded to the City of Santa Monica if the building permit expires or if the LEED™ certification is not issued within six months of Certificate of Occupancy. Partial refunds to the City will be required if the building is not certified at the level applied for in initial application.

*For more information about this program or for any questions regarding green building, please contact Greg Reitz, Green Building Program Advisor, at (310) 458-8549 or [greg-reitz@santa-monica.org](mailto:greg-reitz@santa-monica.org).*