REPORT TO MAYOR AND COUNCIL **NO: _____**

DRAFT FOR PLANNING COMMISSION REVIEW
August 11, 2008

Council Meeting: August 26, 2008

SUBJECT: 2007-0346 Extension of Sustainable Building Requirements Beyond Moffett Park (Study Issue)

REPORT IN BRIEF

The purpose of this study is to examine a broad range of strategies to promote and institute sustainable and environmentally sensitive practices within the various development sectors of the City. The City has specific sustainable building requirements in Moffett Park, which were adopted as part of the Moffett Park Specific Plan in 2004. The purpose of this study issue is to determine whether to extend the sustainable building requirements beyond Moffett Park (Attachment A).

Over recent years, the impacts of global climate change and decline of the environment have been given widespread attention. International, federal, state and local agencies have been called to action to acknowledge this reality and determine practical means to address the issue. In 2006, the State Legislature created definitive targets and timetables to reduce greenhouse gas emissions, the primary cause of global warming, by passing the California Global Warming Solutions Act (AB32). There is also rising public demand that cities adopt and promote more sustainable practices to reduce the City's carbon footprint, reduce green house gas emissions, and better utilize renewable sources of energy.

In 2004, the City adopted policy statements to promote sustainable development and green building. Modifications to City ordinances allowed for additional density incentives when industrial developments were designed with increased sustainability measures. With the adoption of the Moffett Park Specific Plan, further incentives allowed for increased development density and transportation demand management.

This study issue came about through an evolution of policies and standards that have been adopted by the City over the past several years. The concept is also conceived in part by previously adopted sustainable development requirements and incentives that are in place within the City's Moffett Park Specific Plan industrial area.

In the past three years, international, federal, state, regional and local agencies have issued statements acknowledging the threat of global climate change and the need for timely action to halt or reverse the trend. Governments at all levels are trying to determine how to deal with global climate change in a manner that is realistic, practical and effective.

Public discourse is focused on the declining state of the environment, the need for energy independence, and the rising costs of fossil fuels. Global climate change, caused in large part by rising Carbon Dioxide (CO_2) emissions, creates impacts to public health, the economy and the environment. Although the impact of CO_2 emissions is regional and global in nature, it is recognized that local action is essential for a comprehensive long-term reduction strategy.

Meeting the challenge of a clean energy economy requires rethinking present policies, redirecting resources, changing practices, and forging new partnerships. It means developing a mindset that if approached strategically, promotes environmental health while also resulting in economic prosperity.

Staff recommends the adoption of phased requirements and incentives that address the need to institute sustainable development within the private sector. The recommended approach utilizes a similar methodology that has been established by the collaborative efforts of neighboring cities to promote consistency. The phased approach allows for the private sector to adjust accordingly to evolving and increasing demand to raise the bar for sustainable development.

BACKGROUND

The City of Sunnyvale first looked at sustainable policies with the adoption of the Energy Sub-Element of the General Plan in 1981. In the 1980s, the City adopted Municipal Code requirements to protect solar access and to require solar water heating, if it was deemed to be cost effective.

The Energy Sub-Element, which focused on dealing with diminishing energy resources, was retired in December 1999. Adequate energy and cost conserving practices were included in the other General Plan Sub-Elements and in the Administrative Policy Manual. A new energy policy was also developed that focused on more current energy issues (such as utility deregulation). This policy allows for a more flexible document that can be easily updated as energy issues changed.

In 1991, Sunnyvale's commitment to environmental stewardship resulted in the adoption of a tree preservation ordinance for trees on private property. In 2001, changes were made to promote "cool parking lots" by requiring trees for

parking lot shading and the use of drought-tolerant species for landscaping plans was implemented as a best practice.

The City Council adopted a "Sustainable Development and Green Buildings" policy in 2004 to encourage the inclusion of Green Building features in new public and private buildings (RTC 04-064). The Moffett Park Specific Plan, also adopted in 2004, included Green Building incentives and requirements that will become mandatory in January 2009. The requirements are for all new construction over 10,000 square feet to meet the design intent for LEED and for all development utilizing the development reserve to be LEED Certified. Additionally, the Municipal Code provides for a 5% Floor Area Ratio (FAR) incentive for LEED certified development in Industrial zones (see page 9 for a description of LEED).

Since the adoption of the Moffett Park Specific Plan in 2004, the Planning Division has processed six projects that have utilized incentives which required green building design and construction. These projects include the Network Appliance Campus, Moffett Towers, Java Metro Center, Bordeaux Center, 1355 Geneva Drive (approx. 2,800 s.f building addition) and 399 Java Drive (currently under consideration). Staff has also received considerable interest of further redevelopment in this area of the City. The Moffett Park Specific Plan was created prior to many sustainable and green building development programs in the region. There has also been two projects outside of the Moffett Park Specific Plan area that has taken advantage of the 5% FAR bonus for LEED Certified development. These projects include a 5-story building on Almanor Avenue (under construction) and a recently approved project for a new building on the campus of Intuitive Surgical on Kifer Road. A project that requested a higher F.A.R. levels without LEED level design was proposed on Benecia Ave but was ultimately required to through Conditions of Approval. Another LEED Certified level project that is currently under consideration is at 384 Santa Trinta Avenue for (4-story R&D office building).

In September 2007, city staff developed a *Framework for Sustainability* which provides the "big picture" perspective on what the City is (and can be) doing to promote environmental sustainability (which is available online at http://sunnyvale.ca.gov/Departments/Office+of+the+City+Manager/Communications/GreenSunnyvale.htm).

In December of 2007, the City Council adopted a City-wide solar plan (RTC 07-409) which aimed to increase information availability and reduce institutional barriers to promote solar energy. As part of that effort, financial barriers were reduced and Council directed staff to prepare ordinances with modifications to codes that allow for deviations on height and setbacks as well as increased floor area ratio for those installing solar generation facilities.

The former Mayor Otto Lee's Green Ribbon Task Force was formed to address the various types of sustainable efforts the community can embrace, including public participation and education. On July 24, 2008, the City Council had a workshop to provide the City boards, commissions and public with an update of citywide measures to meet sustainable goals and objectives.

Given the success of these plans to encourage reinvestment, coupled with the growing public interest and political support for sustainable practice, consideration is now given to spread sustainable development tools throughout the City.

EXISTING POLICY

There are numerous local, regional and national policies that apply to the discussion of sustainable practices and requirements. This section briefly discusses the policies and requirements; the full list is found in Attachment B.

Moffett Park Policy- in Moffett Park, green building incentives were included as tools to encourage new office projects which include specific sustainable features. The Moffett Park Specific Plan green program is generally described below:

Incentives

- March 2004-December 31, 2008
  - Projects have access to the development reserve (to achieve an FAR of up to 50% or 70% FAR) if agreeing to meet design intent of a LEED Certified level.

Mandates

- After January 1, 2009, all development in excess of 10,000 square feet must meet design intent of LEED Certification.

City Visioning Process- The City conducted a community feedback process in October 2006 as part of a visioning phase of the General Plan update. The community clearly stated a desire for Sunnyvale to be leaders in sustainability, and the process resulted in the City establishing the following Community Values Statement:

> *Sunnyvale is an attractive, safe,* ***environmentally sensitive*** *community which takes pride in the diversity of its people, the* ***innovation of its businesses*** *and the responsiveness of its government.*

The visioning process also resulted in a sustainability policy:

> *"****A regional leader in environmental sustainability*** *advocating to reduce dependence on non-renewable resources by providing greater transportation options, reducing waste, protecting our natural resources, and promoting*

alternative energy usage and research. We take environmental preservation and protection seriously and consider how each action will affect Sunnyvale for future generations."

City Regulations on Sustainability- There are several municipal code requirements for sustainable practices, including the Building Code (specifically California Title 24 Energy Requirements), and those that apply to storm water runoff, wood burning appliances, solar water heating, and to landscaping and sidewalk improvements.

The Zoning Code also describes specific requirements in industrial areas, specifically in Moffett Park, where transportation demand management programs, bicycle facilities and green buildings are discussed. In order to provide more green buildings in the City, the Zoning Code provides incentives for meeting certain LEED standards (a nationally recognized program that scores green buildings based upon the level of "green" aspects included in a building design).

City Policies on Sustainability- In general, these policies include general plan goals, Council policies, Legislative Advocacy Positions, procurement policies and regional approaches, such as Sustainable Silicon Valley partnership and participation (Attachment B), as well as state and national efforts.

DISCUSSION

OVERVIEW

The initial scope of the study issue was to determine how to extend the sustainable building requirements of the Moffett Park Specific Plan to the entire city, although the scope has been expanded in order to consider new possibilities and measures. When the Moffett Park Specific Plan was adopted, it included incentives and mandates for green building provisions in new construction. At the time the document was adopted, these types of City requirements were relatively rare.

Because the LEED program was relatively new when the Specific Plan was adopted (April 2004), it was decided to phase in the program for green buildings over five years; incentives only for the first five years, and mandatory requirements after that date.

Moffett Park provides an example for understanding of the issues involved in creating new green building opportunities. Staff participates in the collaborative effort formed by cities in the Santa Clara County and the Silicon Valley Leadership Group, known as the Santa Clara County Cities Association Green Building Collaborative (SCCCAGBC), at which meetings discussions

include issues with creating policies that address the sustainable issue. Based on the information presented at these meetings, it has been found that implementing green building policies has certain challenges, including:

- If green incentives include increasing development potential, zoning and environmental review issues may arise. In the case of the Moffett Park Specific Plan, the addition of building square footage as an incentive did not require additional environmental review because it entailed using the development reserve.
- Creating policies for the entire city is more complex than those created for Moffett Park, where it was for a specific area of the city targeted for Class A office buildings.
- Changing technology: It is difficult to create specific zoning policies that may become obsolete as sustainable technology improves and evolves.
- Higher costs: Many of the sustainable/green building methods can be initially more expensive than standard practices. It is acknowledged that many of these costs are becoming more competitive, but requiring specific building practices could prevent developers and homeowners from completing projects. Many experts estimate a 2% increase on average in upfront costs for building green and possibly higher for more aggressive green measures; however, it is also acknowledged that a life cycle savings of 20% of total construction costs can occur.
- Tenant improvements: Many office and commercial developers build shell buildings without tenant improvements, and find it difficult to convince tenants to incorporate green building techniques into the specific tenant improvements within the building. As a result, the construction type that makes the biggest difference in development may be difficult to incorporate. It should be noted that several companies looking to lease space in the Bay Area are looking for Green Buildings in which to locate.
- The economic feasibility of a particular project could be affected if local initiatives are significantly more aggressive than nearby communities.
- Many initiatives are pending that will affect future required and encouraged green practices.

Although challenges exist that has hampered widespread acceptance of green building projects, some developers actively and willingly provide green features in their projects.

BASIC ELEMENTS OF SUSTAINABILITY

Although there are difficulties in developing sustainable guidelines and requirements, the community has stated that the goals are worthwhile. In order to frame the issue, the following concepts are provided, with a more thorough discussion in Attachment C.

Sustainability Defined

Sustainable Development is that which "meets the needs of the present without compromising the ability of future generations to meet their own needs." Sustainability is a concept which deals with mankind's impact on the environment through development. Sustainable Development encourages the conservation and preservation of natural resources and of the environment, and the management of energy, waste and transportation. Sustainable Development is development based on patterns of production and consumption that can be pursued into the future without degrading the human or natural environment.

Sustainable Issues

There are many issues that are included under the "sustainable" term, but they all relate to the effect mankind is having on the environment. Issues include energy consumption, greenhouse gases, water resources and ecological issues. The issue of energy consumption relates to greenhouse gases (GHG), which are the gases present in the earth's atmosphere which reduce the loss of heat into space and therefore contribute to global temperatures through the greenhouse effect. Greenhouse gases are essential to maintaining the temperature of the Earth; without them the planet would be so cold as to be uninhabitable. Too much greenhouse gases can raise tempuratures, which can lead to reduction in the ozone layer with major changes to the environment.

This particular study does not directly address greenhouse gases as have previous studies, but does include strategies that when implemented can partly reduce such an impact on the environment. There are many worldwide approaches to reducing greenhouse gases, and they are mainly tied into reducing the reliance on fossil fuels. Current technologies that attempt to reduce this reliance include using wind power, geo-thermal, hydroelectricity, bio-fuel and solar power. Of these, the easiest and most cost-effective local approach is the use of solar power, while more advances are being made to use geo-thermal and wind power at local levels.

Sustainable Practices

There are several approaches to the sustainable issue that can be addressed at a local level, and specifically by a governmental agency. This report deals with approaches that deal directly with development of property, including detailed

approaches for providing incentives for using sustainable elements in the design of a project.

Sustainable and green practices include resource specific measures (stormwater treatment, landscaping provisions, transportation demand, etc.) as well as comprehensive programs aimed at an array of features and potential impacts. Until recently, most of Sunnyvale's green requirements have focused on specific resources. Most programs are performance or outcome-based, and the developer has a choice to include the specific green design features into a project.

In addition to incentives, proposed projects can be required to meet sustainable goals, from meeting specific LEED or Build It Green (BIG) standards to meeting site specific guidelines that include:

- Green buildings
- Water quality best management practices
- Pedestrian-oriented development/transit-oriented development
- Solar systems/alternative energy generation
- Water conservation/recycled water
- Zero waste
- Live/Work units in mixed-use developments
- Transportation demand management/alternative transportation

Sustainability Programs

There are several local, regional and national programs and initiatives that provide direction and oversight to sustainable efforts. A few of these are briefly listed below, with a more thorough description listed in Attachment D:

<u>Santa Clara County Cities Association Green Building Collaborative</u>

A collaborative effort was formed by cities in the Santa Clara County and the Silicon Valley Leadership Group, known as the Santa Clara County Cities Association Green Building Collaborative (SCCCAGBC), in June 2007 to address green building policy. In November 2007, three near-term policy recommendations were made and adopted by the Cities' Association, including:

1. Recognizing the LEED and Build It Green rating systems as the official green building standards

2. Require the submittal of a completed LEED or GreenPoint Rated checklist with planning or building permit applications

3. Require local cities to adopt a policy for achieving LEED Silver certification or better for all new and renovation public projects over 5,000 square feet.

The second phase of the collaborative effort, which is currently underway, examines a secondary set of policies, practices, and ordinances to be developed for formal adoption as well as expanding the local recommendation to a more

regional area in accordance with other counties in the Bay Area. This phase will include a recommended ordinance to be adopted by local municipalities for differing LEED and Green Point levels based on the varying types of land use (industrial/commercial and residential). Another criterion that is under consideration is a factor of building valuation in combination to the amount of area of construction. These specific size and unit thresholds are still being discussed and determined as to what is appropriate for wider adoption. The second phase is expected to be completed within the next four months.

It is a goal of the collaborative to adopt policy that is easy to navigate across jurisdictions and move every city to the path of reducing environmental impacts through green building policy.

Other Cities

Various cities across the country have developed "green building" and/or sustainable development programs. Similar to Sunnyvale, many cities have developed new or updated programs derived from previous sustainable practices. Within the various jurisdictions of the Bay Area, programs are being continually established and updated according to latest trends and environmental awareness. Attachment E includes a list showing various local cities and other municipalities across the country that have developed Green Building Programs.

As shown in this attachment, many city policies and ordinances contain similarities in terms of the basic tools and approaches to achieve sustainable development. However, cities vary as to the exact thresholds of where and when requirements and incentives are implemented. In addition to these cities, several have not reached the stage of developing a green building program.

The **City of Cupertino** has recently embarked on a study that will consider new mandatory green building requirements over a phased period of 12 months or longer. No requirements have been adopted at this time. The City has set a threshold of all municipal projects to meet a LEED Silver rating.

Recently, the **City of Palo Alto** adopted a mandatory green building program for private development that includes provisions to be updated after implementation. In addition to submitted checklists, the program requires various minimum levels of LEED or GreenPoint ratings for new development. At this time, Palo Alto does not offer incentives for development that go beyond the outlined thresholds. Palo Alto offers additional rebates and incentives to homeowners and businesses through a program offered by the city's utility department. Similar programs are available through Pacific Gas & Electric.

The **City of San Jose** currently requires all municipal buildings greater than 10,000 square feet to achieve a LEED Silver level of design. Similar to

Sunnyvale, the City is currently undertaking a review to mandate additional requirements for private development.

In order to achieve effective sustainable development on a regional and local level, a certain degree of consistency amongst municipalities is important. The effectiveness of LEED is primarily based on setting consistent standards of sustainable methods that can be incorporated into new or existing development. There are advantages to having consistency between cities because it gives developers and builders a common goal to build towards.

The City of Sunnyvale has proven itself a leader in this field, as shown by the Moffett Park Specific Plan requirements for green building designs, creating a Sustainability Coordinator position, creating policies requiring LEED Silver certification for new City buildings, and Council direction in this study issue.

Sustainability Initiatives

Leadership in Energy and Environmental Design (LEED): This is the Green Building Rating System, developed by the U.S. Green Building Council (USGBC), and it provides a set of standards for environmentally sustainable construction. Initally developed to apply to office, commercial and industrial projects, it is currently developing single-family and subdivision residential standards. LEED certification provides independent, third-party verification that a building project meets green building and performance measures.

LEED was created to accomplish the following:

- 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

Four levels of LEED certification are possible, depending on the number of criteria met. The base level is Certified, with Silver, Gold and Platinum levels awarded for projects with a higher level of attainment of environmental design and construction.

The move towards LEED and green building practices has been driven greatly by the tremendous benefits of implementing a green approach. Green buildings use key resources more efficiently when compared to buildings constructed with conventional building methods.

Currently within the industry, green buildings cost more to both design and construct when compared to conventional buildings. These increased costs typically represent initial upfront costs which are incurred at the start of the project. However, these initial cost increases can be minimized by the economic gains associated with operating a LEED certified green building. As stated previously, a life-sycle savings of 20% of total construction costs can occur if continually maintained and operated as designed.

Non-Residential Checklists: The most commonly used sustainability program (today) is the USGBC LEED program. LEED checklists are written to rate the environmental attributes and sustainable features of new and renovated commercial and institutional buildings. The LEED system reviews different types of buildings, including:

- Civil (site) development
- Building shell
- Cold and warm shell
- Tenant improvements

There are four LEED award levels, from Certified (which requires the least amount of sustainable improvements), to Silver, Gold and Platinum (the highest level currently attainable). As an example of these awards, the Moffett Towers project in Moffett Park has been designed to have the site work and building shells attain the LEED Certified level. There are several factors used to determine if a design meets the various levels of certification, based on reduced use of resources and energy, recycled materials and environmental quality.

In 2006, the U.S. Green Building Council's (USGBC) LEED green building rating system recorded a 50 percent increase in LEED-registered projects (those intending future certification) and nearly a 70 percent increase in LEED-certified projects. As of November 2007, more than 8,000 projects representing more than 1.5 billion square feet of space had registered under the LEED system and more than 1,100 projects had received certification.

Because the SCCCAGBC has recognized the LEED program, other non-residential program analysis (such as the Green Globes, Energy Star and SPiRiT initiatives) was not included in this report.

Residential Building Checklists: The most commonly used residential program is the GreenPoint Rated program of Build It Green (BIG), a non-profit organization that reviews new and remodeled residential strucures to determine the level of sustainability it attains through design and construction. The GreenPoint Rated system is meant to address climate and market conditions in California. Updates to the program are controlled by California

decision makers and stakeholders, as opposed to interests throughout the country.

There is another standard, "LEED for Homes", which is more of a national rating system, GreenPoint Rated, but it is commonly felt that the national program is not as tailored to more specific regional conditions.

A GreenPoint Rated home is graded on five categories:

- Energy Efficiency
- Resource Conservation
- Indoor Air Quality
- Water Conservation
- Community

The GreenPoint Rated label is given to homes that meet minimum point requirements in each category and scores at least 50 points. GreenPoint Rated homes are evaluated by independent, certified raters, and new constructed single-family homes (custom and production) and multi-family homes in California are currently eligible for participation. The system is based on the number of points a project attains, and each jursidiction can determine the number of points a project needs to attain for residential projects.

Because the SCCCAGBC has recognized the BIG program, other non-residential program analysis (LEED for Homes) was not included in this report.

Home Builders Association Endorsement: In January 2008, the Home Builders Association of Northern California (HBANC) endorsed mandatory sustainable green building standards for single and multi-family projects in all Bay Area cities. This endorsement is significant as it is the first major home building association in the state, and possibly the nation, to embrace such strong standards. The HBANC has partnered up with the Build It Green organization, and will work to make the Green Point Rated program the standard for mandatory measures for Bay Area cities and counties.

SUSTAINABLE GUIDELINES FRAMEWORK

A long-term approach to addressing the sustainable building issue is best served with a framework that can evolve over time as technology, programs and general community support change. The framework can address different types of development (office, residential, commercial), and different tools available for reaching the goals (incentives, requirements, and education). Providing a framework which allows change to occur quickly would ensure that the tool is effective and stays current with changing technology.

The framework could consist of specific zoning requirements, guidelines and educational opportunities. The framework could be a static program in which individual elements may change over time. An example would be methods describing solar heating opportunities. The goals of providing solar heating for a property would stay within the framework, but methods on providing it may change over time as the technology adapts and evolves.

A major part of this study issue is to determine what portion of the framework should be based on incentives and what should be based on requirements, and how those should change over time. The ultimate goal is to have a sustainable action plan that accomplishes the sustainable goals while also encouraging property improvements and renovations.

Possible Tools to Include in Framework for Sustainability

Incentives:

A primary goal of the expanded sustainability program is to increase motivation within the private sector to develop high performance buildings that can serve as examples for future projects. Providing incentives for the design of LEED certified construction reinforces the City's commitment to improving the quality, cost effectiveness, and safety of the built environment while reducing the effects on the environment. At the same time, incentives should not compromise existing ordinances that are in place to protect neighborhoods. Incentives can help accelerate sustainability goals in the short term but will eventually become unnecessary as practices become more commonplace and increased energy efficiency requirements are mandated at the State level. Therefore, they should be short-term in nature, since their purpose is to assist builders to incorporate sustainable designs in their projects during this period of transition from traditional building design to wide-spread use of green building techniques.

There are several types of incentives that can help promote sustainability within the private sector of the City and can enable development to meet sustainable goals. Below is a partial list of possible incentives. A full list is more thoroughly analyzed in Attachment F.

- Additional floor area for buildings that meet specific green building standards
- Increasing the height or reducing setbacks
- Public recognition
- City provided technical and design support

Requirements:

Incentives may not accomplish the goal of providing projects that meet the community's expectation of being a leader in environmental sustainability; therefore, adding requirements to the Zoning Code and design guidelines would help assure the goal is met. Over time, incentives can also be transitioned to requirements as technology and practices advance.

There are several types of requirements that can help promote sustainability within the private sector of the City and can enable development to meet sustainable goals. In general, projects are required to build to specific standards, with larger projects requiring the highest level of performance because of the economies of scale. Below is a list of possible requirements. An example of how to implement these requirements can be found in Attachment F.

- Use the LEED standards for new office, commercial and industrial buildings
- Require new and remodeled residential buildings to incorporate the Build It Green (BIG) standards

Financial Tools:

In addition to financial incentives that could be included in this effort, other financial tools can be considered. Options include requiring a "sustainability fee" to help fund professional or staff services to homeowners and builders, and instituting tax incentives or grants for builders to defer costs of sustainable efforts. It would be expected that any financial program be phased out or modified over time as the cost for sustainable projects reduce due to improvements in technology and greater use in the market place. Listed below are a few options, with greater discussion in Attachment F:

- Sustainability fee to help fund educational programs
- Tax incentives and/or grants
- Green Building tax/fund
- Property tax abatements/rebates
- Assessment districts
- Waived or reduced fees
- Facilitated City processing
- City loans to property owners which will be repaid through assessments collected on property tax bills

Education:

A crucial element of incorporating sustainable practices into the community fabric is to educate property owners, developer, architects, designers and

building contractors. It is important to inform the public of the available resources and valuable benefits that could be done at relatively low cost and effort. Also, training staff on details of sustainable elements will allow better dissemination of information and a more thorough review of projects that strive to meet sustainable goals.

Examples of educational efforts include:

- Update the Green Building resource listing
- Train staff to be able to work with applicants on best practices for sustainable projects
- Providing green building information and technical assistance to developers and homeowners.

Long Range Planning Efforts:

The 1997 Land Use and Transportation Element is currently being updated. The adopted Work Plan (RTC 08-193) includes provisions to further address sustainability and climate change. The update will also review the need for alternative land use and transportation strategies. It could include wide-ranging land use changes to ensure sustainable goals are met, such as:

- Providing homes near jobs/jobs housing balance
- Transit-oriented development
- Increasing transit options
- Increasing pedestrian and bicycle amenities
- Promoting mixed-use development

Sustainability Program Implementation

In order to assure that projects meet the sustainable goals, an implementation plan needs to be incorporated in the program. This could include the following:

1. An important component of a Green Building program that provides for incentives is verification.
2. Typically, someone needs to determine whether the submitted documentation is satisfactory or requires reconsideration.
3. City staff (or an independent third party reviewer) can review the documentation to verify accuracy and/or conflicts with proposed measures.
4. A comprehensive review should occur initially during the Planning permit entitlement stage and prior to approval of building permits.
5. Inspections will ensure that documented measures have been implemented. A performance bond can be required during the initial phases of inspection.
6. Assurance that projects that rely on the tenant improvement portion of the project meet green building requirement follow-through with appropriate improvements in order to meet the appropriate standard.

The City can enable further flexibility, if it is determined that certain measures are deemed infeasible and cannot be implemented. The applicant can propose substitution measures of equal point value to meet the required level of LEED or Green Point rated development.

For proposals that aim to receive incentives for building green, higher thresholds will need to be met as specified in the adopted ordinance. A specific incentive, such as increased floor area ratio or increased lot coverage can be requested through the permit entitlement phase of the project. For all projects that aim for higher green building standards, the City plans to recognize the project through acknowledgement on the City's website and other publications. A construction project sign can be installed which indicates that a project is LEED certified and list key green building features of the project. These job-site signs can help increase public awareness of the City's commitment to environmentally responsible building and the long-term health of the community. Additionally, the City is exploring the idea of awarding a plaque that can be prominently displayed at the project site.

Sunnyvale Sustainability Program- Thresholds and Phasing

There are several specific methods possible for creating the Framework for Sustainability. The method described below is based on use type, and includes incentives and requirements and briefly describes the drawbacks for each approach. See Attachment F for a possible program for all aspects of development. In general, the incentives apply only to higher level LEED and BIG requirements, while lower level criteria would be subject to new green building requirements.

The program described below includes several aspects of the Santa Clara Cities Association Green Building Collaborative recommendations, although the final program from that organization is not yet finalized.

Industrial/Office/Commercial

Much of the green building development that has already occurred in Sunnyvale has been within the industrial sector. As discussed earlier in the report, current incentives have promoted sustainable redevelopment through increased floor area allowances beyond the standard code levels. To further accelerate green building construction, increased or modified incentives could be explored. At the same time, thorough environmental review would be required if increased floor area is allowed, resulting in an amount greater than envisioned in the General Plan, so additional mitigation measures may need to be identified for specific projects.

The City does not currently have any green building incentives for commercially zoned property. Commercial uses within the industrial zones can take advantage of current incentives. Due to required parking and landscaping for commercial/retail uses, a floor area ratio bonus may not be considered as advantageous an incentive as it is for office or industrial development. Incentives for commercial development could include relaxing other zoning standards such as parking, landscaping or signage requirements. Although in many cases, commercial development may desire ample parking to provide for a successful business. Other highly desired incentives based on feedback, include expedited permitting or reduced fees and/or taxes. The goal is for incentives to accelerate sustainability goals in the short term but will phase out as practices become more commonplace.

Incentives:

- Allowing more project floor area or density for green buildings
- Modify Zoning Standards (setbacks, height, additional signage)
- Flexible parking standards with Transportation Demand Measures (TDM) and/or Parking Management Plans.
- Expedited Permitting
- Reduced Fees
- Tax Incentive and/or Grant
- Public Recognition (award)
- City-provided technical and design services

Constraints:

- Limited resources within current staff to expedite beyond current process
- Additional staff resources must be allocated towards review of TDM plans and environmental review

Requirements:

- Using the LEED standards for new buildings
- Establishing high level LEED standards (Gold and Platinum) for new, remodeled and tenant improvements for office and industrial buildings greater than 5,000 square feet in size
- Reducing the allowable floor area for non-sustainable projects, while allowing green buildings a higher floor area ratio – to a level that is similar to what is allowed currently. The advantage is that the City building square footage would not exceed General Plan guidelines. This method could reduce the need for environmental review for new projects that exceed the established FAR by using green building methods.
- Establishing LEED standards that become more stringent over time as cost comes down and practices become more widespread. As shown in Attachment G, a possible scenario is to establish a far more stringent requirement for projects in 2010 than found in 2009.

Other possible tools:

- Public recognition for sustainable building efforts
- City published list of sustainable buildings
- Promote Sunnyvale companies that produce green products or services
- City loans to property owners which will be repaid through assessments collected on property tax bills

Residential

The interest in "Green Building" within residential development has grown rapidly over the past couple of years. One of the most common sustainable practices amongst individual home owners has been the installation of solar panels on existing homes. In combination with the recently completed study that encouraged and provided incentives for solar panel installation, and the growing understanding of the long-term cost benefits of solar energy, there is an increased awareness and interest to incorporate sustainable practices in residential construction. Residential land uses can be divided into single-family and multi-family development. Many cities separate single family and duplex development from multi-family development as the issues and challenges between the two are different. Property owners have indicated that the preferred incentive is for expedited permit review and bonus density.

Incentives:

- Bonus Density
- Reduced Fees
- Expedited Permitting
- Modified Zoning Standards (lot coverage, setbacks, height)
- Public Recognition (award)
- City-provided technical and design services to homeowners
- Education courses for homeowners and small builders
- Not requiring formal BIG certification for projects that do not take advantage of the modified zoning standards (certification can be time consuming and costly)
- City loans to property owners which will be repaid through assessments collected on property tax bills

Constraints:

- Limited resources within current staff to expedite beyond current process
- Modified zoning standards could conflict with neighboring uses, although the green building elements included with the new home could provide an incentive for other homeowners to include similar elements in their home improvements or remodels

Requirements:

- Requiring new and remodeled residential building to incorporate the Build It Green (BIG) standards
- Establishing BIG standards that become more stringent over time as cost comes down and practices become more widespread

Public Facilities

Prior to the adoption of many green building programs around the country, most communities have required a specific USGBC level of certification for new public facility construction. The City currently has a policy for construction of projects over 10,000 square feet to seek LEED Certified level of construction, but it is not a requirement. Although no recommendations for public buildings are a part of this study, it important that the City lead by example and adopt high standards in order to expect private development to do the same. Staff recommends exploring the feasibility of mandating LEED Silver certification for certain new or renovated public buildings and facilities. Further coordination with the departments of Parks and Recreation and Public Works would be required to develop a specific ordinance and to evaluate the fiscal impacts.

Required California Energy Commission (CEC) Findings

Building standards related to energy efficiency are contained in Part 6 of Title 24 of the California Building Standards Code, also known as the California Energy Code (CEC) and are regulated by the California Energy Commission. Recommended ordinance modifications allow points to be achieved through increasing energy efficiency for buildings but levels of certification can also be achieved through other sustainable measures. In order to require energy efficiency beyond the CEC's minimum requirements, an application must be filed for a local amendment to the California Energy Code. The local amendment process requires that the City make findings that proposed energy efficiency measures are cost effective and based on local geological, topographical, or climatic conditions. The City of Sunnyvale is currently collaborating with the City of San Jose and Palo Alto to work with an expert to establish the required CEC Findings.

Environmental Review

Council adoption of the proposed action is considered exempt from the requirements of CEQA per Section 15308, "Actions by Regulatory Agencies for Protection of the Environment" of the CEQA Guidelines, which exempts actions taken by regulatory agencies for protection of the environment. The exception would be if additional density or development square footage is allowed through an incentive program, at which time the land use and capacity impacts would need to be reviewed and considered.

Implementation

Consistent with the practices of other local green building programs, a rating system based on the aforementioned programs established by the USGBC and Build It Green organizations would be established for regional consistency and effectiveness. Attachment G represents an aggressive program that includes a phased system for green building standards. Devised into various land use categories, the program establishes certain point levels based on the scale of development. A second chart illustrates a second phase (2010) in the program that raises the bar further for sustainable development.

Similar to other cities, the program is based on continual verification of green building measures. At the initial stage of a proposal, a checklist indicating the level of points that the project is implementing would be required, a third party verification is required except for new and additions to small single family residential projects that are less than 1,500 square feet. Upon final approval, documentation that these measures are implemented is also required. A deed restriction or agreement will be required to be filed ensuring that such measures are not removed in the future. Similar deed requirements are already required for Green Building measures in the Moffett Park and other Code requirements. Staff could consider modifications or substitution of measures during the review and approval process if it determined that certain measures are no longer feasible,

For the industrial/commercial sector, familiarity with green building design is more widespread, especially among larger developers; therefore, more aggressive standards can be established. It is believed that the smaller residential developers and designers are somewhat less familiar with green design practices and may lack some of the educational awareness and financial wherewithal to consider the up-front costs.

The implementation of new green building standards will require considerable additional City resources. To be successful, increased educational awareness of sustainable methods will first need to occur. Educational material from the Build It Green Program and USGBC (LEED) rating system should be readily available for property owners, contractors, developers and the general public. Currently, there are no LEED accredited or Green Point Rated certified experts employed with the City. As part of the recommended implementation, documentation can be verified by a third party reviewer; however, to sustain a successful program, it is recommended that continual training of City Staff is necessary.

FISCAL IMPACT

The fiscal impacts mainly include:

Staff Resources: There are up-front costs associated with the possible programs, such as: costs to producing educational material to assist applicants and staff training. The on-going costs would be: the time to process new application information; additional city resources and staff time to handle increased plan checking and inspection/monitoring requirements; additional time to review development from City Staff. Also, adding a new position within the department that would work with homeowners, designers and builders on effective ways to include green elements into a project would require a budget modification (for which follow-up action would be necessary- the yearly total compensation cost of such a position would likely be approximately $90,000). Finally, any reduced fee would have a fiscal impact based on the amount of reduction. Staff estimates the cost would range between $20,000 and $50,000. Staff could return with that information depending upon Council action.

Moffett Park Specific Plan: As described earlier in the report, the currently adopted Moffett Park Specific Plan contains incentives for increased floor area ratio for projects that are considered LEED Certified development. Since newly adopted standards would likely raise the bar for new development to implement sustainable construction, there would be costs associated with changes to the Specific Plan to address new standards for new development in Moffett Park. Staff estimates the cost would be $5,000.

Sustainable Design Guidelines: Amending the current design guidelines would cost approximately $3,000, while creating a new "Sustainable Developments" guideline would cost approximately $15,000.

Financial Tools: There are several possible financial tools discussed in this report, most of which would have a fiscal impact to the City. This report does not attempt to address these tools in detail, but if the Council directs staff to pursue any of them, a specific analysis would be included for each possibility.

PUBLIC CONTACT

Staff conducted two outreach meetings on May 15, 2008 to discuss sustainable requirements and/or incentives with the community. Notices were sent to neighborhood and business associations, commercial and residential developers, interested residents and Chamber of Commerce.

Planning staff attended a meeting held by the Mayor's Green Ribbon Task Force on June 13, 2008. Discussion at the meeting included the possible consideration of new requirements for private development. Members of the committee expressed gratitude that early recommendations, such as reducing requirements for solar energy systems, that had been put forth to the City Council would be included in this study. Also, there was a desire to mandate aggressive requirements for new construction.

Public contact was also made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, in the Office of the City Clerk, at the Library, Senior Center, Community Center and Department of Public Safety; posting the agenda and report on the City's Web site; and making the report available at the Library and the Office of the City Clerk.

ALTERNATIVES

1. Develop a framework for sustainability that includes several elements, including:
    a. Incentives:
        i. Allowing more project floor area or density for green buildings.
        ii. Modify Zoning Standards (setbacks, height, additional signage).
        iii. Flexible parking standards with Transportation Demand Measures and/or Parking Management Plans.
        iv. Expedited Permitting.
        v. Reduced Fees.
        vi. Provide a time frame of when zoning code incentives elapse and revert to new standard zoning requirements.
        vii. Public Recognition (award).
        viii. City-provided technical and design services for applicants and developers in order to increase ways to increase the sustainable aspects of buildings, homes and properties.
        ix. Requiring LEED or BIG certification for projects that take advantage of the modified zoning standards.
    b. Requirements:
        i. Phase in LEED standards as shown in Attachment G.
        ii. Phase in Build it Green standards shown in Attachment G.
        iii. Reduce the allowable floor area for non-sustainable projects, but allow green buildings a higher floor area ratio.
        iv. Direct staff to codify the requirement that all City buildings meet LEED Silver level standards.
    c. Education:
        i. Direct staff to return with an education program and expected costs, including courses for homeowners and small builders.
        ii. Direct staff to prepare education program to include development of hand-out materials.
        iii. Provide technical and design services by LEED professionals for commercial and industrial developers and designers and BIG support services for homeowners.

iv. Direct staff to return with a budget modification to increase budget to provide for staff training for LEED and BIG programs.

d. Financial Tools:
   i. Direct staff to review financial tools options available to fund programs such as grants and loans for property owners to increase the sustainable aspects of buildings, homes and properties.
   ii. Consider collecting a sustainability fee from developments to help fund educational programs.

e. Long-range Efforts:
   i. Direct staff to update the Land Use and Transportation Element to ensure there is allowance for higher density housing and/or employment near transit locations.
   ii. Direct staff to work with the transit agencies to ensure transit is included as part of the Land Use and Transportation Element.
   iii. Direct staff to return with a cost estimate and work plan revise the Moffett Park Specific Plan to present options for new requirements and/or incentives

2. Continue to work with the Green Building Collaborative until a common threshold of requirements is recommended for local cities to adopt and then develop an ordinance that mandates incentives and requirements for green building construction for all sectors of development.

3. Make no changes nor fund new programs.

RECOMMENDATION

Staff recommends the following action be taken based on the Alternative section above:

1. Develop a framework including:
   A. Incentives
      i. Direct staff to return with a draft ordinance to amend the Zoning Code to allow more project floor area (FAR) and lot coverage for green buildings.
      ii. Modify zoning standards to allow greater height, reduced setbacks and larger signs for green buildings.
      iii. Allow flexible parking standards in conjunction with Transportation Demand Management Programs and/or Parking Management Plans.
      vi. Include in the Zoning Code a time frame for when zoning code incentives elapse and revert to new standard zoning requirements per Attachment G.

vii. Direct staff to return with a process for Public Recognition (awards).
viii. Direct staff to return with a budget modification to allow the hiring of a full or part-time staff position or contract services for City-provided technical and design services.

B. Requirements
i. Direct staff to return with a draft ordinance to require LEED standards as shown in Attachment G.
ii. Direct staff to return with a draft ordinance to require Build it Green standards shown in Attachment G.
iv. Direct staff to return with a draft ordinance to require all new and renovated City buildings to meet LEED Silver level standards or better, and to evaluate the fiscal impacts.

C. Education
i. Direct staff to return with an education program and expected costs, including courses for homeowners and small builders.
ii. Direct staff to prepare an education program to include additional hand-out materials and resources.
iii. Provide technical and design services by LEED professionals for commercial and industrial developers and designers and BIG support services for homeowners.
iv. Return with a budget modification to increase budget to provide for staff training and public education and assistance for LEED and BIG programs.

D. Financial tools
i. Direct staff to review financial tools options available to fund programs such as grants and loans for property owners to increase the sustainable aspects of buildings, homes and properties.
ii. Direct staff to explore the feasibility of a sustainability fee to help fund educational programs and services.

E. Long-range efforts
i. Direct staff to update the Land Use and Transportation Element to ensure there is allowance for higher density housing and/or employment near transit locations.
ii. Direct staff to work with the transit agencies to ensure transit is included as part of the Land Use and Transportation Element.
iii. Direct staff to return with a cost estimate and work plan revise the Moffett Park Specific Plan to present options for new requirements and/or incentives.

Staff would undertake developing a draft ordinance for Council review and adoption based on the requirements set forth in the above-mentioned measures. Staff finds that a phased program that institutes sustainable development requirements for all types of land use throughout the City raises the bar for the greater level of environmental responsibility in the private sector. Incentives will further increase the promotion of green building development within the community. It would take staff, working with the City Attorney, approximately 3 months to return with a draft ordinance for Council's review.

Staff recommends specific measures based on the type of land use construction that is proposed. Based on other city models, the recommended measures are adapted to meet Sunnyvale's current needs and goals for increasing sustainable development for new construction. As described in the report, specific thresholds can be sought through widely established rating systems established by the USGBC and Build It Green organizations. Verification of Green Building measures is required during specific phases of the approval process (as described in the "Implementation" section of this report). For example, larger projects (those greater than 25,000 square feet) would require USGBC verification. Also, staff recommends the City take the lead in the community by requiring all City buildings meet Silver LEED standards (rather than having a policy only).

The Santa Clara County Cities' Green Building Collaborative, as part of its second phase of recommendations, will detail a matrix of LEED and GreenPoint level requirements. Basic thresholds have evolved throughout the process to include a variety factors based on the type and scale of development. A formal recommendation to cities is not expected for another several months. It is expected that the Collabrative's recommendation will be similar (or less aggressive) than those presented in this report.

The intent of an education program is to give homeowners the information necessary to plan minor additions incorporating green building techniques. The program will also better prepare homeowners of requirements that will be adopted in the near future. Many cities have adopted a similar pilot program as an initial phase of a mandatory green building program. By requiring the applicant to provide a checklist prior to building permit submittals, staff believes many more projects will incorporate sustainable design components into the buildings and the site.

Although several options are included in this report, not all are a part of staff's recommendation for the following reasons:

Incentives:

iv. Expedited permitting- not chosen because the City has an expedited permit process for all projects. The only feasible way to improve the permitting process would be to hire outside consultants to review large projects, which is already used for major projects (Town Center, Moffett Towers).

v. Reduced fees- This option would be effective if financial options are included as part of the framework, because building fees provide the City with the cost recovery necessary to fund elements of the department.

ix. Require certification for projects that take advantage of modified zoning standards- The Council may want to allow projects to build to LEED or BIG standards without going through the certification process. This alternative would require all projects that receive zoning code incentives to be certified.

Requirements:

iii. Reduce allowable floor area for all projects not built to green building standards- In this case, the allowable floor area would be reduced for all projects in the city, and only those that meet green building goals would be able to build to current standards. It's similar to a retailer raising the price of an item that then goes on sale for the prior price. This was not chosen because the current zoning standards are based on well-established goals and consideration, and lowering them across the board would create thousands of non-conforming buildings.

When compared to other local cities, the recommended building measures represent an aggressive plan for private development within the City. Cities that have developed a green building program have universally recognized the need to reexamine their programs and ordinances to ensure that they can evolve with changing market conditions and technology advancements, and other state and federally regulatory conditions that may be imposed. Newer programs continue a trend of raising the bar on sustainability, and the City of Sunnyvale will need to continue reexamining its standards to reflect advancements in green building practices.

Furthermore, additional outreach with the development and residential community will better address the specific concerns and needs of Sunnyvale in years to come.

Reviewed by:

Hanson Hom, Director, Community Development
Prepared by: Ryan M. Kuchenig, Associate Planner

Approved by:

Amy Chan
City Manager

Attachments

A. Study Issue Paper
B. Existing Policy Details
C. Basic Elements of Sustainability
D. Sustainable Programs
E. Other Cities' Policies (Matrix)
F. Sustainable Guidelines Framework (Incentives, Requirements, Financial Options)
G. Proposed Phased Incentives and Requirements

ATTACHMENT A

Proposed New Council Study Issue

Number	CDD-44
Status	Pending
Calendar Year	2007
New or Previous	New
Title	Extension of Sustainable Building Requirements Beyond Moffett Park
Lead Department	Community Development
Element or SubElement	Land Use and Transportation Element; Energy Sub-Element

1. What are the key elements of the issue? What precipitated it?

This study issue was proposed due to concern regarding whether there should be a city-wide sustainable building requirement. A new policy or regulation could be modeled on the policies of the existing Moffett Park Specific Plan (MPSP) which are based on incentives prior to 2009 and mandates thereafter. Sustainable development is the development and construction practices that are designed to use natural resources in a manner that does not eliminate, degrade, or diminish their usefulness for future generations.

In February 2004, the Council adopted a policy (RTC 04-064) to encourage new as well as remodeled development within the City to incorporate sustainable design principles. At the time, the Leadership in Energy and Environmental Design (LEED) program was not well known and most businesses and developers had not been involved with a green project. A phased approach was recommended with information, education and incentives as the first phase. Staff expected to return in approximately five years (2009) with a second phase contemplating mandated requirements as well as introduction of commercial/retail and residential development components.

Concurrent with the adoption of the policy in Februrary 2004, the Council amended the Zoning Code to allow an incentive for an additional five percent over the current FAR (typically 35% FAR) for industrial buildings if all of the following conditions are met:

(1) A LEED™ accredited professional is a member of the design team for the building;

(2) The building is designed to achieve a "LEED™ Certified" rating;

(3) The building is registered with the USGBC for certification;

(4) As soon as permissible under the regulations, applicant shall prepare and submit the application for LEED™ certification with the USGBC, and shall provide city with proof that the building has achieved a rating of "LEED™ Certified" or better.

In April of 2004, Council also adopted the MPSP which provides incentives for higher intensity development that achieves applicable green/sustainable building standards. Moffett Park contains over 50% of the City's industrial land and has a larger average

ATTACHMENT A

lot size than the typical general industrial districts in the City and is served by the Light Rail. Consequently, there has been a concentrated effort to guide intense development and green practices to Moffett Park due to its capability of sustaining higher intensities of development.

Until December 31, 2008, the MPSP does not require formal application for certification of buildings using the incentive option for Green Building Achievement. Starting on January 1, 2009 however, all buildings requesting the Green Building Incentive Option (to 50% or 70% FAR) must submit a formal application to the United States Green Building Council (USGBC). In addition, all buildings greater than 10,000 square feet in the MPSP area after January 1, 2009 are required to meet the design intent of (LEED) Certified Level.

This study would update the initial research that was conducted during the formulation of the Council Policy on Sustainable Development and Green Buildings, and also examine whether to require (or provide incentives) for all or a portion of all new development (including residential, commercial, industrial and public) to achieve sustainable/green building standards.

There is a related study issue, (CDD 37 Citywide Solar Energy Plan including Solar Cell Parking Areas) which focuses only on direct energy production and use. This issue (CDD-44) would include more areas including indirect energy use and sustainable practices for all natural resources. These issues, while related, overlap only slightly as this one looks at a broader picture of sustainability and the other focuses on detailed solar energy generation.

2. **How does this relate to the General Plan or existing City Policy?**

Council Policy 1.1.9: *Sustainable Development and Green Buildings*

It is the policy of the City to encourage new and remodeled development within the City to incorporate sustainable design principles in the following disciplines:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere Materials and Resources
- Indoor Environmental Quality

LAND USE AND TRANSPORTATION ELEMENT

Policy C4.4 Encourage sustainable industries that emphasize resource efficiency, environmental responsibility, and the prevention of pollution and waste.

3. **Origin of issue**

Council Member(s) Moylan
General Plan
City Staff
Public
Board or Commission none

4. **Multiple Year Project?** No **Planned Complete Date** 2007

5. **Expected participation involved in the study issue process?**

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Does Council need to approve a work plan? No

Does this issue require review by a Board/Commission? Yes

If so, which?
Planning Commission

Is a Council Study Session anticipated? No

What is the public participation process?
Outreach to commercial, industrial and residential developers, businesses and residents as well as the standard public notification process.

6. **Cost of Study**

Operating Budget Program covering costs
242 Land Use Planning

Project Budget covering costs

Budget modification $ amount needed for study

Explain below what the additional funding will be used for

7. **Potential fiscal impact to implement recommendations in the Study approved by Council**

Capital expenditure range None

Operating expenditure range None

New revenues/savings range None

Explain impact briefly

8. **Recommendation for this calendar year**

Board or Commission ranked this study issue ____ of ____

Board or Commission ranking comments

The Planning Commission selected and ranked study issues before this one was available for comment.

Staff Recommendation None

If 'For Study' or 'Against Study', explain

9. **Estimated consultant hours for completion of the study issue**

Managers

Role	Manager				Hours
Lead	Ryan, Trudi	Mgr CY1:	40	Mgr CY2:	0
		Staff CY1:	220	Staff CY2:	0
Support	Davis, Karen	Mgr CY1:	20	Mgr CY2:	0
		Staff CY1:	0	Staff CY2:	0

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Support	Fatapour, Ali	Mgr CY1:	10	Mgr CY2:	0
		Staff CY1:	30	Staff CY2:	0
Interdep	Berry, Kathryn	Mgr CY1:	15	Mgr CY2:	0
		Staff CY1:	0	Staff CY2:	0
Interdep	Bowers, Mark	Mgr CY1:	10	Mgr CY2:	0
		Staff CY1:	20	Staff CY2:	0
Interdep	Iaquinto, Larry	Mgr CY1:	10	Mgr CY2:	0
		Staff CY1:	0	Staff CY2:	0

Total Hours CY1: 375
Total Hours CY2: 0

Note: If staff's recommendation is 'For Study' or 'Against Study', the Director should note the relative importance of this Study to other major projects that the Department is currently working on or that are soon to begin, and the impact on existing services/priorities.

Reviewed by

for **Department Director** — **Date** 12/4/06

Approved by

City Manager — **Date** 12/4/06

EXISTING POLICY

The following City policies are relevant to a discussion of sustainable development:

In 2004 the City Council adopted a formal policy on Sustainable Development and Green Buildings. The policy statement is:

Council Policy – 1.1.9 Sustainable Development and Green Buildings

> *It is the policy of the City to encourage new and remodeled development within the City to incorporate sustainable design principles in the following disciplines:*
>
> - *Sustainable Sites*
> - *Water Efficiency*
> - *Energy and Atmosphere Materials and Resources*
> - *Indoor Environmental Quality*

This policy includes the requirement that all new City facilities over 10,000 square feet shall include consideration of LEED certification by Council prior to the planning or design of the project. This policy also encourages developers to incorporate green practices.

Although Sunnyvale's policy is in the form of encouragement, there are many other policies and code requirements that are designed to achieve the goals and purpose of a sustainable development program. Following are examples of programs, policies, and ordinances that encourage sustainability and sustainable development in Sunnyvale:

General Plan Community Vision

The City of Sunnyvale conducted a community feedback process in October 2006 as part of a visioning phase of the General Plan update. The process resulted in the City establishing the following Community Values Statement:

> *Sunnyvale is an attractive, safe, environmentally sensitive community which takes pride in the diversity of its people, the innovation of its businesses and the responsiveness of its government.*

The visioning process also resulted in a sustainability policy:

> *"A regional leader in environmental sustainability advocating to reduce dependence on non-renewable resources by providing*

greater transportation options, reducing waste, protecting our natural resources, and promoting alternative energy usage and research. We take environmental preservation and protection seriously and consider how each action will affect Sunnyvale for future generations."

Council Policy – 3.5.1 Energy

Adopted in 2000, the City of Sunnyvale's Energy Policy purpose states that the *"preservation of natural resources through the use of energy efficient activities is of great importance to the citizens and businesses of Sunnyvale."* The policy statement includes:

- *Minimize energy consumption in City operations,*
- *Promote the development of alternative energy resources and support the enhancement of existing technologies,*
- *Utilize alternative energy sources at the Sunnyvale Water Pollution Control Plant,*
- *Support installation of cost-effective energy efficiency measures in municipally owned buildings and facilities,*
- *Support efforts to provide affordable, reliable, diverse, safe, and environmentally acceptable power to the citizens and businesses of Sunnyvale.*

Legislative Advocacy Positions

3.7 Air Quality #10: "Support efforts to improve regulation of greenhouse gases" (adopted 2003).

3.7 Air Quality #12: "Support the development of implementation regulations for the California Global Warming Solutions Act of 2006 (AB 32) to reduce greenhouse gas emissions by 2020. Encourage the Secretary for Environmental Protection and the California Air Resources Board to work in partnership with all sectors of the community to ensure that the implementation regulations do not have a negative, long-term impact on the resources and services provided by the City of Sunnyvale or the California economy" (adopted 2007)

Environmental Procurement Policy

Adopted in 1991, this policy finds that "the preservation of natural resources, reduction of energy use and pollution, reduction of solid waste, and minimization of impact on the environment from City activities benefits all occupants of the City." The policy purpose states the City will "meet its current needs without compromising the ability of future generations to do the same." This policy promotes the green building and supplies industry by targeting City resources to encourage environmentally sustainable business.

In November of 2007, the City Council adopted a Citywide Solar plan which provided incentives for solar installation. The study also approved measures that intend to reduce informational, institutional and financial barriers. A final ordinance is being prepared by staff for City Council adoption.

Solid Waste and Recycling
Council Policy 7.1.6 - Recycled Paper Procurement Policy requires the purchase of recycled paper and paper goods when it is economically feasible to do so.

The Solid Waste Program's mission is to reduce the amount of refuse disposed and to provide reliable, competitively-priced, and environmentally sound services for waste reduction, recycling, and solid waste collection and disposal. An important component of the City's diversion effort is the Sunnyvale Materials Recovery and Transfer (SMaRT) Station and Drop-off Center where recyclables and yard trimmings are sorted, processed and marketed; the remaining garbage is hauled to Kirby Canyon Landfill in San Jose for disposal.

Water Treatment and Usage
Municipal Code Section 12.04.010 provides requirements for water treatment of usage. The Water Pollution Control Plant's mission is to protect public health, safety, property and the quality of the Bay. This is done by treating water from the sewerage system before it is discharged to the Bay. While consistently meeting this goal, the Plant reuses many byproducts of the treatment process. These include:

- producing electricity and mechanical power from waste gases
- recovering heat from engines
- producing an alternative to soil for daily landfill cover or a soil amendment for agricultural and pasture land, and
- supplementing the city water supply by producing recycled water distributed through a separate system for non-potable uses (e.g. landscape irrigation).

Air Quality
The Air Quality Sub-Element's goal is to improve Sunnyvale's air quality and reduce the exposure of its citizens to air pollutants. This improvement is achieved through a series of policies and action statements such as:

- promoting spare the air days and nights
- reducing automobile emissions through traffic and transportation improvements, and

- promoting pedestrian, bicycle and transit modes of travel.

Sustainable Silicon Valley and Carbon Dioxide (CO_2) Emissions
In July 2006 the City Council voted to become a pledging partner of Sustainable Silicon Valley (SSV). Council directed staff to determine a reduction goal for CO_2 emissions, select a baseline year and return with a work plan. Further, Council approved a one year Budget Modification in the amount of $22,800 for SSV dues, labor costs and a one-time consultant cost.

CITY REGULATIONS ON SUSTAINABILITY

California Title 24 Energy Requirements
The State of California has probably the most stringent energy conservation standards in the country. The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated every three years and most recently in 2005. According to California Energy Commission, the standards (along with standards for energy efficient appliances) have saved more than $56 billion in electricity and natural gas costs. It is estimated the standards will save $23 billion by 2013. The California Title 24 energy requirements provide standards for the following building elements:

- Lighting
- Ventilation
- Insulation
- Heating, ventilation, and air conditioning

Sunnyvale Municipal Code (SMC) Requirements

Landscape Practices
Significant changes to the City's landscaping requirements were made in 1990 and 2001. Municipal Code Section 19.38.070 provides landscape standards and requirements.

- At least 20% of a site must be landscaped and at least 20% of a parking lot must be landscaped.
- Water conserving plants are to be installed in 70% of all landscaped areas for most sites.
- New parking lots, trees are to be planted and maintained to ensure that at least 50% of the parking area will be shaded within 15 years which reduces the heat island effect.

Sidewalks in Industrial Areas
In 1971 the City first required sidewalks in industrial subdivisions to assist safety to pedestrians and to help reduce local automobile trips. In 1984 and 1988 the regulations were strengthened to require sidewalks when there was a change in use and new construction. In 2000, the thresholds for requiring installation of sidewalks were strengthened, and the exemptions were limited. Sidewalks are required for:

- Subdivision of land
- New development
- Building additions or reconstruction of 5,000 s.f. or 10% increase (whichever is less)
- Change of use in an existing building when new use has potential to significantly increase pedestrian traffic
- Exemption allowed if cost of sidewalk exceeds 10% of reconstruction or expansion costs

Solar Water Heating
In 1981 the City adopted Municipal Code provisions (Chapter 16.46) requiring installation of solar water heating systems provided that it was cost-effective. Due to the low cost of natural gas, most new development was exempted from the requirements. As a standard practice, however, solar water heating was required for swimming pools of multi-family developments.

Storm Water Runoff
The California Regional Water Quality Control Board issues the National Pollutant Discharge Elimination System (NPDES) permit to establish regulations for stormwater discharges. The purpose of these regulations is to prevent harmful pollutants from being washed by stormwater runoff into streams, creeks and the bay.

The City of Sunnyvale is currently regulated by a NPDES permit through the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Section 12.60 of the Sunnyvale Municipal Code (modified in 2004) details the City's compliance with the NPDES permit. Sunnyvale has implemented the provisions earlier than most other cities covered by the same permit.

The regulations include:

- Discharge prohibitions to the stormwater drainage system.
- Requirements for stormwater pollution prevention through *Best Management Practices (BMPs).*
- A *Stormwater Management Plan (SWMP)* requiring selection, implementation and maintenance of a pollutant removal treatment

system and stormwater BMPs. A SWMP is required for all projects adding or replacing 10,000 sq. ft. or more of impervious surface (i.e. surfaces that prevent the infiltration or passage of water into the soil, such as building rooftops and paved parking lots).

BMPs for a SWMP may include Stormwater Treatment Devices (such as vegetated swales or hydrodynamic devices), Site Design Measures (such as disconnect downspouts or minimize impervious surfaces) or Source Controls (such as beneficial landscaping and covered dumpster areas).

Wood Burning Appliances
In 2001, in order to assist in the protection of air quality, the City adopted amendments to Municipal Code Chapter 8.14 (with a reference in the Zoning Code) that restricts the construction of wood burning appliances and restricts the materials that may be burned in legal wood burning appliances.

Moffett Park Specific Plan - Transportation Demand Management
Transportation Demand Management (TDM) is mandated in the Moffett Park Specific Plan area for all Tier III development. Tier III developments are primarily developments greater than 35% FAR (some exceptions apply). There is a graduated scale for TDM plans.

	TOTAL TRIPS	PEAK HOUR
Up to 50% FAR	20%	30%
>50-60% FAR	22.5%	30%
>60-70% FAR	25%	30%

Moffett Park Specific Plan - LEED Buildings
The LEED program promotes green buildings and sustainability. A point system allows up to 69 points for achievement of specific sustainable measures. A LEED Certified level requires 26-32 points; a LEED Silver development requires 33-38 points, Gold requires 39-51 points and Platinum is achieved with 52-69 points. Neither LEED nor the City mandate specific measures to meet the LEED certification requirements.

- Prior to January 1, 2009, projects utilizing the development reserve are provided an incentive that if they meet the *design intent* of a LEED Certified building a streamlined review process is provided.
- After January 1, 2009, projects utilizing the development reserve are provided an incentive that if they commit to submitting a project to the US Green Building Council for *formal certification* as a LEED Certified building a streamlined review process is provided.

- Starting January 1, 2009 all new development in excess of 10,000 in the Moffett Park Specific Plan must meet the design intent of a LEED Certified building.

Development Incentives in Industrial Zoning Areas

Bicycle Support Facilities

In 1997, the Municipal Code was modified to allow a number of incentives for development in the industrial areas of the city. Most of these are in the form of incentives to streamline the review of higher FAR projects (i.e. no public hearing required).

- Up to 5% additional FAR for the provision of bicycle lockers, showers and lockers (and is exempt from the Housing Mitigation Fee)
- Vehicle parking requirements can be reduced through provision of bicycle parking and/or bicycle support facilities

LEED Certified Buildings (2003)

- Up to 5% FAR for commitment to build a LEED Certified project.

BASIC ELEMENTS OF SUSTAINABILITY

There are several approaches to the sustainable issue that can be addressed at a local level, and specifically by a governmental agency. This report deals with approaches that deal directly with development of property, and include:

Green Buildings

Green Building is the practice of increasing the efficiency with which buildings use resources (energy, water, and materials), while reducing building impacts on human health and the environment. Green Building is achieved through better siting, design, construction, operation, maintenance, and removal.

Natural drainage

Natural drainage is a way for stormwater runoff to infiltrate into the soil where contaminants can be filtered out before the water enters a nearby stream, lake or river. Natural drainage techniques allow water to infiltrate into the ground. These techniques include pervious pavement, terracing, compost-amended soils, rain gardens, and landscaping with native plants.

Community Gardens

Community gardens transform empty lots into green, living spaces. They are collaborative projects created by members of the community. Residents share in both the maintenance and rewards of the garden. There are an estimated 10,000 community gardens within U.S. cities. In 2006, a successful community garden in Sunnyvale was established along Charles street between Iowa Avenue and Olive Avenue

Pedestrian-oriented Development

Development built to accommodate pedestrian activity can have environmental and economic benefits. By reducing the need to travel by vehicle to certain commercial and job-related destinations, impacts to the environment are reduced in the form of pollution and traffic congestion. Furthermore, creating an attractive environment that reduces the needs of a car, can promote health and safety within a community. Effective pedestrian oriented areas can also help people who are economically, physically or socially disadvantaged through improved walking, bicycling and transit conditions.

Solar over Parking

A more recent trend in the use of solar power and generation has been the concept of solar panel installations over parking lots. In addition to providing power, they can also provide shade and protection from rain

and heat. A recently approved project for the Sunnyvale business, Applied Materials, enables the construction of solar panels that covers approximately 140,000 square foot area of parking. Once completed, the system will generate over 2,330 megawatt hours annually, which is the equivalent of powering 1,400 homes. This would rank as the the largest solar power installation on an existing corporate facility in the U.S.

Recycled Water

Recycled water is cleaned wastewater from homes and businesses. Water from sinks, toilets and indoor plumbing goes to a treatment facility. Advanced treatment processes are used to remove bacteria and pollutants. Treated wastewater undergoes extensive testing to ensure that it meets strict standards set by the California Department of Health Services. In Sunnyvale, recycled water is available in the northern portions of the city for landscape on non-residential properties.

Zero Waste

Zero waste is a philosophy that aims to reduce waste to zero. Zero waste maximizes recycling, minimizes waste, reduces consumption and ensures that products are made to be reused, repaired or recycled back into nature or the marketplace.

Live/Work

Live/work is defined as a home which functions both as a place to live and as a place to work. The concept of live/work was a common way of life up until the early decades of the 20th century. The concept of separating land uses eventually became a mainstay in land use planning theory to address issues of overcrowding and pollution. Live/work practices are still mostly found in more urban areas and cities. Many city ordinances are not tailored to accommodate such live-work practices. In Sunnyvale, live/work options are enabled through an existing home occupation ordinance which allows modest-sized businesses to operate in ways that are conducive to residential neighborhoods. Live/work can be considered in other zoning districts through Use Permits. Enabling more flexibility in live/work practices can be seen as a way to reduce impacts to the environment by limiting the need to travel further to work

Sustainable Issues and Practices

Green Building Defined

Green building promotes a whole-systems approach to the planning, design, construction and operation of buildings. This comprehensive approach can benefit communities, residents and businesses by:

- Improving construction quality and increasing building longevity
- Reducing utility, maintenance and infrastructure costs

- Protecting the health of workers and residents
- Enhancing quality of life in our communities
- Supporting manufacturers and suppliers of resource-efficient building products

Green building is one of the fastest growing trends in the building industry. Interest in green building spans the public, private and nonprofit sectors. In addition to protecting the environment, Green Building also promotes the construction of buildings that are safe and healthy for people.

Green Building has financial, social, and environmental benefits. The upfront costs of green buildings have been continually coming down as more designers and builders gain experience with green design. The initial costs of building green are slightly higher on average than standard building costs; however, these costs are offset by the building's lifetime operating cost savings. The health and productivity benefits of green buildings are more difficult to quantify financially, but many studies show that these benefits are important to consider and projections of cost savings are significant. Environmentally, green buildings reduce usage of their communities' natural resources and decrease strain on the local energy and water infrastructure.

Greenhouse Gases (GHG)

Greenhouse gases are the gases present in the earth's atmosphere which reduce the loss of heat into space and therefore contribute to global temperatures through the greenhouse effect. Greenhouse gases are essential to maintaining the temperature of the Earth; without them the planet would be so cold as to be uninhabitable.

In 2006, California passed Assembly Bill (AB) 32, which sets a greenhouse gas (GHG) emissions reduction goal for California. Subsequently, the City Council reviewed a study in September of 2007, which included a plan to reduce carbon dioxide emissions for City operations. This particular study does not directly address greenhouse gases as did previous studies, but does include strategies that when implemented can partly reduce such an impact on the environment.

Alternative Energy Sources

Solar
Solar power is the term used to describe energy derived directly from the Sun. Solar technologies allow for controlled use of this energy resource. Solar power is a synonym of solar energy or refers specifically to the

conversion of sunlight into electricity by photovoltaics, concentrating solar thermal devices and various experimental technologies.

As noted in the "Background" section, the City Council has recently approved a plan that includes solar incentives for the community. Solar energy is one of the many sustainbale methods that can be any utlized as part of a whole sysems approach to green building development.

Wind Power

Wind power is another alternative energy source that could be used without producing by-products that are harmful to nature. Like solar power, harnessing the wind is highly dependent upon weather and location. Many communities across the country have enacted ordinances that allow small wind powered projects. Currently, the city does not have any ordinances that expressly permit such systems. The scope of this study does not include specific considerations for such systems; however the City Oakland, in response to the energy crisis in 2001, adopted provisions to enable an exemption for such renewable energy systems on private property if certain conditions are met. This type of technology is difficult to provide in urban areas due to aesthetic, noise and safety concerns.

Geothermal

Geothermal energy is an alternative energy source, which is generated by heat stored beneath the Earth's surface or the collection of absorbed heat in the atmosphere and oceans. Geothermal energy can be used to generate steam to run a steam turbine. This in turn generates electricity, which is a very useful form of energy. Geothermal energy offers a number of advantages over traditional fossil fuel based sources, primarily that the heat source requires no purchase of fuel. Geothermal sources provided an average of 7.3% of California's electricity._Residences in the U.S. can use geothermal ground source heat pumps (GSHPs) to reduce air conditioning peak loads, winter heating loads, and water heating loads. GSHPs rely on the thermal mass of the earth and subsurface water flows rather than geothermal heat that resides deeper in the earth's crust. There are about 500,000 geothermal heat pumps in use in the U.S. today. It has been considered expensive to install geothermal heat pumps initially, but the long term benefits make it financially and environmentally worthwhile.

Hydroelectricity

Hydroelectricity comes from the damming of rivers and utilizing the potential energy stored in the water. As the water stored behind a dam is released at high pressure, its kinetic energy is transferred onto turbine blades and used to generate electricity. This system has enormous costs up front, but has relatively low maintenance costs and provides power

relatively cheaply. In the United States approximately 180,000 MW of hydroelectric power potential is available, and about a third of that is currently being harnessed.

Bio-fuel

Bio-fuel can be broadly defined as solid, liquid, or gas fuel derived from recently dead biological material, most commonly plants. This distinguishes it from fossil fuel, which is derived from long dead biological material.

SUSTAINABLE PROGRAMS

Santa Clara Cities Association Green Building Collaborative

A collaborative effort was formed by cities in the Santa Clara County and the Silicon Valley Leadership Group, known as the Santa Clara County Cities Association Green Building Collaborative, in June of 2007 to address green building policy. It is a goal of the collaborative to adopt policy that is easy to navigate across jurisdictions and move every city to the path of reducing environmental impacts through green building policy.

1. Recognizing the LEED and Build It Green rating systems as the official green building standards

2. Require the submittal of a completed LEED or GreenPoint Rated checklist with planning or building permit applications

3. Require local cities to adopt a policy for achieving LEED Silver certification or better for all new and renovation public projects over 5,000 square feet.

The second phase of the collaborative effort, which is currently underway, examines a secondary set of policies, practices, and ordinances to be developed for formal adoption as well as expanding the local recommendation to a more regional area in accordance with other counties in the Bay Area. The second phase is expected to be completed within the next four months.

As discussed earlier, it is important to develop a uniform policy amongst local cities to the extent possible in order to further increase effectiveness and growth of green building development. More comprehensive policy from the Green Building Collaborative has yet to be developed; however, basic preliminary policy and practices can be implemented.

National and Regional Efforts

Leadership in Energy and Environmental Design (LEED) is the Green Building Rating System, developed by the U.S. Green Building Council (USGBC), which provides a set of standards for environmentally sustainable construction.

LEED was created to accomplish the following:

- 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

Four levels of LEED certification are possible, depending on the number of criteria met. The base level is Certified, with Silver, Gold and Platinum levels awarded for projects with a higher level of attainment of environmental design and construction.

LEED certification provides independent, third-party verification that a building project meets the highest green building and performance measures. The USGBC awards all certified projects a LEED plaque, which is the nationally recognized symbol demonstrating that a building is environmentally responsible, profitable and a healthy place to live and work.

There are both environmental and financial benefits to earning LEED certification.

LEED-certified buildings:

- Lower operating costs and increased asset value.
- Reduce waste sent to landfills.
- Conserve energy and water.
- Healthier and safer for occupants.
- Reduce harmful greenhouse gas emissions.
- Qualify for tax rebates, zoning allowances and other incentives in hundreds of cities.
- Demonstrate an owner's commitment to environmental stewardship and social responsibility.

The move towards LEED and green building practices has been driven greatly by the tremendous benefits which are a direct result of implementing a green approach. Green buildings use key resources more efficiently when compared to conventional buildings which are simply built to code. LEED is attributed to creating healthier work and living environments, and contributing to higher productivity and improved employee health and comfort. The USGBC has also compiled a long list of benefits of implementing a LEED strategy which ranges from improving air and water quality to reducing solid waste. The fundamental reduction in relative environmental impacts in addition to all of the economic and

occupant benefits goes a long way for making a case for green building. It is also important to note that these benefits are reaped by anyone who comes into contact with the project which includes owners, designers, occupants and society as a whole.

Currently within the industry, green buildings cost more to both design and construct when compared to conventional buildings. These increased costs typically represent initial up front costs which are incurred at the start of the project. However, these initial cost increases can be minimized by the economic gains associated with constructing a LEED certified green building. These economic gains can take the form of anything from productivity gains to decreased life cycle operating costs. Studies have suggested that an initial up front investment of 2% will yield over ten times the initial investment over the life cycle of the building. From this perspective, there is no initial cost. In fact the initial cost is actually an investment.

By acquiring a specified number of points a developer or homeowner is able to qualify their project for recognition as a green project. Many of the existing rating systems have a third party verification system that requires special inspection of targeted green features. This preserves the integrity of the project as green and frees city plan review and building inspection staff to focus on building code issues such as life safety and structural review.

Non-Residential Checklists

LEED checklists are written to rate the environmental attributes and sustainable features of new and renovated commercial and institutional buildings. The LEED system utilizes a list of performance criteria, divided into six categories:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation and Design Process

The following are the checklists and award levels given by LEED:

Categories	Credits
Sustainable Sites	14 points
Water Efficiency	5 points
Energy & Atmosphere	17 points
Material & Resources	13 points
Indoor Environmental Quality	15 points
Innovation & Design Process	5 points
Award Levels	
Total Points = 69	(64 Core + 5 Innovation
LEED Certified	26-32 points
LEED Silver	33-38 points
LEED Gold	39-51 points
LEED Platinum	52+ points

In 2006, the U.S. Green Building Council's (USGBC) LEED green building rating system recorded a 50 percent increase in LEED-registered projects (those intending future certification) and nearly a 70 percent increase in LEED-certified projects (Figure 1). As of November 2007, more than 8,000 projects representing more than 1.5 billion square feet of space had registered under the LEED system and more than 1,100 projects had received certification.

Residential Building Checklists

Indestead of utlizing the recently developed national standard for residential velopment, "LEED for Homes", a more regional rating system, GreenPoint Rated, developed by Build It Green, has been utilized among nearby jurisditions, It is commonly felt that the national program is not as tailored to more specific regional conditions.

GreenPoint Rated is a program of Build It Green, a professional non-profit membership organization, whose mission is to promote healthy, energy and resource-efficient buildings in California. The GreenPoint Rated system is specifically developed to address climate and market conditions in California. Updates to the program are controlled by California decision makers and stakeholders, as opposed to interests throughout the country.

A GreenPoint Rated home is graded on five categories:

- Energy Efficiency
- Resource Conservation
- Indoor Air Quality
- Water Conservation
- Community

If the home meets minimum point requirements in each category and scores at least 50 points, it earns the right to bear the GreenPoint Rated label. It also provides a numerical score, which allows buyers to evaluate and compare the environmental performance of different homes. Because GreenPoint Rated homes are evaluated by independent, certified raters, building professionals and homeowners can feel confident that the rating has integrity and value. Newly constructed single-family homes (custom and production) and multifamily homes in California are currently eligible for participation. Recently a GreenPoint Rated checklist for remodeling and existing homes has been developed and is available.

SUSTAINABLE BUILDING REQUIREMENTS IN VARIOUS CITIES

MUNICIPALITY	EFFECTIVE DATE	BUILDING CATEGORY	THRESHOLD	STANDARD	REQ'D OR ENC'D?	INCENTIVES
Palo Alto	6/2/08	City facilities: new or remodel	< 1,000 sq ft	Min 26 pts from LEED checklist	REQUIRED	No Incentives
			1,000 – 4,999 sq ft	USBC LEED certification	REQUIRED	No Incentives
			> 5,000 sq ft	USGBC LEED Silver certification	REQUIRED	No Incentives
	6/2/08	Non-residential	New construction ≥ 25,000 sf	LEED Silver required and LEED/USGBC verification	REQUIRED	No Incentives
	6/2/08	Non-residential	New construction ≥5,000 sq ft and < 25,000 sf	LEED Silver required and threshold by LEED AP	REQUIRED	No Incentives
	6/2/08	Non-residential	New construction ≥500 sq ft and < 5,000 sf	LEED Pro-rated points	REQUIRED	No Incentives
	6/2/08	Non-residential	Renovation ≥ 5000 sq ft and ≥ 50% of building sq ft and ≥ $500,000 valuation	LEED certified (26 points)	REQUIRED	No Incentives
	6/2/08	Non-residential	Other renovation ≥ $100,000 valuation	Submit checklist; include on building plans	REQUIRED	No Incentives
	6/2/08	MFR	3 or more units: new	Multifamily GreenPoint Checklist with minimum of 70 points	REQUIRED	No incentives
	6/2/08	MFR	Additions and/or renovations ≥ $100,000	Multifamily green point checklist must be submitted and included on building plans	REQUIRED	No incentives

MUNICIPALITY	EFFECTIVE DATE	BUILDING CATEGORY	THRESHOLD	STANDARD	REQ'D OR ENC'D?	INCENTIVES
	6/2/08	SFR	Additions < 1250 sq ft and/or renovations ≥ $75000	Single-family Green Point Checklist, 70 points required	REQUIRED	No incentives
	6/2/08	SFR	Additions < 1250 sq ft and/or renovations ≥ $75000	Single-family Green Point Checklist, 70 points + 1 point per additional 70 sq ft (150 points maximum)	REQUIRED	No incentives
	6/2/08	SFR	New Construction of ≥ 2550 sq ft	LEED Silver	REQUIRED	No incentives
San Jose	8/94	General Plan	City-wide	"The Sustainable City Major Strategy"	REQUIRED	*Incorporates City's Goals and Policies on Green or Sustainable building.
	7/1/02	City facilities	>10,000 sq ft new	LEED Certified	REQUIRED	
	7/1/07	City facilities	>10,000 sq ft new or major remodel	Min. LEED Silver w/ goal of LEED Gold or Platinum	REQUIRED	
San Francisco	5/18/04	City facilities	>5,000 sq ft new or major renovations	LEED Certified (Silver)	ENCOURAGED	"Resource Efficiency Requirements & Green Building Standards Ordinance"
	9/28/06	All Buildings	All Permits	LEED Certified (GOLD)	ENCOURAGED	If building meets or exceeds GOLD standard, will receive expedited review in Planning, Building and Public Works.
	2005	Residential			ENCOURAGED	Endorses the California Model Green Home Building Guidelines

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MUNICIPALITY	EFFECTIVE DATE	BUILDING CATEGORY	THRESHOLD	STANDARD	REQ'D OR ENC'D?	INCENTIVES
	Other Efforts Task Force recommended a phased approach with an immediate target of LEED Certified, which would increase to LEED Gold by 2012.					
	Other Efforts ▪ Green Building Task Force to develop expanded green building standards for major new private developments					
Berkeley	2001	City-wide		(see below)	REQUIRED	Green Building Initiative
	2001	City Facilities	All New	LEED Certified	ENCOURAGED	Possible incentives include lower parking requirement and expedited building permit process.
	2001	Private Development	All New (Major Only)	LEED Certified	ENCOURAGED	(Same as previous)
	--	Commercial, Industrial, MFH	5,000 sf and owner has not filed for building permit yet	BiG Certified	ENCOURAGED	Berkeley's Best Builders: Free Introductory Consultations on design, technology and materials. Only certain projects receive design assistance.
	Other Efforts ▪ Possible Awards Program for Green Buildings, Businesses, etc. ▪ Tax Credits and other incentive programs for Residents/Businesses "greening" or reducing their energy usage. (PG&E, California Energy Commission, etc.) ▪ Tax Deduction of up to $1.80 per square foot is available to owners or tenants of new or existing commercial buildings that are constructed or reconstructed to save at least 50% of the heating, cooling, ventilation, water heating, and interior lighting energy cost. This also applies to the designers in the case of government owned buildings.					
Oakland	1998	City-Wide			REQUIRED	Sustainable Community Development initiative

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MUNICIPALITY	EFFECTIVE DATE	BUILDING CATEGORY	THRESHOLD	STANDARD	REQ'D OR ENC'D?	INCENTIVES
	2000	City Facilities	Selected buildings with city-invested money	Green Building Design Guidelines	REQUIRED	Establishes green building (e.g. sustainable site development, water savings, energy efficiency materials selection and indoor environmental quality) requirements for certain city projects
	2005	Private Development	>50 Units or 50,000 square feet of commercial space	LEED Certification (SILVER)/ GreenPoint Rated project with a minimum score of 75 points, or a pledge in writing to work towards one of those	ENCOURAGED	Major Project status and expedited planning review
	2005	MFH	New	LEED Certification (SILVER)	ENCOURAGED	Expedited permit process & rebates
Santa Cruz	8/1/08	Residential	> 350 sf. (remodel/addition) any new home	Green Home Points Checklist	REQUIRED	No incentives,
	8/1/08	Non-Residential	>1,000 sf. (Does not apply to interior-only changes of any size)	Non-Residential Green Points Checklist	REQUIRED	Same as above
Mountain View	3/25/2008	Residential	New construction of more than 1 unit	LEED or Green Point Checklist	REQUIRED	No incentives
	3/25/2008	Non-residential	New commercial / industrial building	LEED or Green Point Checklist	REQUIRED	No incentives
Santa Rosa					REQUIRED	
Pasadena	4/15/06	Public / Private	New	"Green Building Regulations"	REQUIRED	

No extensive sustainable/green building programs/requirements in the following South Bay Area cities: Campbell, Cupertino, Gilroy, Los Gatos, Milpitas, Saratoga, Santa Clara

SUSTAINABLE GUIDELINES FRAMEWORK

Incentives, Requirements and Financial Options

City requirements can provide for the opportunities for private development to include sustainable elements, but ultimately, the developer needs to incorporate those aspects into a project. In order to be the most successful in accomplishing these goals, **incentives**, **requirements** and **financial** options can be provided. The following is a list of possible tools to use to meet sustainability goals:

Incentives

A primary goal of the expanded sustainability program is to increase motivation within the private sector to develop high performance buildings that can serve as examples for future projects. Providing incentives for the design of LEED certified construction reinforces the City's commitment to improving the quality, cost effectiveness, and safety of the built environment while reducing the effects on the environment. At the same time, incentives should not compromise existing ordinances that are in place to protect neighborhoods. The following incentives could promote sustainability within the private sector of the City.

A. Bonus Floor Area Ratio (F.A.R.)

One of the main tools that other cities use as an incentive for green building development is to provide an increased Floor Area Ratio (FAR) for projects that meet specified thresholds. As stated in ""Existing Policy" section of this report, the City already has provisions for increased F.A.R. (+5%) for industrial development that achieves LEED Certification. The City has only received 1 application since establishing this incentive in 2004. A consideration could be given to increase and spread this incentive to other types of development. Increasing the bonus FAR to 10% could be a more valuable incentive for developers and property owners to implement green building design. Added density would most likely result in increased traffic impacts, which would need to be evaluated on a case by case basis. Similar to development approved for increased FAR in the Moffett Park Specific Plan area, a Traffic Demand Management (TDM) program is desirable to address these issues.

Increasing the bonus FAR to 10% could be a more valuable incentive for developers and property owners to implement green building design. Added density would result in increased capacity for employees; therefore, traffic impacts would need to be evaluated on a case by case basis.

B. Density

An incentive for homebuilders is the ability to be given a density bonus. This incentive would apply to multifamily projects that meets a certain level of BIG points. All zoning standards would have to be met including parking and useable open space, but any bonus units would allow an increase over the allowable density for that specific zoning district.

C. Height Exception and/or Reduced Setbacks

Another incentive that can be considered would be to enable an exception to height requirements and/or reduced setbacks for new development. Similar to what can be considered through a Special Development Permit, an exception to such zoning standards could be given for a certain level of sustainable development without approval of a Variance. Exceptions to these zoning standards may be seen as sacrificing compatibility and appropriate site design which could have a greater impact to the specific neighborhood.

D. Additional Sign Allowance

An additional incentive that the City could institute would be to enable additional allowances for signage on commercial property. This incentive could be seen as valuable for commercial properties that are concerned with visibility. Signage which makes reference to its sustainable features and provides visibility to the business could be explored. A current study that is being undertaken by staff is already exploring flexibility within the sign code. Limits to the amount of sign area should ensure that community values for an appropriate amount of signage are not sacrificed.

E. Flexible parking standards with Transportation Demand Measures and/or Parking Management Plans

In many cases, the leasing market determines how many parking spaces are provided at an office, industrial or commercial project, but often a developer or business owner wants to change the number of parking spaces in a way that does not meet the Zoning Code requirements. In those cases, an incentive for building a green building could be that the number of parking spaces could be changed, provided a Transportation Demand Management or Parking Management Plan is prepared to describe how the parking and traffic demands would be met.

F. Expedited Permit Process

Many cities have implemented some form of an expedited permit review process for those projects that intend LEED certification and sustainable practices. Developers have noted this incentive as an especially valuable tool to help move projects forward and save money. The City of Sunnyvale has always prided itself for streamlined review for all types of building construction, and has already placed a high priority on

customer response and project coordination amongst the various City departments, so it is unclear how much faster a project could be expedited in the City.

G. Reduced Fees
The City could explore reducing fees for sustainable projects. Property owners and developers have expressed a desire for this incentive. Instead or reducing current fees, consideration could be given to raise current fees for specific permits and allow new sustainable development to pay the current rate for permits.

H. Public Recognition/Award
A common incentive that has been utilized by many cities that have adopted sustainable programs and policies is the use of marketing incentives such as awards and public acknowledgement (through press releases and the City Web site). Such recognition can help create a competitive environment for developers and prospective businesses to achieve more sustainable redevelopment.

I. City-provided technical and design services
At this time, even though there is tremendous interest in the sustainable field, there are a lot of unknowns and lack of information regarding how to accomplish the goals. This incentive would provide city-trained personnel or outside consultants for the public's use to assist in establishing design features or in determining the best method to accomplish the goals.

J. Requiring formal LEED or BIG certification for projects that do not take advantage of the modified zoning standards
Buildings can be built to LEED or BIG standards without actually being certified as such by those organizations. It is understood that the LEED certification process is lengthy. It is possible to allow developers to build to a higher standard without having to receive formal certification. Instead, a 3rd party review would be required to ensure all aspects of the green building are met.

Requirements

A. LEED Standards
Establish high level LEED standards (Gold and Platinum) for any project that is new, remodeled or for tenant improvements greater than 5,000 square feet in size for office and industrial buildings.

B. Build It Green (BIG) Standards
Requiring new and remodeled residential buildings over 1,500 square feet to incorporate the Build It Green (BIG) standards.

C. Reducing F.A.R.

The City of Sunnyvale could consider reducing existing Floor Area Ratio allowances for non-green buildings and allowing those that incorporates sustainable or LEED rated construction to be built to current levels (or higher). For example, the FAR level can be reduced from 35% to 30% for non-green buildings while those meeting a specific LEED level could build to 35-40% FAR. This would allow a higher probability that development square footage would not exceed those envisioned by the General Plan (where allowing higher FAR for all sustainable buildings could raise the development level beyond the General Plan assumptions). This modification would also result in many cases of legal non-conformity for a number of properties in the City but may be a more conservative approach that sacrifices less in terms of development density and compatibility.

D. Raise Green Building Levels Over Time

Establishing LEED or BIG standards that become more stringent over time as cost comes down and practices become more widespread. Sustainability measures could change from an incentive in 2009 to a requirement in 2010 as technology progresses and costs come down.

Possible Financial Tools

A. Sustainability Fee

Requiring all projects to pay a "sustainability fee" would provide the collection of money to be used for other programs. A requirement could be instituted to require developers to contribute to a Green Building Fund. Further research could be conducted to establish an appropriate rate. For example, a $.03 per square feet could be required for new development over a specific size, and if projects are built to a LEED Certified (or higher level), they would receive a refund of their contribution. A Green Building Fund could be used by the City to provide additional education resources for the community and Staff training.

B. Tax Incentives and/or Grants

Various cities have utilized tax incentives and/or grants as a way of garnering interest from private developers for sustainable development. Grants or other tax incentives can allow green builders to overcome possible early cost/investment barriers to new technologies and practices. Subsequently, it can result in an increasing market share of green buildings and technologies. As the market share for green buildings increases, the barriers to these practices will decrease and this incentive will no longer be needed.

D. Property Tax

Various Cities across the country have offered incentives through tax reductions or exemptions for LEED construction. Tax rebates are already offered from utility companies such as PG&E. Local jurisdictions have offered specific tax exemptions for varying amounts of time for those development that achieve certain levels of LEED certification. The City of Sunnyvale could consider this incentive, upon significant study to research the financial implications that would be involved to undertake such a program.

E. Assessment District

Some cities (such as Berkeley) have created alternative methods to assist property owners to incorporate sustainable elements into their projects. One option is to include allowing specific improvements to be included on a tax bill to be paid off over 10 years or more. Another method is to create assessment districts in the City that allows improvements in a neighborhood to be paid back over time through specific tax assessments.

F. Loan Programs

The Governor of California recently signed a bill authorizing cities to provide loans to property owners to assist them in installing sustainable energy sources and energy efficiency programs to their properties through loans that be repaid through assessments collected on property tax bills.

Considered Phasing of Sustainability Requirements and Incentives
Intitial Phase January 1, 2009

Private Commercial /Industrial/Office

THRESHOLD	STANDARD				REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic			Advanced			
500 - 5,000 sq ft new or remodel	Min LEED Certified Level, provide checklist				ENCOURAGED		1/1/2009
>5,000 sq ft and <50,000 sq. ft. –new or remodel		Min LEED Certified Level, provide 3rd party approved checklist			REQUIRED		1/1/2009
>5,000 sq ft and <50,000 sq. ft. –new or remodel			Min. LEED Silver Level, provide 3rd party approved checklist		ENCOURAGED	10% Bonus F.A.R, additonal building height	1/1/2009
>50,000 sq.ft.- new or remodel			Min. LEED Silver Level, provide 3rd party approved checklist		REQUIRED		1/1/2009
>50,000 sq.ft.- new or remodel				Min. LEED Gold Level, provide 3rd party approved checklist	ENCOURAGED	10% Bonus F.A.R , additional building height	1/1/2009

Public Facility

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
>5,000 sq ft and <25,000 sq. ft. – new or remodel	Min LEED Certified Level		REQUIRED		1/1/2009
>25,000 sq.ft.- new or remodel		Min LEED Silver Level	REQUIRED		1/1/2009

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Considered Phasing of Sustainability Requirements and Incentives
Intitial Phase January 1, 2009

Multi-Family Residential

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
Additions or Renovations to Multi-family	B.I.G .Checklist		REQUIRED		1/1/2009
3 or more units	B.I.G .Checklist with min 70 points		REQUIRED		1/1/2009
3 or more units		B.I.G. Checklist with min 100 points	ENCOURAGED	Height exception, 5% bonus lot coverage or density bonus	1/1/2009

Single-Family Residential & Duplex

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
<1,500sq.ft. new home or addition	B.I.G .Checklist		REQUIRED		1/1/2009
>1,500sq.ft. new construction	B.I.G .Checklist with min 70 points (reviewed by certified rater)		REQUIRED		1/1/2009
>1,500sq.ft. new contruction		B.I.G. Checklist with min 100 points (reviewed by certified rater)	ENCOURAGED	Bonus 5% lot coverage	1/1/2009

***Projects greater than 50,000 s.f. required USGBC Verification**

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Considered Phasing of Sustainability Requirements and Incentives

July 1, 2010 Implementation

Private Commercial /Industrial/Office

THRESHOLD	STANDARD			REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced				
500 - 5,000 sq ft new or remodel	Min LEED Certified Level, provide checklist			REQUIRED		1/1/2010
>5,000 sq ft and <50,000 sq. ft. –new or remodel *		Min LEED Silver Level, provide 3rd party approved checklist		REQUIRED		1/1/2010
>5,000 sq ft and <50,000 sq. ft. –new or remodel *			Min. LEED Gold Level, provide 3rd party approved checklist	ENCOURAGED	10% Bonus F.A.R., additional building height	1/1/2010
>50,000 sq.ft.- new or remodel *			Min. LEED Gold Level, provide 3rd party approved checklist	REQUIRED		1/1/2010

Public Facility

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
>5,000 sq ft and <50,000 sq. ft. – new or remodel	Min LEED Silver Level		REQUIRED		1/1/2010
>50,000 sq.ft.- new or remodel		Min LEED Gold Level	REQUIRED		1/1/2010

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Considered Phasing of Sustainability Requirements and Incentives

July 1, 2010 Implementation

Multi-Family Residential

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
Additions or Renovations to Multi-family	B.I.G .Checklist		REQUIRED		1/1/2010
3 or more units	B.I.G .Checklist with min 100 points		REQUIRED		1/1/2010
3 or more units		B.I.G. Checklist with min 140 points (maximum level)	ENCOURAGED	Height exception or 5% bonus lot coverage	1/1/2010

Single-Family Residential & Duplex

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
<1,500sq.ft. new home or addition	B.I.G .Checklist		REQUIRED		1/1/2010
>1,500sq.ft. new construction	B.I.G .Checklist with min 100 points (reviewed by certified rater)		REQUIRED		1/1/2010
>1,500sq.ft. new contruction		B.I.G. Checklist with min 140 points (reviewed by certified rater)	ENCOURAGED	Bonus 5% lot coverage	1/1/2010

***Projects greater than 25,000 s.f. required USGBC Verification**

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Considered Phasing of Sustainability Requirements and Incentives

January 1, 2012 Implementation

Private Commercial /Industrial/Office

THRESHOLD	STANDARD			REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced				
500 - 5,000 sq ft new or remodel	Min LEED Silver Level, provide checklist			REQUIRED		1/1/2012
>5,000 sq ft and <50,000 sq. ft. –new or remodel *		Min LEED Gold Level, provide 3rd party approved checklist		REQUIRED		1/1/2012
>5,000 sq ft and <50,000 sq. ft. –new or remodel *			Min. LEED Platinum Level, provide 3rd party approved checklist	ENCOURAGED	10% Bonus F.A.R., additional building height	1/1/2012
>50,000 sq.ft.- new or remodel *			Min. LEED Platinum Level, provide 3rd party approved checklist	REQUIRED		1/1/2012

Public Facility

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
>5,000 sq ft and <50,000 sq. ft. – new or remodel	Min LEED Gold Level		REQUIRED		1/1/2012
>50,000 sq.ft.- new or remodel		Min LEED Platinum Level	REQUIRED		1/1/2012

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Considered Phasing of Sustainability Requirements and Incentives

January 1, 2012 Implementation

Multi-Family Residential

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
Additions or Renovations to Multi-family	B.I.G .Checklist		REQUIRED		1/1/2012
3 or more units	B.I.G .Checklist with min 100 points		REQUIRED		1/1/2012
3 or more units		B.I.G. Checklist with min 140 points (maximum level)	REQUIRED		1/1/2012

Single-Family Residential & Duplex

THRESHOLD	STANDARD		REQ'D OR ENC'D?	INCENTIVES	EFFECTIVE DATE
	Basic	Advanced			
<1,500sq.ft. new home or addition	B.I.G .Checklist		REQUIRED		1/1/2012
>1,500sq.ft. new construction	B.I.G .Checklist with min 100 points (reviewed by certified rater)		REQUIRED		1/1/2012
>1,500sq.ft. new contruction		B.I.G. Checklist with min 140 points (reviewed by certified rater)	REQUIRED		1/1/2012

***Projects greater than 25,000 s.f. required USGBC Verification**

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