



Agenda Item #: \_\_\_\_\_

# Staff Report

## City of Manhattan Beach

**TO:** Honorable Mayor Cohen and Members of the City Council

**THROUGH:** Geoff Dolan, City Manager

**FROM:** Richard Thompson, Director of Community Development  
Carol Jacobson, Building Official  
Sona Kalapura, Environmental Programs Manager

**DATE:** March 17, 2009

**SUBJECT:** Consideration of Environmental Task Force Green Building Recommendations for Municipal Buildings and Large Non-Residential Construction.

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### **RECOMMENDATION:**

Staff recommends that the City Council direct staff to prepare amendments to Manhattan Beach Municipal Code Title 9 Building Regulations to require U.S. Green Building Council "Leadership in Energy and Environmental Design" (LEED™) certification for municipal buildings and for large non-residential construction as recommended by the Environmental Task Force.

### **FISCAL IMPLICATION:**

Based on a review of several industry reports, there may be an initial cost impact to developers of 1%-3% by requiring LEED Silver certification and 2%-6% for LEED Gold. However, the associated benefits (such as energy savings) must also be considered. LEED-rated buildings have shown to obtain higher rents, quicker sales and higher occupancy rates. Payback time periods are difficult to generalize due to the many variables of the construction costs, but approximately 3 to 5 years is a common estimate. This can be a significant return on investment when considering the longer lifespan of public and many non-residential buildings. Additionally, there will be some nominal costs associated with staff training and public workshops to educate and gain the support of the construction community.

### **BACKGROUND:**

#### Environmental Task Force

In June, 2008 City Council decided to form a resident-based Environmental Task Force (Task Force) to study environmental issues of priority to the community. Staff solicited applications and on September 2, 2008. Council reviewed these applications and selected 14 residents to serve on the Task Force. Council then appointed two representatives to the Task Force, Mayor Portia Cohen, and Mayor Pro Tempore Mitch Ward. The remaining positions were appointed by the MB Unified School District, including Amy Howorth School Board Member, and two student representatives.

The 19-member Environmental Task Force had its first meeting on October 15, 2008, and divided into four subcommittees to tackle priority environmental issues identified by City Council: the Development of a Climate Action Plan; Water Conservation and Storm Water Management Issues; Waste Reduction and Recycling; and Sustainable ("Green") Design. Since this first meeting the Task Force subcommittees have made significant progress on the goals and tasks identified so far.

Each group has made status report presentations to the entire Task Force, and has begun presenting their recommendations on environmental solutions to the City's challenges for Task Force approval. Once the Task Force has approved a set of recommendations, they will be presented to City Council for review and approval. Council can then provide Staff with direction on how to carry out the recommendations.

Green Building Subcommittee

The subcommittee on Sustainable Design (Green Building) is comprised of three residents: Casey Beyer, Ben Burkhalter, and Chris Conaway, each bringing unique insight and expertise in the sustainable design, architecture, and energy efficiency areas (see Exhibit A). City Staff provide support to the Subcommittee as well, including Community Development Director, Richard Thompson; Carol Jacobson, Building Official, and Michael Rocque, Assistant Planner.

To achieve the goals in the group's mission statement (See Exhibit A) the Green Building Subcommittee has developed a four-pronged approach to sustainable development for the City of Manhattan Beach. The first two areas, dealing with public buildings and large non-residential construction, are being considered at this meeting. The next two parts will include recommendations for new residential construction as well as sustainable practices and requirements for all construction that are attainable and reasonable for Manhattan Beach. These additional regulations would include concerns regarding storm water retention and landscaping, which are part of the City Council's Work Plan. These recommendations will be presented to City Council at a later meeting.

The Green Building Subcommittee has developed recommendations that are best suited for the environment in Manhattan Beach. The first two recommendations on LEED standards for public and large non-residential construction have been vetted with City staff, and by unanimous vote of the Environmental Task Force. The Subcommittee also conducted a focus group session with local developers to gather some information and feedback on the practicality of all four of the group's initial recommendation areas, any challenges, and suggestions for improvement. The discussion focused more on residential construction issues, which are being developed by the Subcommittee and will be presented to City Council at a later date.

If the City Council approves the recommendations on LEED certification, staff would prepare an ordinance detailing these recommendations that would amend the Municipal Code Title 9 Building Regulations. The draft ordinance would be presented to City Council for their review and approval.

**DISCUSSION:**

LEED Standards

Leadership in Energy and Environmental Design (LEED) is the most universally recognized non-residential third-party green building rating system. This system has four levels—Certified, Silver, Gold, and Platinum—that can be achieved by earning a series of points from five categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality. See Exhibit C - LEED Project Checklist.

In California, 44 municipalities and counties have green ordinances – 41 with LEED requirements. Examples of these jurisdictions include: Berkeley, Burbank, Costa Mesa, Long Beach, Los Angeles, Los Angeles County, Pasadena, San Bernardino County, Santa Monica, and West Hollywood. Furthermore, the State of California is requiring a LEED Gold standard for all its new facilities.

The Green Building Subcommittee has reviewed the ordinances across the State to better understand what measures are successful in other cities, and what may work best in Manhattan Beach. The Green Building Subcommittee’s recommendations for public and large non-residential construction through the Environmental Task Force are:

- Public municipal and publicly-funded projects and renovations of 5,000 square feet or more shall be LEED Gold certified or better; and
- Private new non-residential projects of 10,000 square feet or more shall show LEED Silver equivalence or better, attested to by a LEED Accredited Professional.

Through the Subcommittee’s research and discussion, they came to the conclusion that LEED Silver certification for municipal projects is considered easily obtainable with an experienced LEED Accredited Professional (AP). Therefore, the LEED Gold requirement for municipal projects shows a level of leadership the Subcommittee felt was in line with the City of Manhattan Beach’s environmental goals.

For large non-residential projects, the Subcommittee concluded that LEED Silver equivalence, not certification, would be sufficient for projects of 10,000 square feet or more. Certification delays and documentation costs may discourage project developers. Most jurisdictions do not require full certification for private developments; instead utilize random checks (similar to the City of Los Angeles) or the “honor” system. However, the LEED Silver equivalence would have to be attested to in the permit application by a LEED Accredited Professional and compliance checked before issuance of occupancy permit. In the future, third-party verification may possibly be considered.

Cost Impact of LEED Standards

There are several LEED cost impact studies such as the 2007 Davis Langdon Cost of Green Revisited, The Cost & Benefit of Achieving Green Buildings also by Davis Langdon, the 2004 U.S. General Services Administration LEED Cost Study by Steven Winter, the 2003 Seattle Cost Benefit Analysis LEED Silver, and the 2003 Cost Benefit of LEED to the State of California.

LEED Gold is considered the “tipping point” in the various cost-impact studies on sustainable development. The 2003-2004 studies showed an approximate 2% cost premium for Silver and

between 2% to 6% premiums for Gold certifications. However, according to the 2007 Davis Landon study, there is now:

“...no significant difference in average costs for green buildings as compared to non-green buildings...the broad trend is that the green buildings are indistinguishable from the greater population on a cost basis.”

Additionally, the Subcommittee found that the return on investment is significant for institutions that hold on to their buildings for longer periods of time, such as for public structures. This results in greater savings to taxpayers over the full life of the building.

**CONCLUSION:**

Staff recommends that City Council approve the recommendations of the Environmental Task Force, and direct staff to prepare amendments to the Manhattan Beach Municipal Code Title 9 Building Regulations to require LEED certification for municipal buildings and large non-residential construction.

Attached is a copy of the Power Point, which will be presented by the Chairperson of the Green Building Subcommittee, Chris Conaway.

- Exhibits:
- A. Green Building Subcommittee Member Background and Subcommittee Goals
  - B. Power Point of 3-17-09 presentation
  - C. LEED Project Checklist

## **Exhibit A. Green Building Subcommittee Member Background and Subcommittee Goals**

### Member Background

The subcommittee on Sustainable Design (Green Building) is comprised of three residents: Casey Beyer, Ben Burkhalter, and Chris Conaway, each bringing unique insight and expertise in the sustainable design, architecture, and energy efficiency areas. City Staff provide support to the subcommittee including the Community Development Director, Richard Thompson; Carol Jacobson, Building Official; and Michael Rocque, City Planner.

The subcommittee is chaired by Chris Conaway, a LEED AP architect with the international design firm NBBJ in Los Angeles. Chris has been involved with the sustainable design movement since the early 1990s and has just completed his 6<sup>th</sup> LEED certified building project.

Casey Beyer is an independent consultant with Liebman and Associates, a Washington, D.C. based firm that provides energy and environmental technology consulting to the nation's leading companies. Ben Burkhalter is an architect with offices located in Manhattan Beach, with a specific focus on energy-efficient design. Ben is currently working on a case study project for a LEED Gold rated single-family residence.

### Green Building Subcommittee Mission Statement

The Green Building Subcommittee developed a working mission statement:

- To identify environmentally responsible, sustainable and energy efficient policies for constructing, renovating and occupying the built environment;
- To develop and make recommendations to City Council that will lead towards a healthy and sustainable city; and
- To educate and promote programs that increase awareness and incentivize sustainable building practices.



March 17, 2009

Green Building Subcommittee

RICHARD THOMPSON

CAROL JACOBSON

MICHAEL ROCQUE

BEN BURKHALTER

CASEY BEYER

CHRIS CONAWAY

SONA KALAPURA

# Green Building Subcommittee

- 1) Comprehensive Recommendations
  - a. Public and Publicly Funded projects and renovations (Municipal)
  - b. Private Commercial Developments over 10,000 SF

Manhattan Beach Environmental Task Force  
Green Building Subcommittee



# Why Green Building?



## 1) Curb Climate Change

Cut GHG Emissions (CO<sub>2</sub>)

280 ppm = background rate

385 ppm = current level

450 ppm = tipping point

350 ppm = return target

## 2) Conservation of Limited Resources

Energy, Water, Materials

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# Why Green Building?

3) Save Money/Increase Value

Energy and Water Efficiency Paybacks

4) Serve The Public Good

Responsible Use of Taxpayer Dollars

5) Lead by Example

Enhanced Reputation & Marketability

6) Create Healthy Environments

Improved Occupant Health, Productivity,  
Retention, Sales, Test Scores, etc

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# Why Green Building?

## 7) New State Regulations

Assembly Bill 32 (2006)

Global Warming Solutions Act

California Green Building  
Code (2011)

Water Conservation  
Mandates

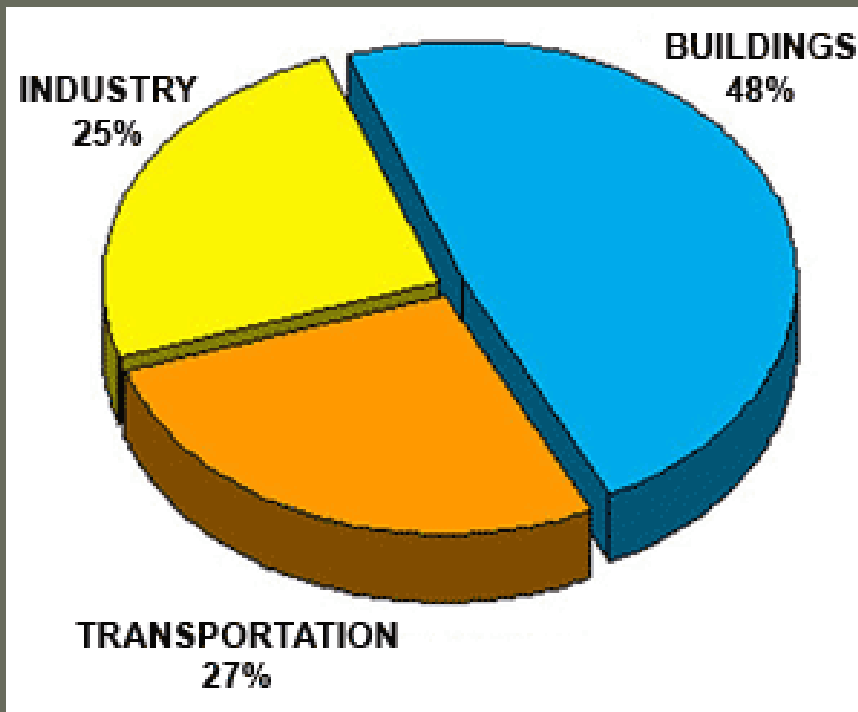


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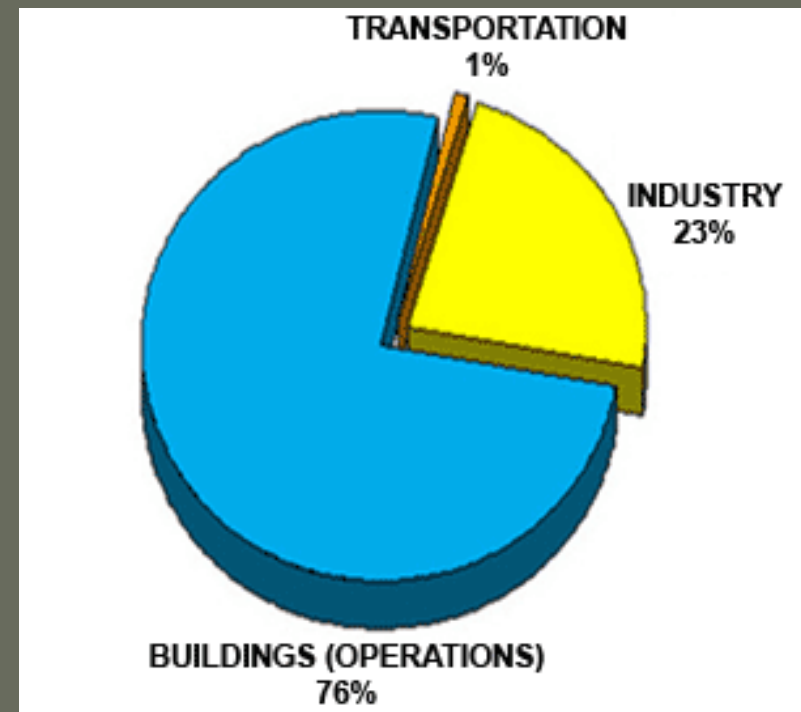


# Building Industry Responsibility

## All GHG Emissions



## Electricity Use



Source: Architecture 2030

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# Methods to Green Building

- U.S. Green Building Council's 'LEED' is the most universally recognized non-residential 3<sup>rd</sup> Party Rating System
- **186 Localities**, 31 States, 12 Federal Agencies, 15 Public Schools, 39 Higher Ed are adopters as of 2/09
- **1,236** projects registered to the Fed
- **1,527** registered to state governments
- **2,310** registered to local governments.

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# What Others Are Doing

In California, 44 Municipalities & Counties have  
Green Ordinances, 41 with LEED:

Alameda	Dublin	Pasadena	Santa Clarita
Alameda Co.	Hayward	Pleasanton	Santa Cruz
Albany	Irvine	Rohnert Park	Santa Monica
Anaheim	Livermore	Sacramento	Santa Rosa
Berkeley	Long Beach	San Bernardino Co.	Sebastopol
Brisbane	Los Altos	San Diego	Stockton
Burbank	Los Angeles	San Francisco	Sunnyvale
Calabasas	L.A. County	San Jose	Temecula
Chula Vista	Monterey	San Mateo Co.	Union City
Costa Mesa	Oakland	San Rafael	West Hollywood
Cotati	Palo Alto	Santa Clara	Windsor

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# What Others Are Doing

- LEED certifies buildings by performance level : Certified, Silver, Gold, Platinum
- State of California is requiring **LEED Gold** on all their new facilities.
- All 50 new “Measure J” LACCD projects have a goal of **LEED Platinum** and a campus goal of **NET ZERO ENERGY.**

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# 1a. Public Facilities



All new public facilities or publicly funded projects, of 5,000 SF or more of new construction or renovation, shall attain **LEED GOLD** certification or better.

*Because in MB, we play above the net.*

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Green Building Subcommittee



# 1b. Large Private Development

All new private projects, of 10,000 SF or more of new construction or renovation, shall show **LEED SILVER** equivalence or better, attested to by a LEED Accredited Professional.



*Because we need everyone to pitch in.*

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# LEED Cost Impact Studies

- 2003 BNIM Hewlett Packard Study
- 2003 Cost Benefit of LEED to State of CA
- 2003 Seattle Cost Benefit Analysis LEED Silver
- 2004 Davis Langdon: Cost of Green
- 2004 GSA LEED Cost Study by Steven Winter
- 2007 Davis Langdon: Cost of Green Revisited
- 2007 LEED Cost Benefit for Hawaii Schools
- 2007 Davis Langdon CBA for USGBC
- 2008 Deloitte: Dollars & Sense of Green Retrofits

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# LEED Cost Impact Studies

- 2003-04 Studies showed approximately 2% for Silver and 2%-6% premiums for Gold
- 2007 Studies show “added” cost factor now “indistinguishable” - perception of cost changing with market transformation
- Other cost factors significantly outweigh “green” factors in \$/SF of buildings
- Payback is significant for institutions that hold onto their buildings (result is savings to taxpayer over full life of building)

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# Recap

All new public facilities or publicly funded projects, of 5,000 SF or more of new construction or renovation, shall attain **LEED GOLD** certification or better.

All new private projects, of 10,000 SF or more of new construction or renovation, shall show **LEED SILVER** equivalence or better, attested to by a LEED Accredited Professional.

Manhattan Beach Environmental Task Force  
Green Building Subcommittee





**LEED-NC Version 2.2 Registered Project Checklist**

<< enter project name >>

<< enter city, state, other details >>

Yes ? No

**Sustainable Sites** 14 Points

Y	Prereq 1	<b>Construction Activity Pollution Prevention</b>	Required
	Credit 1	<b>Site Selection</b>	1
	Credit 2	<b>Development Density &amp; Community Connectivity</b>	1
	Credit 3	<b>Brownfield Redevelopment</b>	1
	Credit 4.1	<b>Alternative Transportation</b> , Public Transportation Access	1
	Credit 4.2	<b>Alternative Transportation</b> , Bicycle Storage & Changing Rooms	1
	Credit 4.3	<b>Alternative Transportation</b> , Low-Emitting and Fuel-Efficient Vehicles	1
	Credit 4.4	<b>Alternative Transportation</b> , Parking Capacity	1
	Credit 5.1	<b>Site Development</b> , Protect or Restore Habitat	1
	Credit 5.2	<b>Site Development</b> , Maximize Open Space	1
	Credit 6.1	<b>Stormwater Design</b> , Quantity Control	1
	Credit 6.2	<b>Stormwater Design</b> , Quality Control	1
	Credit 7.1	<b>Heat Island Effect</b> , Non-Roof	1
	Credit 7.2	<b>Heat Island Effect</b> , Roof	1
	Credit 8	<b>Light Pollution Reduction</b>	1

Yes ? No

**Water Efficiency** 5 Points

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

Yes ? No

**Energy & Atmosphere** 17 Points

Y	Prereq 1	<b>Fundamental Commissioning of the Building Energy Systems</b>	Required
Y	Prereq 2	<b>Minimum Energy Performance</b>	Required
Y	Prereq 3	<b>Fundamental Refrigerant Management</b>	Required
	Credit 1	<b>Optimize Energy Performance</b>	1 to 10
	Credit 2	<b>On-Site Renewable Energy</b>	1 to 3
	Credit 3	<b>Enhanced Commissioning</b>	1
	Credit 4	<b>Enhanced Refrigerant Management</b>	1
	Credit 5	<b>Measurement &amp; Verification</b>	1
	Credit 6	<b>Green Power</b>	1

continued...

Yes ? No

**Materials & Resources** 13 Points

Y	Prereq 1	<b>Storage &amp; Collection of Recyclables</b>	Required
	Credit 1.1	<b>Building Reuse</b> , Maintain 75% of Existing Walls, Floors & Roof	1
	Credit 1.2	<b>Building Reuse</b> , Maintain 100% of Existing Walls, Floors & Roof	1
	Credit 1.3	<b>Building Reuse</b> , Maintain 50% of Interior Non-Structural Elements	1
	Credit 2.1	<b>Construction Waste Management</b> , Divert 50% from Disposal	1
	Credit 2.2	<b>Construction Waste Management</b> , Divert 75% from Disposal	1
	Credit 3.1	<b>Materials Reuse</b> , 5%	1
	Credit 3.2	<b>Materials Reuse</b> , 10%	1
	Credit 4.1	<b>Recycled Content</b> , 10% (post-consumer + 1/2 pre-consumer)	1
	Credit 4.2	<b>Recycled Content</b> , 20% (post-consumer + 1/2 pre-consumer)	1
	Credit 5.1	<b>Regional Materials</b> , 10% Extracted, Processed & Manufactured Regic	1
	Credit 5.2	<b>Regional Materials</b> , 20% Extracted, Processed & Manufactured Regic	1
	Credit 6	<b>Rapidly Renewable Materials</b>	1
	Credit 7	<b>Certified Wood</b>	1

Yes ? No

**Indoor Environmental Quality** 15 Points

Y	Prereq 1	<b>Minimum IAQ Performance</b>	Required
Y	Prereq 2	<b>Environmental Tobacco Smoke (ETS) Control</b>	Required
	Credit 1	<b>Outdoor Air Delivery Monitoring</b>	1
	Credit 2	<b>Increased Ventilation</b>	1
	Credit 3.1	<b>Construction IAQ Management Plan</b> , During Construction	1
	Credit 3.2	<b>Construction IAQ Management Plan</b> , Before Occupancy	1
	Credit 4.1	<b>Low-Emitting Materials</b> , Adhesives & Sealants	1
	Credit 4.2	<b>Low-Emitting Materials</b> , Paints & Coatings	1
	Credit 4.3	<b>Low-Emitting Materials</b> , Carpet Systems	1
	Credit 4.4	<b>Low-Emitting Materials</b> , Composite Wood & Agrifiber Products	1
	Credit 5	<b>Indoor Chemical &amp; Pollutant Source Control</b>	1
	Credit 6.1	<b>Controllability of Systems</b> , Lighting	1
	Credit 6.2	<b>Controllability of Systems</b> , Thermal Comfort	1
	Credit 7.1	<b>Thermal Comfort</b> , Design	1
	Credit 7.2	<b>Thermal Comfort</b> , Verification	1
	Credit 8.1	<b>Daylight &amp; Views</b> , Daylight 75% of Spaces	1
	Credit 8.2	<b>Daylight &amp; Views</b> , Views for 90% of Spaces	1

Yes ? No

**Innovation & Design Process** 5 Points

	Credit 1.1	<b>Innovation in Design</b> : Provide Specific Title	1
	Credit 1.2	<b>Innovation in Design</b> : Provide Specific Title	1
	Credit 1.3	<b>Innovation in Design</b> : Provide Specific Title	1
	Credit 1.4	<b>Innovation in Design</b> : Provide Specific Title	1
	Credit 2	<b>LEED® Accredited Professional</b>	1

Yes ? No

**Project Totals (pre-certification estimates)** 69 Points

**Certified** 26-32 points   **Silver** 33-38 points   **Gold** 39-51 points   **Platinum** 52-69 points