

COUNTY OF SAN DIEGO, CALIFORNIA
BOARD OF SUPERVISORS POLICY

Subject

Design Standards for County Facilities and Property

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Purpose

To establish general principles and objectives for the design, construction and improvement of owned or leased County facilities and property.

Background

In January 1990, the Board of Supervisors adopted a policy and work program for space requirements that recognized the need for centralized, prudent management of County property and facilities. A significant issue identified by the Board was the need to establish design standards for County facilities that set forth appropriate techniques, materials and technology to improve public accessibility, energy performance, resource utilization, and the work environment. An additional critical consideration is the need to balance capital cost requirements with operating and maintenance costs.

The environmental performance of facilities has significant impacts on resources, costs, and occupant/public health and well being. A Green Building means one designed, constructed and operated to give a high level of environmental, economic, and engineering performance. Occupant health, energy, and transportation efficiency; resource and material conservation (air, water, land, fuel); as well as reuse and recycling during building construction, operation, and demolition are important areas of focus. The concept applies to all types of buildings, including residential, commercial, institutional, and industrial, and addresses these principles:

1. Make appropriate use of land.
2. Minimize erosion and air, water, and land pollution.
3. Make efficient use of finite natural resources.
4. Reduce total lifetime energy and water usage.
5. Be economical to build and operate.
6. Enhance health for contractors and building occupants.
7. Use non-toxic materials and products, where possible,
8. Procure local materials to assist the local economy and reduce transportation emissions.
9. Preserve plants, animals, endangered species, and natural habitats.
10. Protect agricultural, cultural, and archaeological resources.
11. Demonstrate recycling and waste reduction best practices.

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It is the policy of the Board of Supervisors that:

1. Design guidelines and standards shall be established for County-owned and leased facilities to promote the following objectives:
 - a. Provide safe, healthy, functional, aesthetically pleasing facilities at a reasonable cost.
 - b. Maximize flexibility to easily accommodate changes in use, configuration, and/or occupants of a facility, including information technology infrastructure, mechanical, electrical and plumbing systems.
 - c. Utilize appropriate and flexible office design to include opportunities for multiple and after-hour use of suitable facilities where feasible.
 - d. Provide features that promote client convenience and access, including clear identification, signage, flagpoles and appropriate adjacency of services.
 - e. Ensure the safety and security of employees and the public, including measures to prevent or reduce unauthorized or undesirable activities, and adequate measures to prevent injury to employees and the public.
 - f. Provide accessible and safe facilities and environments for disabled employees and members of the public.
 - g. Promote aesthetics in interior and exterior building design, including public art and landscaping.
 - h. Include features that promote employee physical and mental fitness, where practical.
 - i. Provide public transportation access and other strategies, such as bicycle storage and changing facilities and electric vehicle charging stations to reduce vehicle use, where practical.
 - j. Provide leadership to the region in green building design and operation. Incorporate educational elements regarding sustainable design in public areas of green buildings. Inform the public of new facilities' features and benefits to promote innovative design.
 - k. Seek incentives, grants and rebates to enhance energy efficiency and sustainability in new construction and major renovations.
2. Maximize the exterior and interior life of facilities while considering facility planning, design, construction, maintenance, operation, and replacement costs.

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- a. Obtain U.S. Green Building Council (USGBC) LEED Building Rating System Certification for “green building” design for new construction and major building renovations over 5,000 square feet and require LEED Enhanced Commissioning on buildings over 20,000 square feet. Selection of finishes, materials and equipment shall be made based on balancing acquisition costs with operation and maintenance requirements. Emphasize longevity, value and life-cycle in the selection of materials and equipment.
 - b. Maximize the use of high-quality exterior and interior furnishings and equipment to promote effective ergonomic function, and healthy, supportive workplaces. Recognize color as an important design element and consider its effect on behavior and performance.
3. Set environmental standards that maximize energy efficiency and resource conservation, thereby minimizing the impact on the environment, while providing a comfortable, healthy, safe and efficient workplace for building occupants and visitors.
- a. Maximize the use of natural resources, including air movement/temperature, wind energy, solar energy, geothermal characteristics and landscaping, in the design of heating, air conditioning, ventilation, and lighting systems, without compromising the comfort, health, and efficiency of employees and the public.
 - b. Evaluate technologies to reduce energy consumption and peak electrical demand including cogeneration systems, renewable energy resources, building energy management systems (HVAC, lighting and plumbing), smart appliances and office equipment, shading devices, cool roofs (roofing materials that very effectively reflect the sun’s energy), vegetative roofs (a roof at least partially covered with vegetation and soil protected by a waterproof membrane), and other applicable technologies. Coordinate with the Chief Technology Office and utilities to optimize Smart Building and Smart Grid technologies.
 - c. Evaluate and incorporate cost-effective technologies to reduce water consumption, including ultra-high efficiency plumbing fixtures, cooling tower water treatment equipment, irrigation devices and controllers, and other applicable technologies.
 - d. Compare alternative heating, ventilation, and air-conditioning (HVAC) systems based on life-cycle cost analysis. Use passive ventilation, evaporative cooling, envelope thermal mass (heat storage in walls, roof and flooring), shading and other strategies to reduce energy consumption, where applicable and effective.
 - e. Incorporate state-of-the-art lighting systems and automated controls, based on space function and occupancy. Substitute natural daylighting for artificial lighting, where feasible.

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- f. For new buildings or major renovations, provide automated building controls with 365 day programmability for HVAC, lighting, and plumbing systems. Install computerized energy management systems in LEED-Certified buildings. Energy Management Systems shall comply with USGBC LEED Credit EA 5 – Measurement and Verification certification requirements and provide near real-time energy usage monitoring. For existing buildings over 5,000 square feet, evaluate and install, where feasible, automated building controls with 365 day programmability for HVAC, lighting, and plumbing systems. Provide systems that are open-protocol, so that they can be expanded or modified by multiple contractors.
 - g. Design facilities with building systems that provide high indoor air quality, space temperature/humidity conditions, adequate air movement, proper lighting levels, and appropriate noise levels for a productive, healthy, and safe work environment.
 - h. Design new buildings over 5,000 square feet with at least 2.5 percent of the estimated annual energy consumption supplied by an onsite renewable energy system. Make all new buildings over 5,000 square feet ready for the installation of photovoltaic systems incorporated as part of the design and construction of the building.
 - i. Perform computer simulation using utility-approved software for new construction or major renovation to optimize building energy efficiency and estimate utility consumption. Achieve at least 20% better than then-current California Energy Code Title 24 minimum energy efficiency compliance.
 - j. Facilitate the coordination of the design team and operations staff to integrate various design elements to maximize overall building function, maintainability, energy and water efficiency and sustainability.
4. Promote recycling and conservation of resources, and incorporate methods and systems for recycling solid and liquid waste into the planning of County facilities.
- a. Use building and finishing products that contain recycled materials into County facilities where feasible.
 - b. Give preference to products whose recycled material content is high, raw materials are derived from sustainable or renewable resources, require the minimal amount of energy and rare resources to produce and use, require the least amount of energy to transport to the job site, and provide the least environmental impact when disposed of.
 - c. Implement recycling/reuse of building and construction demolition materials whenever possible, in accordance with the County’s Construction and Demolition Ordinance.
 - d. Implement landscaping designs that emphasize water conservation through the use of drought-tolerant, fire-resistant, native plant materials compatible with the surrounding

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area for new, County-owned properties and projects. Landscape designs shall comply with the County's landscaping standards (Zoning Ordinance Sections 6712, et seq., or as amended), including water conservation requirements. Active-use parks may be exempted from this section for the use of turf grass.

e. Incorporate solid waste recycling stations into all facility designs.

5. The Chief Administrative Officer, or his designee, shall establish design standards and guidelines, which implement the preceding goals and objectives. The guidelines and standards shall be reviewed and modified periodically in order to stay current with changing technologies and lifecycle costs of systems.

a. The Chief Administrative Officer, or his designee, shall direct County departments to collaborate on an as-needed basis on material selections, methods, and specifications that help achieve these goals and objectives.

b. The Chief Administrative Officer, or his designee, shall communicate and provide these standards to all affected County offices and departments, as well as consultants, developers, and contractors involved in the planning, acquisition, improvement, or construction of County facilities.

Sunset Date

This policy will be reviewed for continuance by 12/31/2016.

Board Action

12/14/93 (50)

12/09/1997 (19)

11/06/2001 (4)

3/21/2007 (4)

07/24/2007 (13)

12/09/2008 (33)

09/22/2009 (10)

12/06/2011 (16)

CAO Reference

1. Department of General Services
2. County Technology Office