



# Sustainable Building Design

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Green Purchasing Roundtable

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# Background

# Alameda County Buildings

- ~100 buildings
- ~8 million sq ft
- ~9,000 employees



- ~90% of County-operated space is owned by County
- New Construction: LEED Silver min.

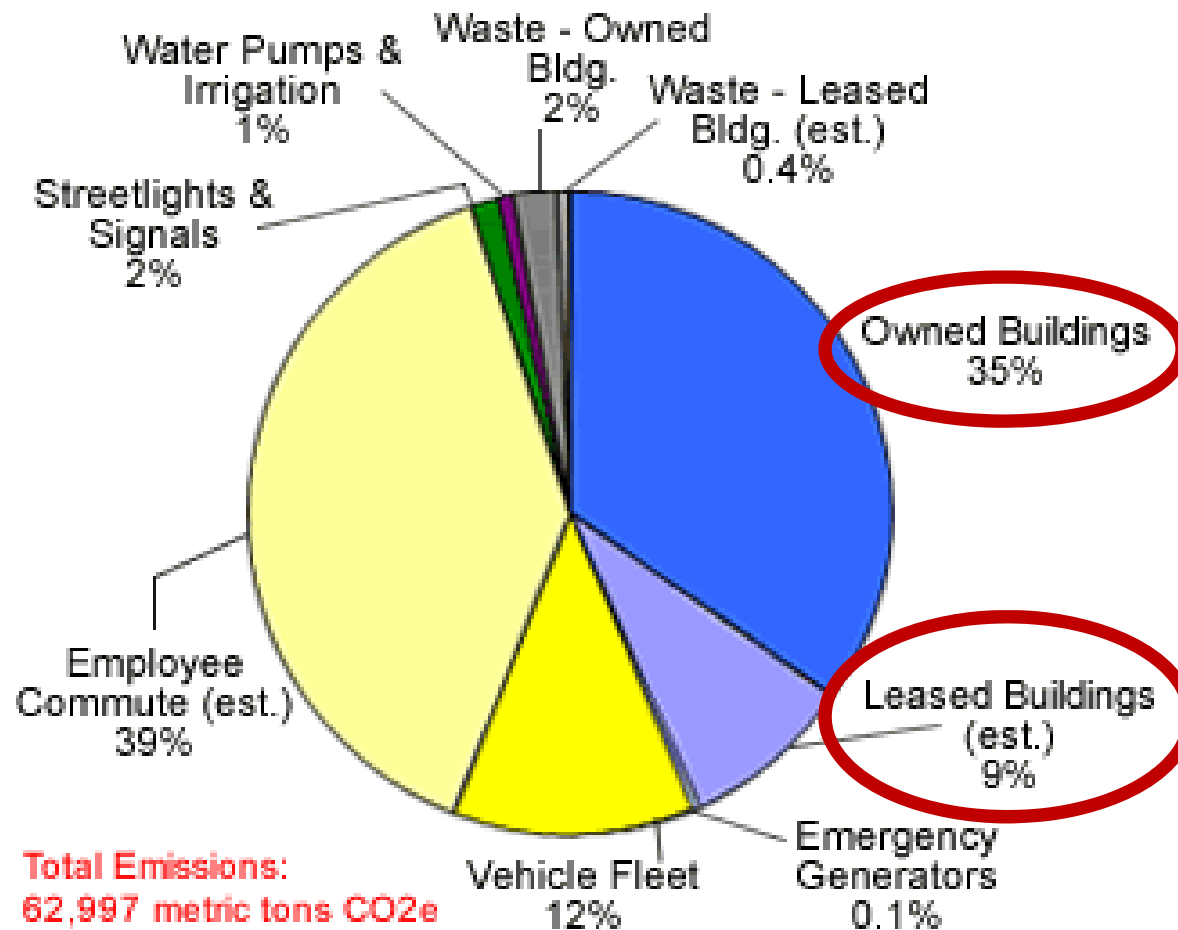
# Why Building Products?

- 10%-40% of building emissions are embodied in materials
- Building materials impact indoor air quality
- Maintenance and durability have operational impacts



# Why Building Operations?

Greenhouse Gas Emissions from Alameda County's Government Services and Operations (2003)



# Going Beyond LEED

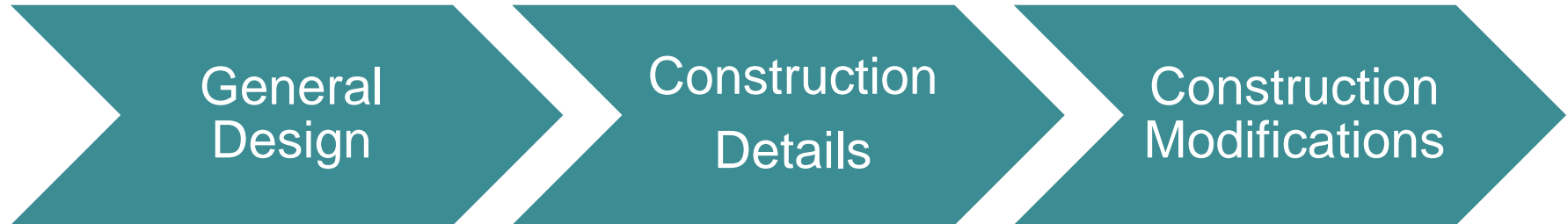
Meeting County-Specific:

- Sustainability Priorities
- Mandates
- Operational Needs



# Integrating Sustainability Into Design

# Critical Stages in Process

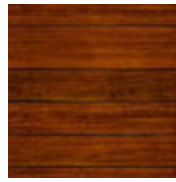


- Programming
  - Conceptual Design
  - Design Drawings
- Construction Documents (Schematics and Specifications)
- Construction
  - Occupancy



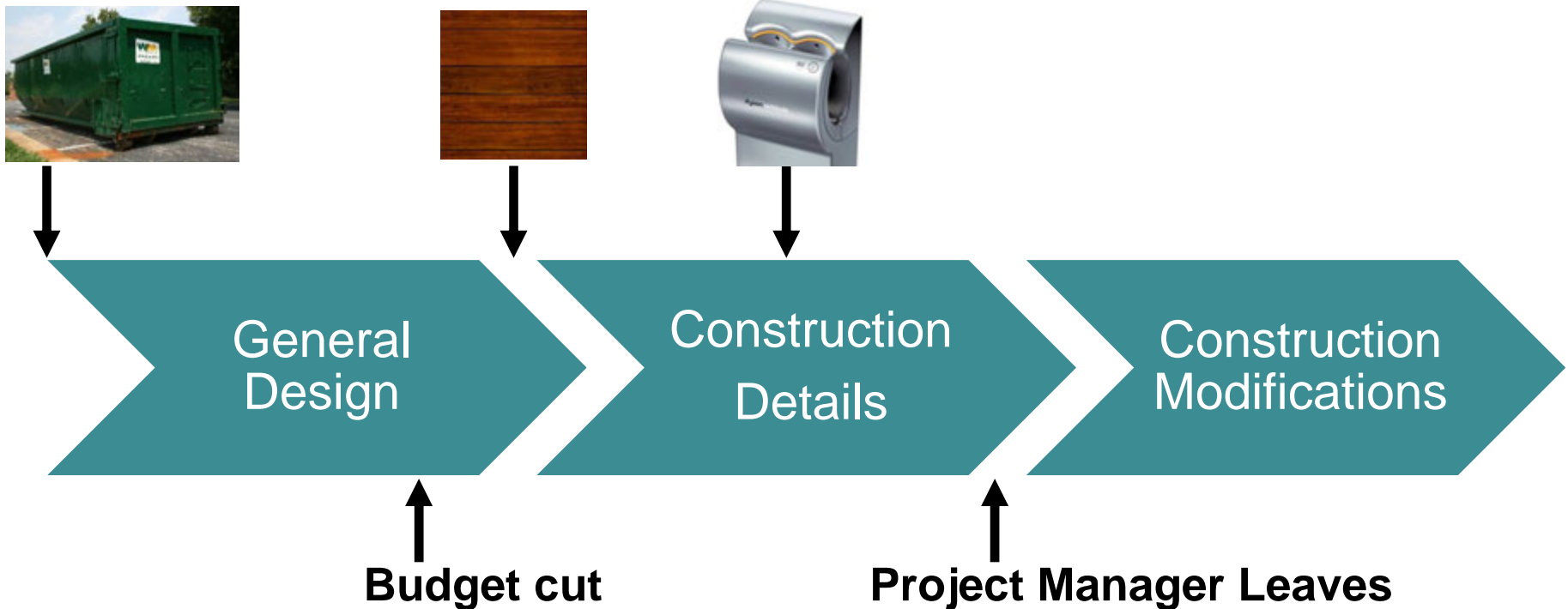
# Challenges

- Engaging at right time with the right info



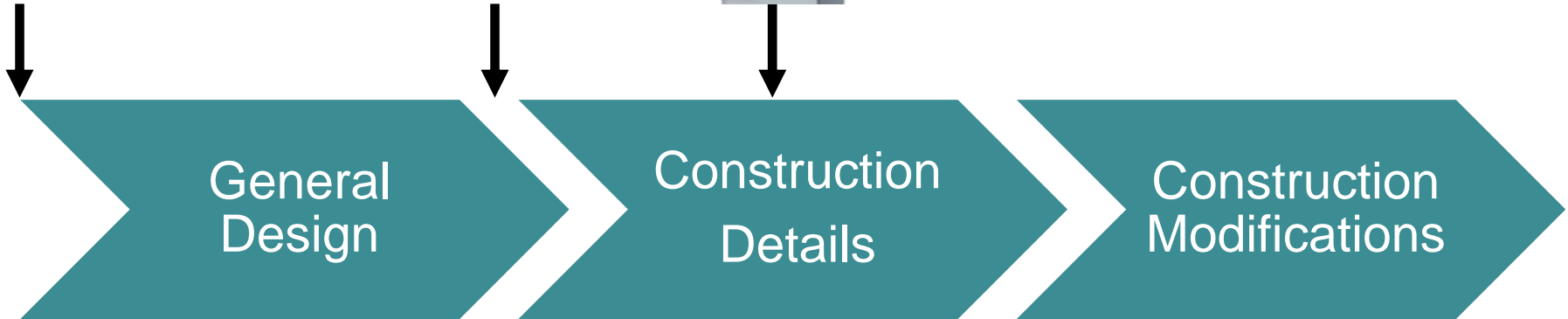
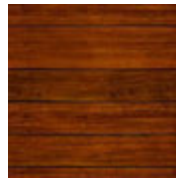
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Budget cut

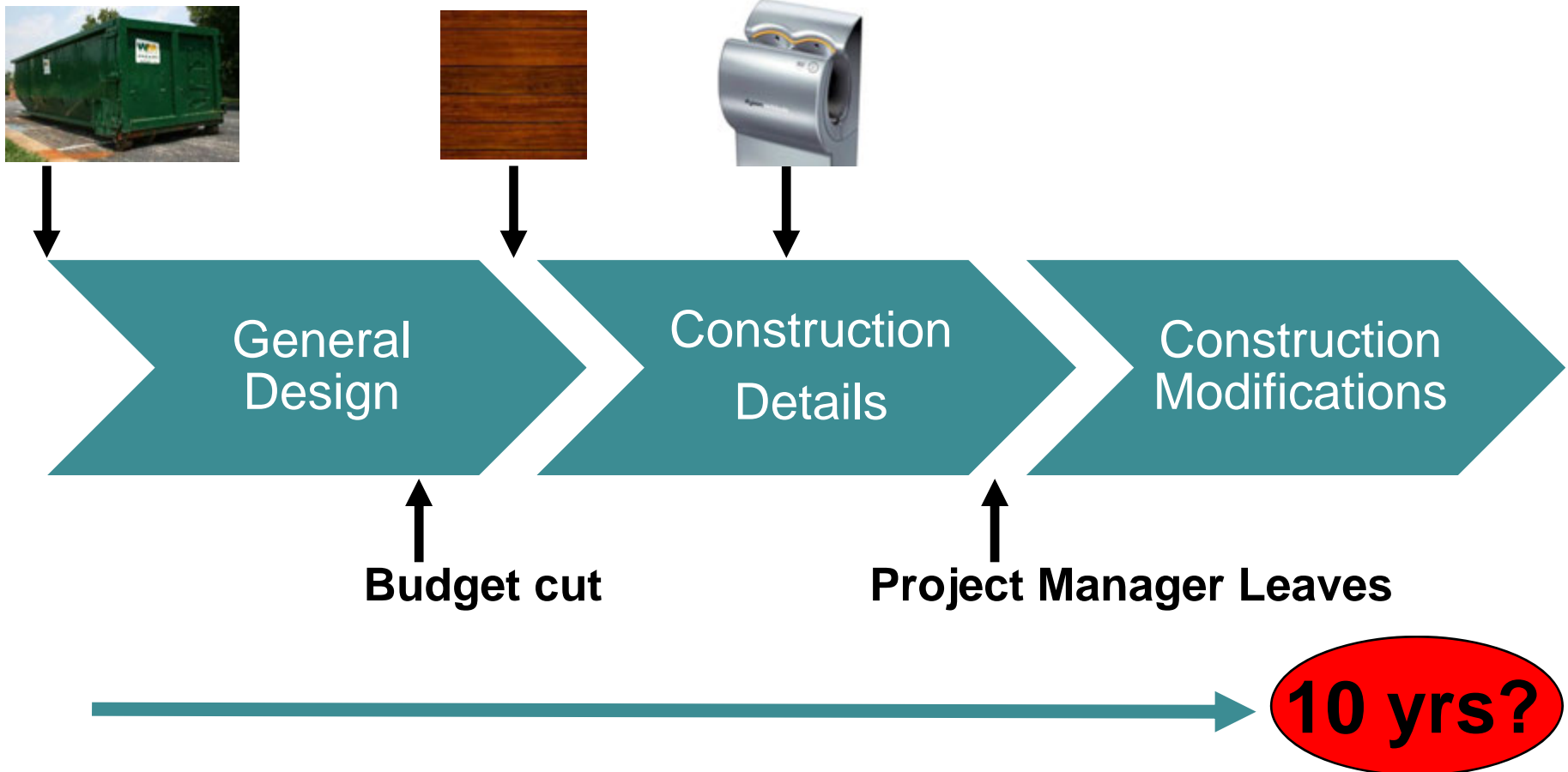
Project Manager Leaves



5 yrs?

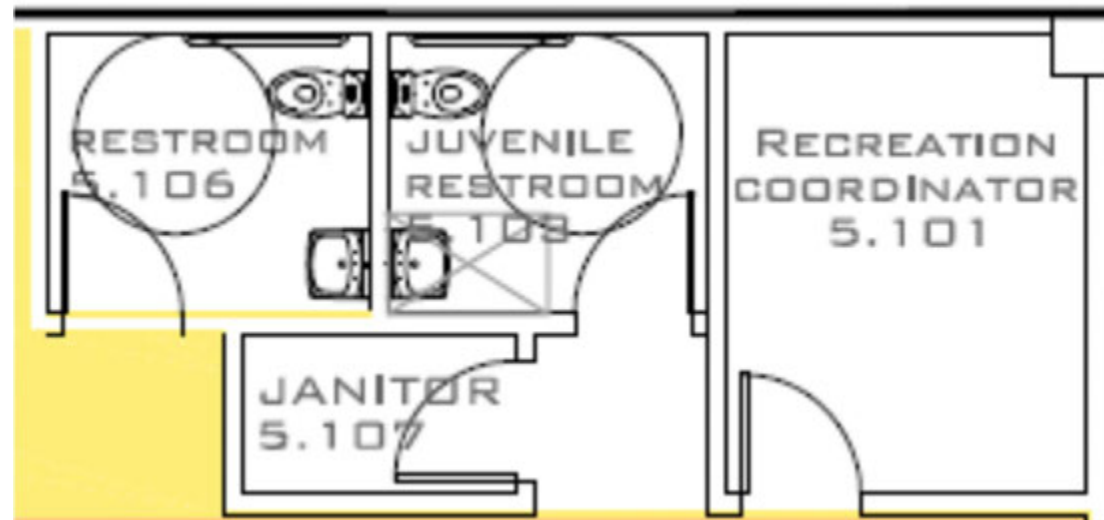
# Challenges

- Engaging at right time with the right info



# Challenges

- Balancing sustainability goals with space and cost limitations
- Uniqueness of each project



# Strategies for Success

- Describe sustainability goals as early as possible in design process
- Identify critical times in design process to consult Sustainability Program
- Define performance criteria, but allow designers to meet goals creatively



# Alameda County Case Study

# How We Did It

- Convene key stakeholders
- Produced specifications in several formats:
  - Checklist – easy reference during initial design
  - Design Narratives– requirements & recommended best practices
- Continuous iteration from lessons learned after each project



# County Focus Areas

## Products

- Carpet
- Paint/Coating
- Composite Wood Finishes
- Hard Surface Flooring
- Adhesive/Sealant
- Lighting

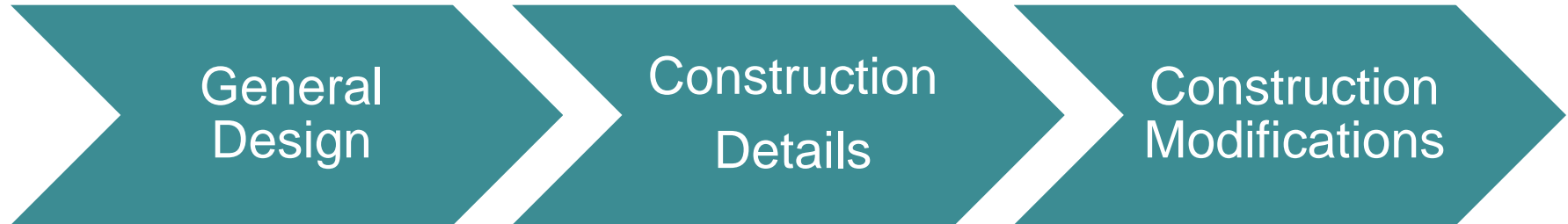
## Operations

- Janitorial
- Waste & Recycling
- Landscaping



# Example: Carpet

# Critical Stages in Process



- Carpet durability

- Carpet tile
- Non-glue installation

- Surplus given to County for replacements



# Other Carpet Specifications

- PVC-free – OR – 40% recycled content  
PVC backing
- NSF/ANSI-140 Platinum certified
- Solution-dyed
- Low-Emitting



More on carpet at: <http://www.acgov.org/sustain/what/purchasing/success/carpet.htm>

# Example: Waste & Recycling

# Critical Stages in Process

General Design

- Enclosure capacity
- Interior bin capacity

Construction Details

- Cabinetry for Interior Bins



Construction Modifications

- Modify future enclosure gates: lessons learned

# Other Considerations

- Restrooms with Appropriate Waste Bins
- Path of Travel for Janitors
- Waste Hauler Access
- Public Receptacles for Waste & Recycling









# Strategies for Success

- ✓ Engage early
- ✓ Identify critical decision points
- ✓ Allow flexibility



# Resources



**Green Building**

[Ashland Youth Center](#)

[Bay-Friendly Landscaping](#)

[Castro Valley Library](#)

[Construction and Demolition Debris-County Buildings](#)

[Green Building Ordinance-County Buildings](#)

[Green Building Ordinance-Unincorporated communities](#)

[Green Lease](#)

[Juvenile Justice Center](#)

[Press and Awards](#)

[Resources](#)

[Sustainable Building Design](#)

[Toxics Reduction](#)

## Sustainable Building Design

In 2003, Alameda County passed a resolution requiring that all new County construction must achieve a minimum LEED® Silver green building rating. However, our County-specific sustainability priorities go above and beyond what LEED® require, such as ensuring adequate space and access to meet local recycling and compost mandates and ensuring that dispensers for janitorial supplies meet our green cleaning program specifications. In order to meet these needs, the County developed documents describing the design requirements needed to optimize services like these, as well as performance requirements for products like carpet and paint. These documents are a useful reference tool for County departments working on building design projects.

### How We Did It:

- We engaged relevant stakeholders, including our construction project managers, our building maintenance department, and vendors like our waste haulers, to ensure all key stakeholder needs were addressed for each sustainability initiative.
- In order to convey our operational needs to our architects and contractors, we developed design narratives describing the design requirements needed to optimize services like green cleaning and waste management.
- In order to meet our environmental product performance needs, we leveraged our green purchasing work and developed a checklist of requirements for building materials of interest.
- We continue to revise and iterate each of our documents as we learn through implementing them in County construction projects.

### Challenges:

- It can be difficult to strike a balance between the ideal scenarios for our operational needs and the space and cost limitations of construction projects. To accommodate this, our documents reference times in the design process at which to consult with the County's Sustainability Program, to adjust design to meet both environmental performance and the unique requirements of each construction project.
- Our documents need to be flexible regarding how the desired environmental performance is reached, without being so general that environmental performance suffers. To do this, we include both requirements that are necessary to meet minimum environmental performance standards, as well as recommendations for going further based on best practices from previously successful construction projects.

### Benefits:

- These efforts ensure County buildings are designed to meet the requirements of local mandates like the [Mandatory Recycling Ordinance](#) and County policies like our [Environmentally Preferable Purchasing Policy](#). (PDF - 110kb) \*  
We reduce the environmental impact of County-owned buildings, which constitute about 25% of County's operational



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We ensure new buildings include adequate space to comply with the County's Mandatory Recycling Ordinance by providing a design narrative early in the building design process

Unincorporated communities

Green Lease

Juvenile Justice Center

Press and Awards

Resources

Sustainable Building Design

Toxics Reduction

- We researched public sector best practices and market availability of green products and services for leased facilities. A summary of this research can be found in our [Green Lease Research Summary](#) (PDF - 435kb) \*.
- We engaged key stakeholders, including property managers, to better understand the opportunities and challenges for integrating sustainability into leased spaces.
- We produced environmental performance specifications in several formats to best meet stakeholder needs during different parts of the lease negotiation process. We created a [checklist](#) (PDF - 316kb) \* for our lease managers to easily reference during preliminary negotiations, and [template lease agreement](#) (PDF - 194kb) \* and [exhibit](#) (PDF - 282kb) \* language to include in the leasing contract that ensures compliance with negotiated environmental standards.

### Challenges:

- Property owners and managers don't always have the same commitment to sustainability as the County. To overcome this, we developed contractual language requiring compliance with environmental standards to ensure that sustainability is a factor in designing and operating our leased spaces.
- Market availability of cost-competitive products is a primary concern for specifying building products and services. To overcome this, we focused on sustainability initiatives that are in many cases cost-competitive and in some cases result in a cost reduction. In our green lease checklist tool, we also provided information regarding market availability for each product and service of interest.

### Benefits:

- Provides a work environment for all County employees which optimizes health and comfort.
- Fulfills our Board of Supervisors policy commitment to reduce our environmental impact and ensures compliance with local laws like the Mandatory Recycling Ordinance.
- Reduces environmental impacts of the County's supply chain by setting environmental performance standards for goods and services provided in our leased facilities.

### Documents

Descriptions and a link to the documents we developed for use in negotiating green leases can be found below. We expect that these documents will be modified over time as we add new sustainability initiatives or gain new insights into what is effective through implementing them in County leases.

#### Green Lease Checklist

This document provides a summary of environmental requirements to be included in leases and is meant to be used as a tool for the leasing manager to easily reference during preliminary negotiations. The checklist also includes information about where to find products or services that meet each environmental requirement, and which government policies and regulations are relevant to that requirement.

- [Green Lease Checklist](#) (PDF - 316kb) \*

#### The Green Lease Agreement Language and Green Lease Exhibit

These documents are meant for inclusion into the lease contract; they include the same environmental requirements as the Green Lease Checklist, but are written in the format of the lease contract and include requirements for documentation to ensure compliance. Note that they are not comprehensive lease documents, and should be incorporated into a final lease contract.

- [Green Lease Agreement Language](#) (PDF - 194kb) \*
- [Green Lease Exhibit - Janitorial Services](#) (PDF - 282kb) \*

#### Green Lease Research Summary

This document is a compilation of the research we conducted on best practices in the public sector regarding green leasing, lease negotiations, and the environmental impacts of products and services relevant to green leases.

- [Green Lease Research Summary](#) (PDF - 435kb) \*

## **Environmental Performance Specifications for New Construction and Major Remodels**

Introduction: These environmental performance specifications represent *minimum* standards required by Alameda County to meet current ordinances or policies. They are intended to be translated into construction documents by the project design team.

These requirements do not override any applicable regulations, such as municipal code, and the Design Builder must ensure compliance with all such applicable regulations.

### **Carpet**

Goal: Minimize maintenance requirements and lifecycle environmental impact, and protect indoor air quality

Relevant County Policies: Environmental Purchasing Policy

Additional Resources: CSI specification for environmental performance specifications is available at <http://www.acgov.org/sustain/what/purchasing/bids/construct.htm>.

### Requirements:

- Carpet tile shall be specified, except where their use is not feasible
- Install carpet tiles using non-glue system (e.g., Lok Dots (Patcraft), TandusTape (Tandus), TacTiles (Interface))
- Solution-dyed carpet
- NSF/ANSI-140 Platinum certified carpet
- Carpet, and any applicable covered materials related to carpet installation, shall meet the requirements of LEED v4 Indoor Environmental Quality Credit titled Low-Emitting Materials
- Carpet Backing: PVC-free – OR – if PVC content is in carpet backing, backing shall have a minimum of 40% post-consumer recycled content
- After installation, surplus whole carpet tiles shall be protected, packaged and transferred to County for future use. Trim waste shall be recycled through local carpet recycling options or manufacturer recycling programs.

# Questions?

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