



PROJECT: THE XXXXXX HOTEL

Discussion to set “Green” objectives for the Building

What is the Goal?

- Greening of the building within economical reach?
- Obtaining certification? LEED, Others?

Other items:

- Management support, all levels needed
- Green Team
- Staff participation, awareness programs
- Short and long term programs
- Budget?

- Conceptual program:
 - By CTS, deliverables to be defined based on scope desired.

- Ongoing program:
 - By the Hotel, ongoing
 - Review by CTS; bi-weekly? Monthly?

- Staff Awareness program:
 - Scope / Guidelines by CTS
 - By the Hotel, ongoing

SECTION/ITEM	COMMENT
<p>Sustainable Sites (SS)</p> <p>Employ an environmentally sensitive, low-impact building exterior and hardscape management plan that helps preserve surrounding ecological integrity. The plan must employ best management practices that significantly reduce harmful chemical use, energy waste, water waste, air pollution, solid waste and/or chemical runoff (e.g., gasoline, oil, antifreeze, salts) compared with standard practices. The plan must address all of the following operational elements that occur on the building and grounds, as applicable:</p> <ul style="list-style-type: none"> • maintenance equipment; • snow and ice removal; • cleaning of building exterior; • paints and sealants used on building exterior; and cleaning of sidewalks, pavement and other hardscape. <p>Alternative transportation program</p> <p>Collect and reuse stormwater for non-potable uses such as</p>	



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<p>landscape irrigation, toilet and urinal flushing and custodial uses</p> <p>Consider installing high-albedo and vegetated roofs to reduce heat absorption</p> <p>Eliminate light trespass from the building and site, improve night sky access and reduce development impact on nocturnal environments.</p>	
<p>Water Efficiency (WE)</p>	
<p>Install a building-level water meter to measure and track total potable water consumption in the facility. Install subsystem-level water metering to measure and track potable water consumption by specific building systems; prioritize metering for those systems that use the most potable water.</p> <p>Dual flush toilets</p> <p>Public Area sensor flush for wash basins and toilets</p> <p>Low flow shower heads</p> <p>Work with a water treatment specialist to develop a water management strategy addressing the appropriate chemical treatment and bleed-off to ensure proper concentration levels in the cooling tower. Also, develop a biocide treatment program to avoid biological contamination and the risk of <i>Legionella</i> in the building.</p> <p>Identify nonpotable water sources that may be suitable for use in the cooling tower makeup water. Ensure that the water meets the cooling tower manufacturer's guidelines in terms of water purity and adjust the chemical treatment program accordingly.</p> <p>Review laundry operation / equipment</p>	<p>(Sloan ECOS series)</p>
<p>Energy & Atmosphere (EA)</p>	
<p>To promote continuity of information to ensure that energy-efficient operating strategies are maintained and provide a foundation for training and system analysis.</p> <p>Implement the following if not done already:</p> <ul style="list-style-type: none"> ○ Light occupancy sensors ○ Replace any remaining incandescent fixtures (except decorative / architectural) with compact fluorescent etc. ○ Replace any remaining magnetic ballasts <p>Review laundry operation / equipment</p>	



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<p>Existing building survey will help identify areas of building operations that are not operating efficiently. Implement energy-saving operational and management practices and/or energy-efficiency retrofits to reduce energy use to the level required to meet this prerequisite.</p> <p>Specify only non-CFC-based refrigerants in all new building HVAC&R systems. Identify all existing CFC-based refrigerant uses and upgrade the equipment if economically feasible and/or develop a phase-out plan that identifies a schedule for future replacement.</p> <p>Energy efficient equipment such as office equipment, maintenance equipment and appliances will aid in the reduction of energy waste. Employ the use of meters on major mechanical systems to effectively monitor the energy consumption of each. In addition to efficiency improvements, consider renewable energy options as a way to minimize the building's environmental impact.</p> <p>Install and/or maintain a BAS to automatically control key building systems. Ensure that relevant staff are adequately trained to use the system, analyze output, make necessary adjustments and identify investment opportunities to improve energy performance.</p> <p>Identify, through an energy audit, building commissioning or some other means, how the building systems are consuming energy. Based on the energy-use profile, develop a metering plan to capture the most significant building loads. Use output from the meters to identify any changes in consumption and opportunities for energy-saving improvements. Have a plan for periodically inspecting the data.</p> <p>Design and specify the use of on-site nonpolluting renewable technologies to contribute to the total energy requirements of the building. Consider and employ solar, geothermal, wind, biomass (other than unsustainably harvested wood) and biogas technologies.</p> <p>Purchase renewable energy or tradable renewable energy certificates to meet some or all of the building's energy requirements. Review the building's electrical consumption trends. Research power providers in the area and select a provider that guarantees that a portion of its delivered electric power is derived from net nonpolluting renewable technologies. If the project is in an open-market state, investigate green power and power marketers licensed to provide power in that state. Grid power that qualifies for this credit originates from solar, wind, geothermal, biomass or low-impact hydro sources.</p>	



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<p>Materials & Resources (MR)</p>	
<p>Achieve sustainable purchases of at least 25% of total combined food and beverage purchases (by cost) during the performance period. Sustainable purchases are those that meet one or both of the following criteria:</p> <ul style="list-style-type: none"> ○ Purchases are labeled USDA Certified Organic, Food Alliance Certified, Rainforest Alliance Certified, Protected Harvest Certified, Fair Trade or Maine Stewardship Council's Blue Eco-Label. ○ Purchases are produced within a 100-mile radius of the site. 	
<p>Evaluate the items that are purchased for the building, identify more environmentally friendly alternatives and establish a policy to purchase these alternatives when economically feasible. Work with suppliers to identify environmentally preferable products that meet the needs of the building.</p> <p>Evaluate the building's waste stream and establish policies to divert materials from disposal in landfills or incineration facilities by encouraging the reuse and recycling of items, where possible.</p> <p>Maintain a sustainable purchasing program covering materials with a low cost per unit that are regularly used and replaced through the course of business. These materials include, but are not limited to, paper (printing or copy paper, notebooks, notepads, envelopes), toner cartridges, binders, batteries and desk accessories but exclude food and beverages</p> <p>Sustainable purchases are those that meet one or more of the following criteria:</p> <ul style="list-style-type: none"> ● Purchases contain at least 10% post-consumer or 20% postindustrial material. ● Purchases contain at least 50% rapidly renewable materials. ● Purchases contain at least 50% materials harvested and processed or extracted and processed within 500 miles of the project. ● The purchases consist of at least 50% Forest Stewardship Council (FSC)—certified paper products. ● Batteries are rechargeable. <p>Electric-Powered Equipment</p> <ul style="list-style-type: none"> ● The equipment is ENERGY STAR labeled (for product categories with developed specifications). ● The equipment (either battery or corded) replaces conventional gas-powered equipment. Examples include, but are not limited to, maintenance equipment and vehicles, landscaping equipment and cleaning equipment. 	



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<p>Furniture</p> <p>Sustainable purchases are those that meet one or more of the following criteria:</p> <ul style="list-style-type: none"> • Purchases contain at least 10% post-consumer or 20% post-industrial material. • Purchases contain at least 70% material salvaged from off-site or outside the organization. • Purchases contain at least 70% material salvaged from on-site, through an internal organization materials and equipment reuse program. • Purchases contain at least 50% rapidly renewable material. • Purchases contain at least 50% Forest Stewardship Council (FSC)—certified wood. • Purchases contain at least 50% material harvested and processed or extracted and processed within 500 miles of the project. <p>Maintain a sustainable purchasing program covering materials for facility renovations, demolitions, refits and new construction additions. This applies only to base building elements permanently or semipermanently attached to the building itself. Examples include, but are not limited to, building components and structures (wall studs, insulation, doors, windows), panels, attached finishings (drywall, trim, ceiling panels), carpet and other flooring material, adhesives, sealants, paints and coatings.</p> <p>Sustainable purchases are those that meet one or more of the following criteria:</p> <ul style="list-style-type: none"> • Purchases contain at least 10% postconsumer or 20% postindustrial material. • Purchases contain at least 70% material salvaged from off-site or outside the organization. • Purchases contain at least 70% material salvaged from on-site, through an internal organization materials and equipment reuse program. • Purchases contain at least 50% rapidly renewable material. • Purchases contain at least 50% Forest Stewardship Council (FSC)—certified wood. • Purchases contain at least 50% material harvested and processed or extracted and processed within 500 miles of the project. • Adhesives and sealants have a VOC content less than the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168, or sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51. • Paints and coating have VOC emissions not exceeding the VOC and chemical component limits of Green 	



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<p>Seal's Standard GS-11 requirements.</p> <ul style="list-style-type: none"> • Noncarpet finished flooring is FloorS core-certified and constitutes a minimum of 25% of the finished floor area. • Carpet meets the requirements of the CRI Green Label Plus Carpet Testing Program. • Carpet cushion meets the requirements of the CRI Green Label Testing Program. • Composite panels and agrifiber products contain no added urea-formaldehyde resins. <p>Establish and follow a lamp-purchasing program that sets a minimum level of mercury content and life for all mercury-containing lamp types. Work with suppliers to specify these requirements for all future purchases.</p> <p>Conduct a waste stream audit of the building's entire ongoing consumables waste stream (not durable goods or construction waste for facilities alterations and additions). Use the audit's results to establish a baseline that identifies the types of waste making up the waste stream and the amounts of each type by weight or volume. Identify opportunities for increased recycling and waste diversion. The audit must be conducted during the performance period.</p> <p>Maintain a waste reduction and recycling program that addresses materials with a low cost per unit that are regularly used and replaced through the course of business. Encourage a high level of recycling by building occupants.</p> <p>Consider taking part in a leasing or donation program to help maintain waste reduction.</p> <p>Maintain waste management policies applicable to any facility alterations and additions occurring on the site. Identify licensed haulers and processors of recyclable materials. Identify markets for salvaged materials. Employ deconstruction, salvage and recycling strategies and processes. Document the cost for recycling, salvaging and reusing materials. Make source reduction on the job site an integral part of the plan to reduce solid waste. Investigate salvaging or recycling lighting fixture pans when retrofitting.</p>	
<p>Indoor Environmental Quality (EQ)</p>	
<p>Conduct a visual inspection of outside air vents and dampers and remove any outside air vent or louver obstructions that restrict full outside air capacity from entering the distribution system. Conduct airflow monitoring to document outside air cfm. Compare measured flow with designed flow for each unit. Test the operation of each exhaust fan and verify that exhaust airflow meets design requirements or intentions. EPA's "Guidelines for HVAC</p>	



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<p>System Maintenance" provides guidance on developing, implementing and maintaining an HVAC system maintenance program to ensure the proper operations and maintenance of HVAC components as they relate to IAQ.</p> <p>Prohibit smoking in the building or provide negative-pressure smoking rooms. For residential buildings, a third option is to provide very tight construction to minimize the transfer of ETS among dwelling units.</p> <p>Have in place a green cleaning policy for the building and site addressing the following green cleaning and other requirements:</p> <ul style="list-style-type: none"> ○ Purchase of sustainable cleaning and hard floor and carpet care products meeting the sustainability criteria outlined in EQ Credits 3.4-3.6. ○ Purchase of cleaning equipment meeting the sustainability criteria outlined in EQ Credit 3.7. ○ Establishment of standard operating procedures (SOPs) addressing how an effective cleaning and hard floor and carpet maintenance system will be consistently utilized, managed and audited. Specifically address cleaning to protect vulnerable building occupants. ○ Development of strategies for promoting and improving hand hygiene, including both hand washing and the use of alcohol-based waterless hand sanitizers. ○ Development of guidelines addressing the safe handling and storage of cleaning chemicals used in the building, including a plan for managing hazardous spills or mishandling incidents. ○ Development of requirements for staffing and training of maintenance personnel appropriate to the needs of the building. Specifically address the training of maintenance personnel in the hazards of use, disposal and recycling of cleaning chemicals, dispensing equipment and packaging. ○ Provision for collecting occupant feedback and continuous improvement to evaluate new technologies, procedures and processes. <p>Install and maintain permanent ventilation monitoring systems that provide feedback on system performance to ensure minimum ventilation rates.</p> <p>Conducting an occupant survey is a valuable tool for identifying and addressing occupants' comfort and building performance issues. Develop a plan for corrective action to address any identified problems or concerns.</p> <p>Achieve a minimum daylight factor of 2% (excluding all direct sunlight penetration) in space occupied for visual tasks. Design alterations or additions to maximize interior daylighting. Strategies to consider include building orientation, shallow floor plates, increased building perimeter, exterior and interior permanent</p>	



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<p>shading devices, high-performance glazing and automatic photocell-based controls. Predict daylight factors via manual calculations or model daylighting strategies with a physical or computer model to assess foot-candle levels and daylight factors achieved.</p> <p>Design alterations or additions to maximize daylighting and outdoor view opportunities. Strategies to consider include lower partition heights, interior shading devices, interior glazing, and automatic photocell-based controls</p> <p>Have in place over the performance period a high-performance cleaning program, supported by a green cleaning policy</p> <ul style="list-style-type: none"> o Appropriate staffing plan. o Implementation of training of maintenance personnel in the hazards, use, maintenance, disposal and recycling of cleaning chemicals, dispensing equipment and packaging. o Use of chemical concentrates with appropriate dilution systems to minimize chemical use wherever possible. o Use of sustainable cleaning materials, products, equipment, janitorial paper products and trash bags (including microfiber tools and wipes). o Use of sustainable cleaning and hard floor and carpet care products meeting the sustainability criteria o Use of cleaning equipment meeting the sustainability criteria <p>Implement sustainable purchasing for cleaning materials and products, disposable janitorial paper products and trash bags. Cleaning product and material purchases include items used by in-house staff or outsourced service providers.</p> <ul style="list-style-type: none"> • The cleaning products meet one or more of the following standards for the appropriate category: <ul style="list-style-type: none"> o Green Seal GS-37, for general-purpose, bathroom, glass and carpet cleaners used for industrial and institutional purposes. o Environmental Choice CCD-110, for cleaning and degreasing compounds. o Environmental Choice CCD-146, for hard surface cleaners. o Environmental Choice CCD-148, for carpet and upholstery care. • Disinfectants, metal polish, floor finishes, strippers or other products not addressed by the above standards meet one or more of the following standards for the appropriate category: <ul style="list-style-type: none"> o Green Seal GS-40, for industrial and institutional floor care products. o Environmental Choice CCD-112, for digestion additives for cleaning and odor control. o Environmental Choice CCD-113, for drain or grease traps additives. o Environmental Choice CCD-115, for odor control 	



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<p>additives.</p> <ul style="list-style-type: none"> ○ Environmental Choice CCD-147, for hard floor care. ○ California Code of Regulations maximum allowable VOC levels for the specific product category. <ul style="list-style-type: none"> ● Disposable janitorial paper products and trash bags meet the minimum requirements of one or more of the following programs for the applicable product category: <ul style="list-style-type: none"> ○ U.S. EPA Comprehensive Procurement Guidelines for Janitorial Paper and Plastic Trash Can Liners. ○ Green Seal GS-09, for paper towels and napkins. ○ Green Seal GS-01, for tissue paper. ○ Environmental Choice CCD-082, for toilet tissue. ○ Environmental Choice CCD-086, for hand towels. ○ Janitorial paper products derived from rapidly renewable resources or made from tree-free fibers. ● Hand soaps meet one or more of the following standards: <ul style="list-style-type: none"> ○ No antimicrobial agents (other than as a preservative) except where required by health codes and other regulations (i.e., food service and health care requirements). ○ Green Seal GS-41, for industrial and institutional hand cleaners. ○ Environmental Choice CCD-104, for hand cleaners and hand soaps. <p>Implement a program for the use of janitorial equipment that reduces building contaminants and minimizes environmental impact. The cleaning equipment program must require the following:</p> <ul style="list-style-type: none"> ○ Vacuum cleaners are certified by the Carpet and Rug Institute "Green Label" Testing Program for vacuum cleaners and operate with a sound level of less than 70dBA. ○ Carpet extraction equipment used for restorative deep cleaning is certified by the Carpet and Rug Institute's "Seal of Approval" Testing Program for deep-cleaning extractors. ○ Powered floor maintenance equipment, including electric and battery-powered floor buffers and burnishers, is equipped with vacuums, guards and/or other devices for capturing fine particulates and operates with a sound level of less than 70dBA. ○ Propane-powered floor equipment has high-efficiency, low-emissions engines with catalytic converters and mufflers that meet the California Air Resources Board (CARB) or Environmental Protection Agency (EPA) standards for the specific engine size and operate with a sound level of less than 90dBA. ○ Automated scrubbing machines are equipped with variable-speed feed pumps and on-board chemical metering to optimize the use of cleaning fluids. ○ Battery-powered equipment is equipped with 	



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<p>environmentally preferable gel batteries.</p> <ul style="list-style-type: none"> ○ Powered equipment is ergonomically designed to minimize vibration, noise and user fatigue. ○ Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces. ○ Keep a log for all powered cleaning equipment to document the date of equipment purchase and all repair and maintenance activities and include vendor specification sheets for each type of equipment in use. <p>Use grilles, grates or mats to catch and hold dirt particles and prevent contamination of the building interior. Design exterior stone, brick or concrete surfaces to drain away from building entrances.</p> <p>At building entrances, install low-maintenance vegetation within the landscape design and avoid plants, including trees and shrubs, that produce fruit, flowers or leaves that are likely to be tracked into the building. Base plant selection on an integrated pest management (IPM) approach to eliminate pesticide applications that could be tracked into the building.</p> <p>Provide a water spigot and electrical outlet at each building entrance for maintenance and cleaning.</p> <p>Develop, implement and maintain an indoor integrated pest management (IPM) plan, defined as managing indoor pests in a way that protects human health and the surrounding environment and that improves economic returns through the most effective, least-risk option. IPM calls for using least-toxic chemical pesticides, minimum use of chemicals, use only in targeted locations and use only for targeted species. IPM requires routine inspection and monitoring. The plan must include the following elements, integrated with any outdoor IPM plan used for the site as appropriate:</p> <ul style="list-style-type: none"> ○ Integrated methods, site or pest inspections, pest population monitoring, evaluation of the need for pest control and one or more pest control methods, including sanitation, structural repairs, mechanical and living biological controls, other nonchemical methods, and if nontoxic options are unreasonable and have been exhausted, a least-toxic pesticide. ○ Specification of the circumstances under which an emergency application of pesticides in a building or on surrounding grounds being maintained by building management can be conducted without complying with the earlier provisions. ○ A communications strategy directed to building occupants that addresses universal notification, which requires advance notice of not less than 72 hours under normal conditions and 24 hours in emergencies before a pesticide, other than a least-toxic pesticide, is applied in a building or on surrounding 	



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grounds that the building management maintains.	
Innovation in Operations	
Engage a LEED Accredited Professional within the organization. Have someone in your organization study the LEED for Existing Buildings: Operations & Maintenance Rating System and LEED for Existing Buildings: Operations & Maintenance Reference Guide and successfully complete the LEED Professional Accreditation exam.	