



LOS ANGELES COMMUNITY COLLEGE DISTRICT
PROPOSITION A/AA BOND PROGRAM

SUSTAINABLE CHECKLIST
FOR LEED™ PROJECTS

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Issued October 6, 2004

Sustainable Checklist for LEED™ Projects

Sustainable Sites

The purpose of this Sustainable Check list is to promote sustainability throughout the LACCD campuses for LEED™ projects. The Sustainable check list is to assist architects and planners to ensure minimum sustainable measures recommended by the District are implemented for all renovation projects. Should any of the items outlined cannot be met, then the design team must provide justification for non compliance. The completed sustainable checklist must be presented to the Infrastructure Committee at end of Schematic Phase for approval for the project to continue

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
EROSION & SEDIMENTATION CONTROL				
1. Control erosion to reduce negative impacts on water and air quality.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Design a sediment and erosion control plan, specific to the site, that conforms to United States Environmental Protection Agency (EPA) Document No. EPA 832/R-92-005 (September 1992), Storm-water Management for Construction Activities, Chapter 3, OR local erosion and sedimentation control standards and codes, whichever is more stringent. The plan shall meet the following objectives: <ul style="list-style-type: none"> a. Prevent loss of soil during construction by stormwater runoff and /or wind erosion, including protecting topsoil by stockpiling for reuse. b. Prevent sedimentation of storm sewer or receiving streams c. Prevent air pollution with dust and particulate matter. 	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Provide an Erosion Control Plan that includes:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. A statement of erosion control and stormwater control objectives	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. A comparison of post-development stormwater runoff conditions with predevelopment conditions	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. A description of all temporary and permanent erosion control and stormwater control measures implemented on the project site	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d. A description of the type and frequency of maintenance activities required for erosion control facilities utilized	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for LEED™ Projects Sustainable Sites

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
SITE SELECTION				
1. Do not develop buildings, roads, or parking areas on portions of sites that meet any one of the following criteria:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. Prime farmland as defined by the United States Department of Agriculture in the United States Code of Federal Regulations, Title 7, Volume 6, Parts 400 to 699, Section 657.5 (citation 7CFR657.5).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Land whose elevation is lower than 5 feet above the elevation of the 100-year flood as defined by the Federal Emergency Management Agency (FEMA).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. Land which provides habitat for any species on the Federal or State threatened or endangered lists.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d. Within 100 feet of any water including wetlands as defined by United States Code of Federal Regulations 40 CFR, Parts 230-233 and Part 22 and isolated wetlands or areas of special concern identified by state or local rule, OR greater than distances given in state or local regulations as defined by local or state rule or law, whichever is more stringent.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e. Land with prior to acquisition for the project was public parkland, unless land of equal or greater value as parkland is accepted in trade by the public landowner (Park Authority projects are exempt).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. When designing the building, consider a smaller footprint and set aside large contiguous areas for natural space on the project site.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

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ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
DEVELOPMENT DENSITY				
1. Channel development to urban areas with existing infrastructures, protect greenfields and preserve habitat and natural resources.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Increase localized density to conform to existing or desired density goals by utilizing sites that are located within an existing minimum development density of 60,000 sq. ft. per acre (2 story downtown development).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
BROWNFIELD REDEVELOPMENT				
1. Develop on a site documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment) OR on a site classified as a Brownfield by a local, state or federal government agency.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Provide remediation as required by EPA's Sustainable Redevelopment of Brownfield's Program requirements.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Test for toxicity and hazardous levels of pollution on the proposed site. To earn this credit, hazardous substances must be present or potentially present on the property and remediation efforts must be performed to identify, contain and remove these substances.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Once remediation is complete, continue to monitor the site for the identified contaminants to ensure that contamination problems do not return.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ALTERNATIVE TRANSPORTATION				
1. Reduce pollution and land development impacts from automobile use.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Locate building within ½ mile of the commuter rail, light rail or subway station or ¼ mile of 2 or more public or campus bus lines usable by building occupants.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. For commercial or institutional buildings, provide secure bicycle storage with convenient changing/shower facilities (within 200 yards of the building) for 5% or more of building occupants.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. For residential buildings, provide covered storage facilities for securing bicycles for 15% or more of building occupants in lieu of changing/showering facilities.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects Sustainable Sites

ITEM	INCORPORATE IN DESIGN	COST OF IMPACT	EFFECT ON SCHEDULE
ALTERNATE TRANSPORTATION (CONT.)			
5. Provide alternative fuel vehicles for 3% of building occupants AND provide preferred parking for these vehicles <p style="text-align: center;">OR</p>	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
6. Install alternative fuel refueling stations for 3% of the total vehicle parking capacity of the site.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
7. Size parking capacity not to exceed minimum local zoning requirements AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants <p style="text-align: center;">OR</p>	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
8. Add no new parking for rehabilitation projects AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
REDUCED SITE DISTURBANCE			
1. Conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
2. On greenfield sites, limit site disturbance including earthwork and clearing of vegetation to: <ul style="list-style-type: none"> a. 40 feet beyond the building perimeter b. 5 feet beyond primary roadway curbs, walkways and main utility branch trenches and; c. 25 feet beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities and playing fields) that require additional staging areas in order to limit compaction in the constructed area <p style="text-align: center;">OR</p>	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
3. On previously developed sites, restore a minimum of 50% of the site area (excluding the building footprint) by replacing impervious surfaces native or adapted vegetation.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
4. Reduce the development footprint (including building, access roads and parking) to exceed the local zoning's open space requirement for the site by 25% .	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
5. For areas with no local zoning requirements (e.g., some university campuses, military bases), designate open space area adjacent to the building that is equal to the building footprint.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	

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ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
LANDSCAPE & EXTERIOR DESIGN TO REDUCE HEAT ISLANDS (CONT.)				
6. Use ENERGY STAR Roof-compliant, high reflectance AND high emissivity roofing (initial reflectance of at least 0.65 and three-year aged reflectance of at least 0.5 when tested in accordance with ASTM E903 and emissivity of at least 0.9 when tested in accordance with ASTM 408) for a minimum of 75% of the roof surface OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Install a “green” (vegetated) roof for at least 50% of the roof area.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
LIGHT POLLUTION REDUCTION				
1. Eliminate light trespass from the building site, improve night sky access and reduce development impact on nocturnal environments.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Do not exceed Illuminating Engineering Society of North America (IESNA) footcandle level requirements as stated in the Recommended Practice Manual: Lighting for Exterior Environments.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Design interior and exterior lighting such that zero direct-beam illumination leaves the building site.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

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Water Efficiency

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
WATER EFFICIENT LANDSCAPING				
1. Use high efficiency irrigation technology, OR use captured rain or recycled site water, to reduce potable water consumption for irrigation by 50% over conventional means.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Use only captured rain or recycled site water for an additional 50% reduction (100% total reduction) of potable water for site irrigation needs	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
OR				
3. Do not install permanent landscape irrigation systems	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Specify and install a roof-water or groundwater collection system.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Use metal, clay or concrete-based roofing materials and take advantage of gravity water flows whenever possible.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Check with local health code departments for guidelines regarding the collection of rainwater, since such collection is not federally regulated.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
INNOVATIVE WASTEWATER TECHNOLOGIES				
1. Reduce the generation of wastewater and potable water demand, while increasing the local aquifer recharge.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Reduce the use of municipally provided potable water for building sewage conveyance by a minimum of 50%	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
OR				
3. Treat 100% of wastewater on site to tertiary standards.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
WATER USE REDUCTION				
1. Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Exceed the potable water use reduction by an additional 10% (30% total efficiency increase).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects

Energy & Atmosphere

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
FUNDAMENTAL BUILDING SYSTEMS COMMISSIONING				
1. Implement the following fundamental best practice commissioning procedures:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. Engage a commissioning authority	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Review design intent and basis of design documentation	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. Include commissioning requirements in the construction documents	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d. Verify installation, functional performance, training and documentation	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e. Complete a commissioning report	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. For new buildings, commissioning must be performed on features and systems including:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
f. All HVAC systems and their controls	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
g. Duct work and pipe insulation	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
h. Renewable and alternative energy technologies	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
i. Lighting controls and daylighting systems	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
j. Waste heat recovery	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
k. Advanced technologies such as cool storage	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
MINIMUM ENERGY PERFORMANCE				
1. Establish the minimum level of energy efficiency for the base building and systems.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Design to meet building energy efficiency and performance as required by ASHRAE/IESNA 90.1-1999 or the local energy code, whichever is more stringent.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

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Energy & Atmosphere

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
CFC REDUCTION IN HVAC&R EQUIPMENT				
1. Zero use of CFC-based refrigerants in new building HVAC&R base building systems.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. When reusing existing base building HVAC equipment, complete a comprehensive CFC phaseout conversion.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
OPTIMIZE ENERGY PERFORMANCE				
1. Reduce design energy cost compared to the energy cost budget for regulated energy components described in the requirements of ASHRAE/IESNA Standard 90.1-1999, as demonstrated by a whole building simulation using the Energy Cost Budget Method described in Section 11:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. New Buildings 20% Existing Buildings 10% OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. New Buildings 30% Existing Buildings 20% OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. New Buildings 40% Existing Buildings 30% OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d. New Buildings 50% Existing Buildings 40% OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e. New Buildings 60% Existing Buildings 50%	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Regulated energy components include: HVAC systems, building envelope, service hot water systems, lighting and other regulated systems as defined by ASHRAE.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

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Energy & Atmosphere

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
RENEWABLE ENERGY				
1. Supply a net fraction of the building's total energy use (as expressed as a fraction of annual energy cost) through the use of on-site renewable energy systems.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. Renewal energy, 5% contribution, OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Renewal energy, 10% contribution, OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. Renewal energy, 20% contribution	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Consider and employ high temperature solar, geothermal, wind, biomass (other than unsustainably harvested wood) and bio-gas technologies.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Apply the use of net metering by contacting local utilities or electric service providers (ESPs).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ADDITIONAL COMMISSIONING				
1. In addition to the Fundamental Building Commissioning prerequisite, implement the following additional commissioning tasks:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. Conduct a focused review of the design prior to the construction documents phase.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Conduct a focused review of the Construction Documents when close to completion.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. Conduct a selective review of contractor submittals of commissioned equipment. (The above three reviews must be performed by a firm other than the designer.)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d. Develop a recommissioning management manual.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e. Have a contract in place for a near-warranty end or post occupancy review.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

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Energy & Atmosphere

ITEM	INCORPORATE IN DESIGN	COST OF IMPACT	EFFECT ON SCHEDULE
OZONE DEPLETION			
1. Reduce ozone depletion and support early compliance with the Montreal Protocol.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
2. Install base building level HVAC and refrigeration equipment and fire suppression systems that do not contain HCFC's or Halon.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
MEASUREMENT & VERIFICATION			
1. Provide for the ongoing accountability and optimization of building energy and water consumption performance over time.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
2. Comply with the long term continuous measurement of performance as stated in Option B: Methods by Technology of the US DOE's International Performance Measurement and Verification Protocol (IPMVP) for the following:	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
a. Lighting systems and controls	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
b. Constant and variable motor loads	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
c. Variable frequency drive (VFD) operation	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
d. Chiller efficiency at variable loads (kW / ton)	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
e. Cooling load	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
f. Air and water economizer and heat recovery cycles	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
g. Air distribution static pressures and ventilation air volumes	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
h. Boiler efficiencies	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
i. Building specific process energy efficiency systems and equipment	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
j. Indoor water risers and outdoor irrigation systems	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
GREEN POWER			
1. Encourage the development and use of grid-source energy technologies on a net zero pollution basis.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
2. Engage in a two year contract to purchase power generated from renewable sources that meet the Center for Resource Solutions (CRS) Green-e products certification requirements.	<input type="checkbox"/> YES	<input type="checkbox"/> NO	

Sustainable Checklist for LEED™ Projects

Materials & Resources

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
STORAGE AND COLLECTION RECYCLABLES				
1. Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, glass, plastics and metals.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
BUILDING REUSE				
1. Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Reuse large portions of existing structures during renovation or redevelopment projects:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. Maintain at least 75% of existing building structure and shell (exterior skin and framing excluding window assemblies)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Maintain an additional 25% (100% total) of existing building structure and shell (exterior skin and framing excluding window assemblies)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. Maintain 100% of existing building structure and shell AND 50% non-shell (walls, floor coverings and ceiling systems)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. If reuse of the structural shell is not possible, consider preserving the façade, particularly in urban areas.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
CONSTRUCTION WASTE MANAGEMENT				
1. Develop and implement a waste management plan, quantifying material diversion by weight. (Remember that salvage may include the donation of materials to charitable organizations such as Habitat for Humanity.)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. The plan should include estimated costs associated with recycling, salvaging and reusing materials and should also address source reduction of material use.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Institute monthly reporting and feedback on the waste management plan to assess progress and address any problems.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects Materials & Resources

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
CONSTRUCTION WASTE MANAGEMENT (CONT.)				
2. Recycle and/or salvage at least 50% (by weight) of construction, demolition and land clearing waste	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Recycle and/or salvage an additional 25% (75% total by weight) of the construction, demolition and land clearing debris	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
RESOURCE REUSE				
1. Extend the life cycle of targeted building materials by reducing environmental impacts related to materials manufacturing and transport.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Specify salvaged or refurbished materials for 5% of building materials	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Specify salvaged or refurbished materials for 10% of building materials	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Research all salvaged and refurbished materials for durability, performance, code-compliance and environmental considerations.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
RECYCLED CONTENT				
1. Specify a minimum of 25% of building materials that contain in aggregate, a minimum weighted average of 20% post-consumer recycled content material, OR , a minimum weighted average of 40% post-industrial recycled content material.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Specify an additional 25% (50% total) of building materials that contain in aggregate, a minimum weighted average of 20% post-consumer recycled content material, OR , a minimum weighted average of 40% post-industrial recycled content material	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Research all recycled content materials for durability, performance and environmental considerations.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Check recycled content materials for problematic air emissions, especially with synthetic products such as plastics, rubber and polyester.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects

Materials & Resources

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
LOCAL / REGIONAL MATERIALS				
1. Specify a minimum of 20% of building materials that are manufactured* regionally within a radius of 500 miles.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Of these regionally manufactured materials, specify a minimum of 50% that are extracted, harvested or recovered within 500 miles.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
RAPIDLY RENEWAL MATERIALS				
1. Reduce the use and depletion of finite raw and long-cycle renewable materials by replacing them with rapidly renewable materials.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Specify rapidly renewable building materials for 5% of total building materials.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
CERTIFIED WOOD				
1. Use a minimum of 50% of wood-based materials certified in accordance with the Forest Stewardship Council Guidelines for wood building components including but not limited to the following:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a. Structural framing and general dimensional framing	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b. Flooring	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c. Finishes	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d. Furnishings	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e. Non-rented temporary construction applications such as bracing, concrete form work and pedestrian barriers	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects

Indoor Environmental Quality

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
MINIMUM IAQ PERFORMANCE				
1. Meet the minimum requirements of voluntary consensus standard ASHRAE 62-1999, Ventilation for Acceptable Indoor Air Quality and approved Addenda.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Upon project completion, include operational testing in the building commissioning report.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Implement an operations and maintenance plan to maintain an uncontaminated HVAC system.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL				
1. Prevent exposure of building occupants and systems to Environmental Tobacco Smoke (ETS).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Zero exposure of nonsmokers to ETS by prohibition of smoking in the building, OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Provide a designated smoking room designed to effectively contain, capture and remove ETS from the building.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. At a minimum, the smoking room shall be:				
d. Directly exhausted to the outdoors with no recirculation of ETS-containing air to the nonsmoking area of the building	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e. Enclosed with impermeable structural deck-to-deck partitions	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
f. Operated at a negative pressure compared with the surrounding spaces of at least 7 Pa (0.03 inches of water gauge).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Performance of smoking rooms shall be verified using tracer gas testing methods as described in the ASHRAE Standard 129-1997.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Acceptable exposure in the nonsmoking areas is defined as less than 1% of the tracer gas concentration in the smoking room detectable in the adjoining nonsmoking areas.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Smoking room testing as described in the ASHRAE Standard 129-1997 is required in the contract documents and critical smoking facility systems testing results must be included in the building commissioning plan and report or as a separate document.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects Indoor Environmental Quality

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
CARBON DIOXIDE (CO₂) MONITORING				
1. Install a permanent carbon dioxide (CO ₂) monitoring system that provides feedback on space ventilation performance in a form that affords operational adjustments.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Specify initial operational set point parameters that maintain indoor carbon dioxide levels no higher than outdoor levels by more than 530 parts per million at any time.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Specify monitoring locations in building areas with high occupant densities and at the ends of the longest runs of the distribution ductwork.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
INCREASE VENTILATION EFFECTIVENESS				
1. Provide for the effective delivery and mixing of fresh air to support the health, safety and comfort of building occupants.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. For mechanically ventilated buildings, design ventilation systems that result in an air change effectiveness (E) greater than or equal to 0.9 as determined by ASHRAE 129-1997.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. For naturally ventilated spaces, demonstrate a distribution and laminar flow pattern that involves not less than 90% of the room or zone area in the direction of air flow for at least 95% of hours of occupancy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
CONSTRUCTION IAQ MANAGEMENT PLAN				
1. Prevent indoor air quality problems resulting from the construction / renovation process to sustain long-term installer and occupant health and comfort.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. During construction, meet or exceed the minimum requirements of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, 1995.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Protect stored on-site or installed absorptive materials from moisture damage.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Replace all filtration media immediately prior to occupancy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects

Indoor Environmental Quality

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
CONSTRUCTION IAQ MANAGEMENT PLAN (CONT.)				
5. Filtration media shall have a Minimum Efficiency Reporting Value (MERV) or 13 as determined by ASHRAE 52.2-1999.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Conduct a minimum two-week building flush-out with new filtration media at 100% outside air after construction ends and prior to occupancy, OR	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Conduct a baseline indoor air quality testing procedure consistent with current EPA Protocol for Environmental Requirements, Baseline IAQ and Materials, for the Research Triangle Park Campus, Section 01445.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
8. The Plan should address the protection of the ventilation system components during construction and cleanup of contaminated components after construction is complete.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
9. Require temporary ventilation in the General Conditions of the construction contract.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
10. The referenced standard recommends control measures in five areas: HVAC protection, source control, pathway interruption, housekeeping and scheduling. For each project, review the applicability of each control measure and include those that apply in the final IAQ Management Plan.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
LOW-EMITTING MATERIALS				
1. Reduce the quantity of indoor air contaminants that are odorous or potentially irritating to provide installer and occupant health and comfort.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Adhesives must meet or exceed the VOC limits of South Coast Air Quality Management District Rule #1168.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. All sealants used as filler must meet or exceed Bay Area Air Quality Management District Reg. 8, Rule 51.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Paints and coatings must meet or exceed the VOC and chemical component limits of Green Seal Requirements.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Carpet systems must meet or exceed the Carpet and Rug Institute Green Label Indoor Air Quality Test Program.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects Indoor Environmental Quality

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
LOW-EMITTING MATERIALS (CONT.)				
6. Composite wood and agrifiber products must contain no added urea-formaldehyde resins.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. VOC emissions data should exclude water, solvents and any other additives to the building product or material.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
8. Consider field monitoring for emission levels in the building during installation and prior to building occupancy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
INDOOR CHEMICAL & POLLUTANT SOURCE CONTROL				
1. Design to minimize cross-contamination of regularly occupied occupancy areas by chemical pollutants.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Employ permanent entry way systems (grills, grates, etc.) to capture dirt, particulates, etc. from entering the building at all high volume entry ways.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Provide areas with structural deck to deck partitions with separate outside exhausting, no air recirculation and negative pressure where chemical use occurs (including housekeeping areas and copying/print rooms).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Provide drains plumbed for appropriate disposal of liquid waste in spaces where water and chemical concentrate mixing occurs.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Provide a water spigot and electrical outlet at entry ways for maintenance and cleaning activities.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Provide dedicated localized exhaust systems and locate discharge points away from HVAC system air intakes.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
CONTROLLABILITY OF SYSTEMS				
1. Provide a high level of individual occupant control of thermal, ventilation and lighting systems to support optimum health, productivity and comfort conditions.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Provide a minimum of one operable window and one lighting control zone per 200 SF for all occupied areas within 15 feet of the perimeter wall.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Provide controls for each individual for airflows, temperature and lighting for 50% of the non-perimeter, regularly occupied areas.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects

Indoor Environmental Quality

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
THERMAL COMFORT				
1. Comply with ASHRAE Standard 55-1992, Addenda 1995 for thermal comfort standards including humidity control within established ranges per climate zone.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Install a permanent temperature and humidity monitoring system configured to provide operators control over thermal comfort performance and effectiveness of humidification and/or dehumidification systems in the building.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. In conventional closed mixing systems, identify any points of airflow short-circuiting due to inappropriate air supply and return locations.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Verify occupant loads against air flow requirements and coordinate air system layout with interior furniture and partitions to avoid obstruction of airflow.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
DAYLIGHT & VIEWS				
1. Provide a connection between indoor spaces and outdoor environments through the introduction of sunlight and views into the occupied areas of the building.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Achieve a minimum Daylight Factor of 2% (excluding all direct sunlight penetration) in 75% of all space occupied for critical visual tasks, not including: <ul style="list-style-type: none"> a. Copy rooms b. Storage areas c. Mechanical d. Laundry e. Other low occupancy support areas 	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Direct line of sight to vision glazing from 90% of all regularly occupied spaces, not including: <ul style="list-style-type: none"> a. Copy rooms b. Storage areas c. Mechanical d. Laundry e. Other low occupancy support areas 	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Orient the building on the project site to maximize daylighting options and adopt a building design with shallow floor plates to maximize daylit areas.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		

Sustainable Checklist for LEED™ Projects Innovation & Design Process

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
INNOVATION IN DESIGN				
1. To provide design teams and projects the opportunity to be awarded points for exceptional performance above requirements set by the LEED Green Building Rating System™ and/or innovative performance in Green Building categories not specifically addressed by the LEED Green Building Rating System™.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. In writing, using the LEED™ Credit Equivalent process, identify the following:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
l. The intent of the proposed innovation credit	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
m. The proposed requirement for compliance	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
n. The proposed submittals to demonstrate compliance	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
o. The design approach used to meet the required elements	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
LEED™ ACCREDITED PROFESSIONAL				
1. To support and encourage the design integration required by a LEED™ Green Building project and to streamline the application and certification process.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. At least one principal participant of the project team that has successfully completed the LEED™ Accredited Professional exam.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



LOS ANGELES COMMUNITY COLLEGE DISTRICT
PROPOSITION A /AA BOND PROGRAM

SUSTAINABLE CHECKLIST
FOR RENOVATION PROJECTS

Prepared By: DMJM/JGM
Issued August 4, 2004



Sustainable Checklist for Renovation Projects

The purpose of this Sustainable Check list is to promote sustainability throughout the LACCD campuses for renovation projects. The Sustainable check list is to assist architects and planners to ensure minimum sustainable measures recommended by the District are implemented for all renovation projects. Should any of the items outlined cannot be met, then the design team must provide justification for non compliance. The completed sustainable checklist must be presented to the Infrastructure Committee at end of Schematic Phase for approval for the project to continue.

ITEM	INCORPORATE IN DESIGN		COST OF IMPACT	EFFECT ON SCHEDULE
DAYLIGHTING				
1. Maximize the benefits of daylighting but minimize direct sunbeam penetration.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Consider the use of light shelves	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. When possible use skylights to allow for day lighting for other than perimeter space. Ensure that energy savings gains exceed energy losses from increased solar load.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Lighting fixtures should be controlled by photocells, occupancy sensors and connected to the Energy Management System.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. 10 ft or greater for floor-to-ceiling heights in classrooms and offices to allow daylight penetration and indirect lighting concepts.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ENERGY SHELL OF A BUILDING				
1. The building shall be designed to maximize energy efficiency.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Provide operable windows for ventilation in each occupied space, such as classrooms and offices.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. At a minimum use insulation as follows: Roof – R30 and for walls – R25	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Use double pane high efficiency glazing to reduce heat gain while still allowing daylight into the space.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Use passive or built-in exterior shading devices such as awnings, overhangs, trees, thermal mass, berms etc. to prevent solar heat gain entering through windows and doors.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Use sound-reducing glass on windows and glass doors facing noisy streets.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Use exterior building shell materials whenever possible that are recyclable and are manufactured within 500 miles of the college.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for Renovation Projects

ENERGY SHELL OF A BUILDING (CONT.)				
8. Use exterior building shell materials whenever possible that have the least embodied energy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
9. For roofing projects, the design team must use U.S. EPA Energy Star™ compliant roofing and high emissivity roofing (initial reflectance of at least 0.65 and three year aged reflectance of a least 0.5 when tested in accordance with American Society of Testing Materials (ASTM) E903 and emissivity of at least 0.9 when tested in accordance with ASTM 408) for a minimum of 75% of the roof surface <u>OR</u> a green (vegetated) roof for at least 50% of the roof area. This will reduce heat load on building.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ENERGY EFFICIENT LIGHTING AND ELECTRICAL SYSTEMS				
1. Use T-5 fixtures if these cannot be used use T-8 Second Generation and electronic ballasts in all non-dimming fluorescent fixtures.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Use compact fluorescents in place of incandescent lights.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Use electronic ballasts with all dimmable switches.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. In perimeter day lit zones use integrated photocell controls to reduce number of lamps in operation.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. For all spaces employ a comprehensive use of occupancy sensors. These are to be <small>US</small> Your Text Here draft ed for both for lighting and power. The power control shall be from a <i>watt stopper inc</i> type of product that when the office space is vacant as sensed by the occupancy sensor than the power strip turns off task lighting, computer monitors, fans, printers, and other equipment.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Use Energy Star light-emitting diodes (LED) where possible. Unless otherwise required by code, use energy star LED exit signs.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Offices shall have direct control of office and task lighting by use of dimmable control.				



Sustainable Checklist for Renovation Projects

8. Specify a color temperature of 3500K or less for florescent lamps and specify a Color Rendition Index (CRI) of 90 or higher.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
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ENERGY EFFICIENT LIGHTING AND ELECTRICAL SYSTEMS (CONT.)

9. Provide Direct Digital Control (DDC) of primary equipment in order to employ energy saving strategies and of terminal air-conditioning unit's e.g. variable air volume (VAV) terminals and lighting panels for better control of individual spaces.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
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ENERGY EFFICIENT MECHANICAL AND VENTILATION SYSTEM

1. Maximize natural ventilation and daylighting in balance with glare and energy use issues.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. The HVAC system must be designed to maximize energy efficiency.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Select mechanical systems with highest Energy Efficiency Ratio (EER) ratings and low KW/ton available on the market.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. The Energy Management System (EMS) will be a full DDC system. The controls must be designed to account for the maximum energy savings possible. These include but are not limited to the following:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a) Upon opening of a window the corresponding air conditioning terminal unit automatically shuts down.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b) Consider the use of "smart building" design such as one in which when an occupant is no longer occupying a space, the HVAC and lighting systems for that space shut down automatically. One method is to use a combined function motion detector, one signal to turn off the lighting and the other to shut down the air conditioning terminal unit.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c) The EMS software must be able to schedule automatic changeover for run and standby machines.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for Renovation Projects

d) Provide carbon dioxide (CO ₂) sensors that provide outside air requirements on demand for those areas that have a high occupancy levels.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ENERGY EFFICIENT MECHANICAL AND VENTILATION SYSTEM (CONT.)				
e) Consider the use of night purge which takes advantage of nighttime cool dry air and exploits the thermal capacity of the building by pre-cooling air for the next day.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
f) Use the EMS for optimum start/stop that takes advantage of the building's thermal capacity and minimizes equipment run time.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
g) Use the EMS to provide chilled water temperature and condenser water temperature reset.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
ENVIRONMENTALLY SENSITIVE BUILDING PRODUCTS AND SYSTEMS				
1. Establish a storage and collection area for recyclables at each facility during construction and during occupancy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Use locally made materials (within 500 miles radius)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Maximize the use of post-consumer recycle and post-industrial recycled content material.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Use rapid renewable materials these include bamboo, cork, linoleum flooring, sunflower seed board, wheatgrass cabinetry.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Maximize the use of wood-based materials certified in accordance with components, including but not limited to: structural framing and general dimensional framing, flooring, finishes, furnishings, and non-rented temporary construction applications such as bracing, wood formwork where specified and pedestrian barriers.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Incorporate re-used items, seconds, surplus, donations etc. in order to reduce capital expenditure.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Minimize use of material (eliminate drop ceiling, etc.)	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
8. Select maintenance free materials.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
9. Use innovative environmentally friendly products (e.g. oxygena).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for Renovation Projects

INDOOR ENVIRONMENTAL QUALITY				
1. Comply with the latest edition of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62 for air ventilation. Use 22 cfm of outside air per occupant in all occupied spaces. Where there is a difference between ASHRAE outside air requirement and the 22 cfm use the most stringent requirement.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
INDOOR ENVIRONMENTAL QUALITY (CONT.)				
2. Meet operational, maintenance and record keeping requirements of Cal/OSHA	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Outside air intakes shall be at least 30 ft from temporary and/or permanent sources of contamination.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Prevent accumulation of water under, in or near buildings.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Use high efficiency HVAC unit filters.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Provide CO2 controlled ventilation for high-level occupancies e.g. classrooms, auditoriums, cafeterias, conference room etc. Perform a flush out prior to substantial completion and occupancy. Return ventilation system to normal operation following flush-out period to minimize energy consumption. Utilize "bake-out" protocol.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Air out materials and equipment before installation to minimize off gassing during occupancy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
8. Use paint, carpet, adhesives, sealants and interior finishes with low or no volatile organic compounds (VOC):	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a) Carpet systems shall comply with the limits set by the Carpet and Rug Institute Green Label Indoor Air Quality Test Program	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b) Paints and coatings must comply with the VOC and chemical compound limits of Green Seal requirements.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c) Composite wood or agrifiber products may not contain any added urea-formaldehyde resins.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d) Adhesives shall comply with the VOC limits of South Coast Air Quality Management District Rule 1168 (SCAQMD) and all sealants used as fillers must comply	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for Renovation Projects

with Bay Area Air Resources Board Reg. 8, Rule 51				
9. Install permanent entryway systems (grills, grates, etc.) to capture dirt, particulates, etc. from entering the building at all high volume entryways.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
INDOOR ENVIRONMENTAL QUALITY (CONT.)				
10. Provide areas with structural deck-to-deck partitions with separate outside exhausting, no air recirculation and negative pressure where chemical use occurs (housekeeping areas, copying/print rooms).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
11. Provide drains plumbed for appropriate disposal of liquid waster in spaces where water and chemical concentrate mixing occurs.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
WATER CONSERVATION				
1. Use reduced water consumption fixtures including the following:	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
a) Toilets 1.1 gallons per flush or less	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
b) Waterless Urinals 0 gallons	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
c) Restroom faucets 1.0 gallons per minute or less	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
d) Kitchen faucets 1.6 gallons per minute or less	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
e) Cafeteria faucets 1.6 gallons per minute or less	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Use water-conserving appliances in cafeterias and kitchen and/or laundry facilities.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Use condensing boilers or instantaneous point-of-use water heaters on restroom, kitchen or cafeteria sink fixtures to provide hot water on demand. Justify selection based on life-cycle cost analysis.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Provide a gray water system.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Provide eco roofs (are roofs with vegetation) which absorb carbon dioxide from the atmosphere and provide stormwater drainage control through absorption and slow release of rainwater.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. In order to control stormwater use cisterns, porous paving, on site infiltration, and bioswales. Goal - zero discharge.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for Renovation Projects

MAINTENANCE				
1. Establish ways to measure performance of the facilities during operation.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Design to minimize maintenance and life-cycle cost.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Recognize the need for on going maintenance.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Provide for on-going energy and indoor air quality monitoring.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Provide training for maintenance and administrative personnel.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
RECYCLING SYSTEMS AND WASTE MANAGEMENT				
Provide in the construction documents the following requirements:				
1. Construction waste management plan is mandatory. During construction sort wood waste, cardboard, scrap, metal and drywall at a minimum. Goal - zero landfill transport.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
2. Install dual bin system of recyclables and trash at each college for use during construction and occupancy.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
3. Design to reduce waste. For example, size rooms in multiples of commonly available materials (4 by 4's, etc.).	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
4. Whenever feasible and practical, use materials that are factory cut and finished to minimize waste, such as carpet tiles instead of broadloom carpet.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
5. Whenever feasible, approved removal of vegetation during construction shall be mulched and stored on site for use as ground cover after final grading.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
6. Grind and reuse all concrete and asphalt.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
7. Recycle all sheetrock.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		
8. Grind all wood waste or sell for fuel.	<input type="checkbox"/> YES	<input type="checkbox"/> NO		



Sustainable Checklist for Renovation Projects

EDUCATION

1. Incorporate cut aways, signage, clear panels, etc. to illustrate sustainable building features.

YES

NO

NOTES:

Distribution Issue:

Issue with all Bids, RFP's, etc.

Distribute to all existing A/E's, CPM's, Facility Managers, etc.