

Bureau of Recreation and Conservation Green Principles for Park Development and Sustainability

Principle #5: Integrate Green Design and Construction

Consider These Techniques and Practices for Material Selection and Construction

The ideal “green” project preserves and restores habitat that is vital for sustaining life. A green building is one whose construction and lifetime of operation assure the healthiest possible environment while representing the most efficient and least disruptive use of land, water, energy and resources. The optimum design solution is one that effectively emulates all of the natural systems and conditions of the pre-developed site – after development is complete.

- Optimize building orientation, massing, shape, design, and interior colors and finishes maximizing natural day lighting.
- Use high performance low-e glazing. Consider insulated double glazing, triple glazing or double pane glazing with a suspended low-e film. Selective coatings offer optimal light transmittance while providing minimal solar gain and minimal heat transmission.
- Avoid the use of HCFC and Halon based refrigeration, cooling and fire suppression systems. Optimize the use of natural ventilation and where practical use evaporative cooling, waste heat and/or solar regenerated desiccant dehumidification or absorption cooling.
- Identify ways to use high-recycled content materials in the building structure and finishes. Consider everything from blended concrete using fly ash, slag, recycled concrete aggregate, or other admixtures to recycled content materials such as structural steel, ceiling and floor tiles, carpeting, carpet padding, sheathing, and gypsum wallboard. Consider remanufactured office furniture and office partition systems, chairs and furniture with recycled content or parts.
- Explore the use of bio-based materials and finishes such as various types of agriboard (sheathing and or insulation board made from agricultural waste and byproducts, including straw, wheat, barley, soy, sunflower shells, peanut shells, and other materials). Some structural insulated panels are now made from bio-based materials. Use lumber and wood products from certified forests where the forest is managed and lumber is harvested using sustainable practices. Use resource efficient engineered wood products in lieu of full dimension lumber which comes from older growth forests.
- Evaluate all products and systems used for their ability to be recycled when they reach the end of their useful life.
- Recognize that transportation becomes part of a product or building materials embodied energy. Where practical, specify and use locally harvested, mined and manufactured materials and products to support the regional economy and to reduce transportation, energy use and emissions.
- Develop a strict waste-management practice to divert construction wastes from reaching the landfill.
- Use materials and resources found on the site in the site design and construction. Make a designated area for on-site materials to be reused including lumber for fire blocking and spaces, scraps of drywall for filler in hidden areas, etc. Save concrete chunks, broken bricks, blocks and other masonry rubble for backfill. Use cleared brush and trees chipped for mulch. Use joint compound buckets for other materials and your tools.
- Ask suppliers to buy back unused items.
- When possible avoid material brands with excessive packaging.
- Research your local recycling and salvage options.

Operations and Maintenance

No matter how sustainable a building may have been in its design and construction, it can only remain so if it is operated responsibly and maintained properly. Ensuring operations and maintenance personnel are part of the project's planning and development process will help retain the green features designed at the onset of the project. In addition, all building occupants should be trained on building operation efficiency. Facility maintenance and operations should be part of an ongoing long-term management system that plans, guides, and supports visitor services, natural and cultural resource protection, and facility management. Maintenance employees could also be trained in interpretive skills to educate park visitors on various green/sustainable features.