

# APPENDIX

C


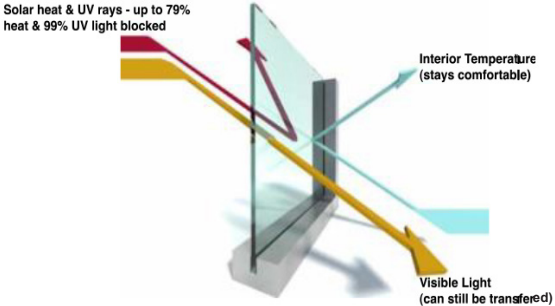
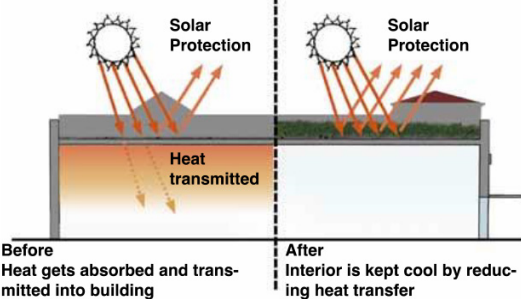


Sustainability and Conservation Toolbox

## INTRODUCTION

The Sustainability and Conservation Toolbox provides tools, with descriptions and illustrations, for consideration where applicable when planning or designing a project.

TABLE C-1: SUSTAINABILITY AND CONSERVATION TOOLBOX




SUSTAINABILITY AND CONSERVATION TOOL	DESCRIPTION	ILLUSTRATION
Storefront Shading	Shading storefront windows that are exposed to the sun allows for a visual indoor-outdoor connection while reducing building heat gain. It is important to consider the building's orientation as the sun rises and sets low in the sky. East façades are best treated with a vertical shading device such as louvers and west façades are most effectively shaded by a horizontal shading device such as an awning.	
Low Solar Heat Gain Windows	Windows that have low solar heat gain reduce the amount of solar heat that is transmitted through the windows. Solar heat gain is measured by solar heat gain coefficient and U-factor, and a lower coefficient or U-factor indicates lower heat transfer through the window. Low solar heat gain windows can incorporate low-emissivity or low-e coatings, spectrally selective coatings, and/or multiple window layers.	
Green Roof	Green roofs improve the thermal performance of a building by reducing the amount of heat that flows through the roofing materials. As a result, less energy is required to heat the interior in winter or cool it in summer. They also reduce the heat island effect by limiting solar reflection; hold and evapotranspire storm water; produce oxygen; and absorb carbon dioxide.	



**TABLE C-1: SUSTAINABILITY AND CONSERVATION TOOLBOX**

SUSTAINABILITY AND CONSERVATION TOOL	DESCRIPTION	ILLUSTRATION
Cool Roof	A cool roof reflects sunlight away from the building, which reduces roof temperatures, reduces the urban heat island effect, and helps reduce heat gain in the building's interior. There are many types and styles of cool roofing materials and treatments.	
Solar Tubes and Skylights	Solar tubes and skylights allow natural light to illuminate building interiors during the daytime and thereby reduce the need for artificial light sources. Studies have shown the natural sunlight greatly contributes to increased productivity in the workplace and may offer other benefits to people as well.	
Passive Cooling	<p>Passive cooling utilizes convection and natural ventilation to cool buildings, which reduces the need for air conditioning and lowers energy use and utility costs. Building features that assist with passive cooling include operable windows, vents, vent stacks, thermal chimneys, whole house fans, and shade-creating features such as awnings, overhangs, and landscaping.</p> <p>(Image source: <a href="http://www.yourhome.gov.au/passive-design/passive-cooling">www.yourhome.gov.au/passive-design/passive-cooling</a>)</p>	

TABLE C-1: SUSTAINABILITY AND CONSERVATION TOOLBOX (CONTINUED)

SUSTAINABILITY AND CONSERVATION TOOL	DESCRIPTION	ILLUSTRATION
Graywater System	Graywater includes water generated from showers, baths, sinks, and clothes washers, and can be used for certain purposes to reduce the use of drinking water. A graywater diversion system reuses graywater directly without treating or storing it by diversion into toilet tanks or to outdoor irrigation. Graywater can also be stored on site and treated for other uses.	 <p>Section shows the path of recycled greywater for use in washers, toilets and for irrigation.</p>
Permeable Surfaces	Increasing permeable surfaces and reducing impermeable surfaces on a site allows rainwater to infiltrate into the ground. This prevents urban runoff and protects surface and groundwater resources. It also reduces demands on the conveyance capacity of the storm drain system.	
Porous Paving	Porous paving is a type of permeable surface that permits fluids to pass through the pavement into a stone base below, and then into the soil below to recharge groundwater supply. The infiltration of storm water through the pavement reduces the demands on the storm drain systems. Porous paving options include porous concrete, porous asphalt, and paving systems with openings for planting and gravel.	



**TABLE C-1: SUSTAINABILITY AND CONSERVATION TOOLBOX (CONTINUED)**

SUSTAINABILITY AND CONSERVATION TOOL	DESCRIPTION	ILLUSTRATION
Bioswale	A bioswale is a storm water management feature that provides an area for storm water to infiltrate into the ground and/or through filtration systems. Bioswales can be located in parkways in the public right-of-way or in private development sites, and can incorporate landscaping and trees.	
Rainwater Collection Systems	Rainwater collection systems channel rainwater from a building's roof through gutters to a collection tank, where it is stored for use in landscape irrigation, ornamental fountains, or other non-potable uses. Systems can range from simple rain barrels under downspouts, to more sophisticated systems including filtration, bypass and overflow features, and pumping equipment.	
Composting Co-Op	Composting is the controlled biological decomposition of organic matter, such as food and yard wastes, into humus, a soil-like material that can be used to facilitate plant growth. Recovering and composting organic waste is key to reducing the amount of waste that reaches our landfills. Composting co-ops can provide the means for residents in urban areas and multifamily housing to compost, and can in turn support landscaping areas and reduce maintenance costs.	
Recycling Programs	To meet City recyclable materials diversion goals, it is important to increase diversion rates from commercial and multi-family properties. Local recycling programs that can assist include composting education and incentives, commercial food scrap composting, yard trimmings recycling, recycling events, and construction and demolition debris recycling.	



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