

A BAY-FRIENDLY LANDSCAPING GUIDE TO
**RECYCLED-CONTENT AND
SALVAGED MATERIALS**



Add Value, Reduce Greenhouse Gas Emissions, and Create Attractive Landscapes



Recycled-content products are made from materials derived from discarded goods.

Salvaged materials are items that have been put to a new use, after they are no longer needed for their original use. Salvaged materials are generally reused in whole form, whereas recycled materials are remanufactured between uses.

Salvaged and Recycled Landscape Materials Are Good for Business and the Environment

Salvaged materials run the gamut from used brick and lumber to broken slabs of concrete to vintage metalwork. Recycled-content materials include plastic and composite lumber, aggregate made from reclaimed asphalt and crushed concrete, and mulch made from plant debris.

Depending on your project's size and requirements, you can use these materials in a variety of ways to create unique, attractive landscapes, conserve resources, lower costs, reduce greenhouse gas emissions, and landscape "for less to the landfill." Using these materials will distinguish you from other landscape professionals and help you introduce your clients to the benefits of Bay-Friendly Landscaping.



Bay-Friendly Landscaping...

...means working in harmony with the natural ecosystems of the San Francisco Bay Area to improve soil health, reduce runoff and pollution, prevent and reuse plant waste, and conserve water and other natural resources.



Add Value

Salvaged and recycled-content materials can benefit your business and the environment by:

- Reducing hauling and disposal costs when you reuse materials already on the project site.
- Reducing maintenance and replacement costs when you choose high quality, durable, low maintenance products such as recycled plastic decking that doesn't rot or require sanding and sealing.
- *Strengthening your relationship with clients – especially those who want environmentally responsible landscapes.*

Create Attractive Landscapes

Salvaged and recycled-content materials can be used to create attractive, one-of-a-kind landscapes. Here are just a few examples:

- Use free wood-chip mulch for naturally beautiful, low maintenance paths.
- Transform broken concrete into an attractive path, retaining wall or bench.
- Spread colorful tumbled glass for a sparkling border or edging.
- Communicate the site's history by making the most of existing features like old railroad tracks or weathered brick walls.
- *Your resourcefulness and creativity will attract new clients and build your reputation as a leader in your field.*

Reduce Waste & Greenhouse Gas Emissions

Every manufactured material or product contains “embodied energy.” That’s the amount of energy it takes to grow, mine or harvest the raw materials to make the product, plus the energy used to manufacture, transport, and eventually dispose of it.

Considering the embodied energy of landscape materials is valuable for understanding the total resources used in the design, construction, and maintenance of landscapes. If you choose stone pavers that are quarried halfway around the world, for example, much more energy goes into transporting them than if you choose pavers salvaged from a nearby demolition site.

The most effective way to reduce embodied energy in landscaping is to design and construct long-lasting, durable, and adaptable landscapes with locally produced materials. You can also save energy and other natural resources by selecting recycled-content products instead of virgin materials and salvaging materials whenever possible, especially those already on site.

In fact, using salvaged materials saves about 95% of the embodied energy in materials that would otherwise be thrown away. Salvaged materials, such as used brick, pavers, or broken concrete, are prime candidates for patios and pathways. If they are salvaged from local or regional sources, even less energy will be consumed and fewer greenhouse gas emissions produced in shipping.

Using recycled-content materials also saves embodied energy and reduces air pollution and greenhouse gas emissions associated with making new products from virgin materials. For example, for every ton of plastic that’s recycled, half a ton of greenhouse gas emissions are prevented. These numbers quickly add up. Recycled plastic or composite lumber can be used to make decks or raised garden beds that do not rot, crack, or splinter. Fly ash, a by-product of burning coal for electricity, can replace a portion of the cement in concrete; doing so keeps fly ash out of landfills and reduces energy use and greenhouse gas emissions associated with cement manufacturing.

Using salvaged and recycled-content materials in landscaping saves energy and reduces the gases that cause global warming.



“There is real marketing potential for adopting these practices. Increasingly, our clients want to do the right thing.”

— Michael Thilgen, Landscape Architect and Contractor, Four Dimensions Landscape Company, Oakland

“One of our projects was a shopping center with a freeway entrance landscaped with large rock mulch.



The client wanted the rock gone. We

found a way to reuse it onsite, and saved \$12,000 to \$15,000 in hauling the old stuff and buying new material.”

— Jacob Voit, Sustainability Manager and Construction Project Manager, Cagwin & Dorward Landscape Contractors, Novato

“There’s a lot of talk about green building costing more, but that’s not necessarily true with landscaping. You can save money upfront with salvaged materials.”

— Kat Weiss, Principal, Kat Weiss Landscape Design, Livermore

“Cradle-cradle thinking is key. I try to be thoughtful about what I’m choosing now and where it will end up in 50 to 100 years.”



— Sarah Sutton, Principal, Design, Community & Environment (DC&E), Berkeley

TYPES OF SALVAGED MATERIALS

You can find salvaged materials for virtually all types of landscape projects, although incorporating salvaged items into large commercial or public projects can be more challenging. Start by working with what's already on the site, whether it's old buildings that can be dismantled and incorporated into the landscape, dramatic boulders, or site debris like downed trees that can be chipped onsite into mulch. Here are some salvaged materials commonly used in landscaping:



Brick

Salvaged bricks can be used on projects of any size for patios, walkways, and edging, and to give a landscape an aged look. Used bricks and factory seconds can be crushed and reused for mulch or pathways. If using whole bricks, think twice before choosing mortared brick; removing old mortar can be time consuming. Salvaged brick is available from used building materials suppliers, online materials exchanges, newspaper classifieds, and local construction sites.



Concrete

Reused concrete, also known as "urbanite," is great for constructing benches, garden walls, rockeries, raised beds, a foundation for an earthen terrace, and flagstone-like paths and patios. To find pieces that are lighter and of similar thickness, look for broken concrete from pathway and sidewalk demolition projects. Urbanite is commonly available year-round and is usually free if you haul it, although obtaining adequate quantities for larger commercial projects can require advance planning. See page 7 for directions on how to make an urbanite bench.



Glass

On smaller projects such as single-family homes or community gardens, salvaged windows and doors can be used to make cold frames, greenhouses, outdoor rooms and garden art.



Lumber

Existing buildings marked for removal represent a vast source of high quality lumber that can be used for beams and posts, gates, fencing, raised beds, structures, trellises, benches and other furniture, and garden sculptures. The beautiful patina on some vintage lumber can add distinctive character to landscaping projects.



Metal

For larger projects, salvaged metal can be used to create beautiful gateways or public sculptures. For smaller projects, salvaged iron can be transformed into garden sculptures or arbor roofing, salvaged scrap metal can become patio furniture, and rebar can be reused to make a unique trellis.

...and How to Use Them Successfully in the Landscape



Pavers

Salvaged concrete pavers are easy to reuse, especially if they were originally laid in sand beds. When removing pavers from a site, try to reuse them at that site or store them for use on another project. Salvaged pavers are sometimes available at used building materials suppliers or online. From time to time, paving bricks and stones are available from local public works departments, as they were commonly used to build streets a century ago.



Rammed Earth

Rammed-earth garden walls are constructed in place by ramming a mixture of gravel, sand, clay and cement between flat forms (a variation, called pisé, uses a pneumatic hose to spray the earth mixture against open formwork). In many cases, soil excavated from the site can be used in the rammed earth mix. Some rammed earth structures have withstood centuries of wear and tear.



Stone

Salvaged stone cleared from building sites and farmland can be used for all types of large and small landscaping projects, including walkways, retaining walls, rockeries, raised beds, edging, decorative accents and water features. If you can't find salvaged stone, try to find stone that was quarried, shaped and finished locally, because moving stone consumes a lot of transportation energy. When removing stone from a site, consider saving it for use on future projects.



Terra Cotta Tiles

With a little creativity, salvaged terra cotta roof or paving tiles can be used as unusual decorative elements in the landscape. Reuse old terra cotta tiles from the project site, or look for them online or from used building materials suppliers.



Wood

In addition to using salvaged lumber (see previous page), salvaged wood in a more natural state can be used to create artful landscapes. Tree branches from pruning can become trellis or twig furniture, and salvaged logs can be used to construct a retaining wall, or simply placed in the landscape to create habitat for beneficial creatures like lizards.



Irrigation Pipe and Fittings

Keep scraps of new irrigation pipe and fittings for reuse on other jobs. Also, when removing irrigation pipes and parts from a project, keep any that are in good condition for reuse on other projects (be sure to obtain your clients' consent before installing used irrigation materials). Try to minimize your use of new polyvinyl chloride (PVC) irrigation products by keeping the mainline as short as possible, then using poly tubing, because of the hazards associated with PVC production.



Other Salvaged or Found Objects

If the project plans include building small structures like sheds, greenhouses, cold frames, and other outbuildings, these are perfect candidates for including salvaged materials.

Decorative light fixtures, metalwork, urns, woodwork, sheathing, doors, and roofing materials can all be salvaged and reused in these structures or in other aspects of the landscape. Paint can also be saved from one project and used in another.

Some salvaged items are more suited to smaller-scale projects such as single-family homes, community gardens or schools. An old whiskey or wine barrel, for example, can be used to catch and store rainwater from a downspout; if you just need a few barrels, you may be able to get them for free from local wineries. Planting beds can be edged with reused bowling balls, LP records or upside-down wine bottles.

For larger commercial or public projects, consider commissioning local artists to create public art using salvaged materials. And look for ways to connect the new landscape with the site's history by incorporating materials already onsite, like cobblestones, stone walls or railroad tracks.



HOW TO MAKE AN URBANITE BENCH

from Salvaged Concrete



Broken pieces of concrete walks and walls, known as “urbanite,” can be used to make attractive, functional outdoor benches and sitting walls. Reusing old concrete provides additional benefits: it helps reduce the urban waste stream and lessens the fossil fuel consumption associated with producing new concrete.

For smaller projects, finding urbanite is easy—often a neighborhood construction site will gladly let you haul away their broken concrete. For larger projects, finding an adequate quantity may require additional planning.

Urbanite bench instructions courtesy of Michael Thilgen, Four Dimensions Landscape Company, Oakland.

Start with Design.

Spend some time considering the range of options and work out some of the details on paper. Invest a few minutes planning at the beginning—you’ll have a better project in the end.

- 1. Decide on location.** Put the bench or wall where people will be attracted to sit on it. Will it be next to a high traffic area for socializing, or in a remote place for retreat and contemplation? What views will people see when seated?
- 2. Consider slope and any needed grading.** Will the bench be freestanding, or will it be built into a hillside to serve as a low retaining wall? If a slightly taller wall is desired, you can create a bench with a back to give it height. If the bench will also be a retaining wall, the relative elevations of the existing slope will influence bench placement. Gentle slopes can be re-graded to become steeper; slopes exceeding 2:1 are less flexible.
- 3. Think about size and shape.** Most people are comfortable with the sitting surface at a height of 18 to 22 inches above the adjacent walking surface. Benches are usually between 14 and 18 inches deep. Allow 1.5 to 2 lineal feet of bench per person; a six-foot long bench will seat about four people. If you include a back, slope it gently into the hillside, about 1 inch in 12. Armrests are optional.

Benches and walls can be laid in rectangular or curvilinear forms. Gentle curves are relatively easy to build. Tighter curves require smaller pieces and more careful construction.

- 4. Consider the finish.** Urbanite benches and walls can be left unfinished, or colored with an acid-based concrete stain, available from masonry suppliers. Or, for a completely different effect, coat the bench with one or more layers of stucco or plaster. You can make a beautiful natural clay plaster by mixing high clay-content soil with sand and straw, and you can create attractive effects by inserting small stones, tumbled glass, or pottery shards into the plaster. Joints can be filled with sand and soil, with vegetation planted to make a rock garden element.



HOW TO MAKE AN URBANITE BENCH

Materials

1. **Locate materials.** There may be a failing concrete walk, patio or wall on the project site that could be broken up and used for the bench. Check for reinforcing—some concrete is poured with steel bar or wire mesh to help it resist cracking. Reinforcing steel makes concrete much more difficult to break into usable pieces.

If there is no concrete on site, don't worry—it's an abundant material. Check with local masonry and demolition contractors and local online bulletin boards.

2. **Carefully inspect the urbanite.** Ideally, the concrete will be of the same thickness. Most walks are about 4 inches thick, but thickness is not always uniform. Walls may be much thicker. Uniform thickness allows for easy laying of horizontal courses. Pieces of varied thickness will require sorting and/or irregular mortar joints. A wide variety in thickness can result in longer construction time.

3. **Size and shape of pieces.** Concrete breaks into irregular polygons, usually with relatively straight edges. Try to get 1 to 3 square foot pieces. Pieces that are smaller than 1 square foot require more care in laying and tend to be less stable. Pieces larger than 3 square feet can be difficult to handle.

Broken pieces will have rough edges. The edges of the old walk or patio, which were poured against wood forms, will be smooth. You might keep the smooth-edged pieces for the top of the bench, which can make for more comfortable sitting, especially for people in short skirts or pants.

It's difficult to control the break lines, so expect that some pieces will not be ideal in size and shape. Be prepared for variety, and expect to have some waste material at the end of the project.



...from Salvaged Concrete

Construction

1. Clear the work site and complete rough grading.
2. Prepare the footing and lay the first course. Excavate a level trench at least 6 inches deep for a footing. Place a thin layer of moist sand on the native soil, level and compact it, and lay the first course of urbanite. Place one end piece, and then the other end piece. Verify that they are at the same elevation. Then fill in the rest of the pieces, using a tightly stretched string to verify the tops are all level. Or, start at one end and use a long mason's spirit level to confirm that the course is laid level. Use a smaller level to verify the front to back direction. Fill the joints with mortar.
3. Lay the second course. Spread a layer of mortar on top of a small section of the first course, place the next piece, and tap it gently with a mallet to adjust for level and to establish firm contact between the concrete and mortar. Try to avoid continuous vertical joints. Where possible, stack "one on two"—pieces should span across joints and bear on two separate pieces below. (Alternatives to using mortar include dry stacking the urbanite pieces or using dirt fill.)
4. Lay subsequent courses. Mix the mortar in small batches, and re-mix it frequently to keep it from hardening.

The final course might extend $\frac{1}{2}$ to 1 inch forward from the main face to make a reveal and provide a more finished look. Using pieces that were poured against a form for the top course makes an attractive contrast with the broken surfaces below. Another option for the final course of a bench or wall is to use a different but complementary material, such as salvaged flagstone.

When the mortar has hardened, the bench is ready to use. If there will be other construction happening nearby, you might want to protect the bench from impact for a few days while the mortar cures and strengthens.

5. Stain or apply plaster or stucco, if desired
6. Enjoy your new bench!



WHERE TO FIND (& SEND) SALVAGED MATERIALS

The first place to look for reusable materials is the project site itself. And don't forget to check your own company's yard—you may have salvaged pavers, lumber or other items stored from previous jobs.

For other sources, check local salvage yards and used building materials stores. Many of these organizations will also buy or accept donations of salvaged items from your project sites. Find them in the phone book under "Building Materials – Used," "Junk Dealers," "Salvage Merchandise," and "Scrap Metals."

You can also look for interesting materials online, in local classified ads, and (for smaller projects) at garage sales and flea markets. Get in the habit of routinely searching the sources where you've had the most success. Note, however, that it rarely makes environmental or economic sense to ship salvaged materials from far away.

Here are a few to get you started:

- **Artefact Design & Salvage** (Sonoma):
www.artefactdesignsalvage.com
- **Black's Farmwood** (San Rafael):
www.blackfarmwood.com
- **Builders' Guide to Reuse & Recycling**:
<http://stopwaste.org/docs/buildersguide-05.pdf>
- **Building REsources** (San Francisco):
www.buildingresources.org
- **C&K Salvage** (Oakland): (510) 569-2070 or
cksalvage@aol.com
- **California Materials Exchange**:
www.ciwmb.ca.gov/CalMax
- **Capitola Freight & Salvage** (Santa Cruz):
www.capitolafreight.com
- **Craigslist**: www.sfbay.craigslist.org
- **East Bay Depot for Creative Reuse** (Oakland):
www.creativereuse.org
- **Freecycle Network**: www.freecycle.org
- **Garbage Reincarnation**, (Santa Rosa):
www.garbage.org
- **Green Waste Recycle Yard**: (Richmond):
www.greenwasterecycleyard.com
- **Habitat for Humanity East Bay ReStore** (Oakland):
www.eastbayhabitat.org/restore
- **MarinMax Materials Exchange**:
www.marinmax.org
- **Ohmega Salvage** (Berkeley):
www.ohmegasalvage.com
- **The ReUse People** (Oakland):
www.thereusepeople.org
- **This & That** (San Pablo): (510) 232-1273
- **Urban Ore** (Berkeley): <http://urbanore.ypguides.net>
- **Whole House Building Supply & Salvage** (East Palo Alto): www.driftwoodsalvage.com
- **The Wooden Duck** (Berkeley, San Rafael):
www.thewoodenduck.com



TIPS FOR SALVAGE SUCCESS

Salvaged materials can be good for your business and help to create an interesting landscape with a story to tell. But they're sometimes challenging to find or use, especially for larger projects and for projects where the design and construction functions aren't integrated. Also, convincing subcontractors and clients to embrace salvaged materials is not always easy.



Here are a few tips for success:

- Locate materials early in the design process to avoid major design revisions when materials are found. One way to do this is to evaluate project sites and old buildings for reusable materials at the start of the project.
- Use materials that have a connection to the site's history or items that have cultural significance to the project; let the materials and the site's history and condition inspire the design.
- Maintain some flexibility in the design until materials are found.
- Develop a plan for salvage and recycling of construction and demolition materials. Hire demo contractors with experience in deconstruction and salvage.
- Put materials to the highest use. Avoid "down-cycling," which means taking a high quality material and putting it to a low quality use, like chipping good-quality lumber for mulch.
- Include appearance and environmental performance standards in the specifications for salvaged materials.

(ADAPTED FROM: MEG CALKINS, "CLOSING THE LOOP: PART II," LANDSCAPE ARCHITECTURE, DEC. 2002.)



"Recycle and salvaged materials can be functional, but they also have value as garden art. If the design ideas suggest the artistic or aesthetic value of the materials, it's a much easier sell."

— Eric Burkhart, Principal, Gardens by Eric Burkhart, Berkeley

"Forward-thinking designers



look at projects differently. They think about deconstruction, reuse and resourcing of materials. They ask,

what's here, what can I bring in that's reused and local, and how can it be deconstructed in the future."

— Michael Thilgen, Landscape Architect and Contractor, Four Dimensions Landscape Company, Oakland

"We collaborate with the project designer or architect and find ways to donate unwanted materials from a project to a local school or community group. It saves money and shipping costs, and meets a community need."

— Jacob Voit, Sustainability Manager and Construction Project Manager, Cagwin & Dorward Landscape Contractors, Novato

"There's an educational



component to our work. When I suggest a green product, clients are usually willing to try it if I tell them about its benefits."

— Kat Weiss, Principal, Kat Weiss Landscape Design, Livermore

TYPES OF RECYCLED-CONTENT MATERIALS

When specifying recycled-content materials, remember that recycled content isn't the only goal; the product still has to meet your performance, budget and aesthetic requirements. Fortunately, most recycled-content landscape products are as good as or better than their conventional counterparts.

Below are some commonly available recycled-content landscape products. Ask your nursery, hardware, lumber and irrigation suppliers for recycled-content and locally produced products. Check the Build It Green Product Directory (www.builditgreen.org) for an up-to-date list of recycled-content products and local suppliers.



Asphalt & Concrete Aggregate

Reclaimed asphalt and crushed concrete can be used as aggregates for road base and subbase material, backfill and other uses. Use of lighter-colored aggregates in the surfacing material will also help reduce the heat-island effect in urban areas. For very large commercial and public projects, it may be economical to crush old asphalt and concrete in place and reuse it onsite.



Crumb Rubber

Crumb Rubber. Edit to read: Discarded rubber products, such as scrap tires, are ground and reconstituted as surfacing or paving materials or play surfaces. "Poured-in-place" surfacing is made from up to 100% recycled tires. Rubber pavers are also made from 100% recycled tires and are durable alternatives to concrete pavers. Rubberized asphalt concrete blends crumb rubber with asphalt cement and aggregates, and is used for road overlay or as a new surface course. Although more expensive than conventional asphalt, asphalt rubber costs less in the long run due to lower maintenance costs and longer life.



Fly Ash and Slag

Fly ash is a byproduct of coal-fired electricity generation. Slag is a byproduct of iron manufacturing. Fly ash and slag can be mixed with poured concrete to replace some of the cement used in the concrete mix. Depending on the application, the amount of fly ash or slag can range from 20% to 70% (see www.epa.gov/epawaste/conservation/tools/cpg/products/cement.htm#recommended and consult an engineer for details). In addition, when pouring concrete, use reusable forms.



Glass

- Pavers and Tiles. Recycled glass is melted and formed into translucent pavers and tiles with up to 100% recycled content. Glass pavers can be installed like any other pavers, or combined with traditional stone or concrete products for a beautiful effect. Recycled glass tiles can be used in many applications, such as surrounding a reflecting pool or fountain.
- Tumbled Glass. Glass bottles are broken into pieces and tumbled to smooth away the sharp edges, resulting in a versatile material. Tumbled glass provides a decorative accent when used in pots and water features, or to line a pathway or patio. Other salvaged materials such as porcelain and terra cotta can also be tumbled and used in a similar way.



Paint

Some paint manufacturers make high quality, economical, recycled paint for use in place of standard latex paint. The recycled portion (ranging from 20% to 100%) comes from leftover commercial sources as well as paint recovered from household hazardous waste collection facilities. Manufacturers reformulate the collected paint to meet performance standards. Recycled paint is available in many colors.



Plant Debris

- **Compost.** Choose compost made by local producers from plant debris and food waste. Make sure the suppliers meet the U.S. Composting Council's Seal of Testing Assurance (STA) requirements. Model specifications for compost can be found at www.BayFriendly.Org. Specs for using compost blankets, berms and filter socks to control erosion are available from www.dot.ca.gov/hq/LandArch/policy/compost-specs.htm
- **Mulch.** Local green waste and wood chip mulch are 100% recycled. They are attractive and can be used as a walking surface for paths. Download a list of local suppliers from www.BayFriendly.org. Better yet, use a chipper-shredder to recycle plant trimmings for mulch on site. See *A Bay-Friendly Landscaping Guide to Mulch*, available at www.BayFriendly.Org, for more information.
- **Nutshells.** Nutshells are an interesting and often-overlooked choice for mulch material. Nut processors in this region generate large volumes of nutshells from October through November. You can create unique, attractive landscape beds using crushed walnut shells. Walnut shells aren't good for walking surfaces, but other agricultural wastes that make good pathway gravels or mulch include peach pits, cotton seeds, apricot pits, and olive pits.
- **Rice Hulls.** Several companies make plant pots in a variety of shapes and colors made from grain husks (primarily rice hulls) and natural binding agents. These pots are compostable after use.



Plastic

- **Plastic & Composite Lumber.** Recycled plastic is melted and remanufactured into standard dimension plastic lumber for decking, railings, raised beds, and other applications. Composite lumber is made from recycled plastic mixed with sawdust or other wood products. Recycled plastic and composite lumber can cost more upfront but are very durable, resist rot and insects, require minimal maintenance, and can substitute for preservative-treated wood. Neither is recommended for structural purposes.
- **Other Plastic Products.** Recycled plastic is used in many other landscape products, such as edging and bender board, garden and soaker hoses, lawn and patio furniture, playground equipment, picnic tables, benches or bench slats, parking stops, trash receptacles, and grass pavers. It is also used for a variety of athletic, recreational, and playground surfaces. Recycled-content pallets are also available; ask your suppliers if they can use them when delivering materials.



“Besides the economic and environmental value of recycling and salvaging, having creative, imaginative, unique and unusual garden spaces appeals to most folks.”



— Eric Burkhart, Principal, Gardens by Eric Burkhart, Berkeley

“I like to use tumbled recycled glass to introduce color. I’ve used it in combination with native plants for clients who want extra color during the dry season.”

— Kat Weiss, Principal, Kat Weiss Landscape Design, Livermore



“A selling point of local and salvaged materials is that the client’s money goes back to the local community. People are concerned about money going out of the community.”

— Jacob Voit, Sustainability Manager and Construction Project Manager, Cagwin & Dorward Landscape Contractors, Novato

Are You Using Good Wood?



When you need to use wood in the landscape, first consider salvaged wood or recycled-content plastic or composite lumber. If those options won’t work for a particular project, look for wood or bamboo certified by the Forest Stewardship Council (FSC). FSC certification ensures that the wood is responsibly grown and

harvested using careful management practices that take into account forest and ecosystem health, harvest rate, and protection of ecologically sensitive areas. By buying FSC-certified wood products, you protect the health and vitality of our forests. To ensure you’re getting the real thing, look for the FSC logo on the products you’re buying; be aware that some less stringent certification programs have confusingly similar names and logos. More information is available at www.fscus.org.



Keep the Future in Mind

When designing and constructing a landscape, it’s important to consider what you can do today that might minimize the project’s environmental impacts in the future. Think about the project’s structures, hardscapes and site furnishings. What will happen to them in 5, 10 or 50 years if the owners want to use the landscape in a different way or just want a new look? Can the structures be moved to other sites and reused? Can buildings, paving and other hardscaping be easily deconstructed and their components salvaged for other projects? If the materials you’re selecting today can’t be salvaged in the future, can they be easily recycled instead?

While it’s difficult to anticipate what may happen on a site in the future, it’s possible to make some choices today that will facilitate reuse and recycling later on. For example:

- Pavers set in sand are easier to take up and reuse than mortared pavers.
- Metal furnishings are readily recyclable, whereas many plastic and composite materials are not.
- Components that are mechanically fastened with bolts or nails are easier to take apart than components that are glued.

Of course, there will always be tradeoffs when choosing a material or a particular design strategy. But keeping the future in mind can help you understand the full environmental impacts of the choices you make today.



Recycling Landscape Materials

In addition to using recycled-content and salvaged materials, it is important to reuse, recycle, or donate your unused materials. This reduces pressure on landfills, saves money by reducing tipping fees, and provides raw materials for future products.



To estimate the savings associated with recycling and reusing hardscapes and green waste, use the U.S. EPA's online "Recycling and Reusing Landscape Waste Cost Calculator" (www.epa.gov/epawaste/partnerships/greenscapes/tools/index.htm). Donations may be tax deductible; consult your tax professional.



TIPS FOR RECYCLING SUCCESS

- Allow time in your schedule for recycling.
- Dedicate an easily accessible area for collection and storage of recyclable materials.
- Develop and implement a plan to divert from landfills 100% of inert materials such as concrete, asphalt and dirt and at least 50% of all other construction waste (some companies reuse or recycle as much as 85% of their construction waste). For a model waste management plan, see the publication, "Section 01505: Construction and Demolition Waste Management" (www.StopWaste.Org).
- For information on where to recycle materials, use the Recycling Wizard at www.stopwaste.org/recycle
- Contact local recycling facilities and haulers to identify recycling requirements. Get information on materials reuse facilities and site cleanup contractors from the Builders' Guide to Reuse & Recycling from www.StopWaste.Org.
- Select suppliers that allow returns of unused items, and nurseries that accept used containers.
- Educate subcontractors and employees about your recycling requirements and procedures.
- Return wooden pallets to suppliers or take apart non-returnable wood pallets to chip for mulch.
- Donate healthy plants to local nonprofits or school gardens.
- Very large projects may be able to grind in place the original asphalt and concrete and reuse the ground material as a base for new roads and walkways.
- Grasscycle, mulch, and compost plant debris. Get information at www.BayFriendly.org.
- To recycle urban forest trees, contact the Green Waste Recycle Yard at www.greenwasterecycleyard.com.



The Bay-Friendly Landscaping Program...

...was developed by StopWaste.Org, which is the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board acting as one public agency. Its mission is to plan and implement the most environmentally sound waste management program for the residents, businesses and institutions of Alameda County.

The Bay-Friendly Landscaping Program offers resources to landscape professionals in the public and private sector, model policies and technical assistance for local governments, as well as sustainable gardening education for the home gardener in Alameda County. The Bay-Friendly Landscaping Program has produced this guide as a public service to aid landscape professionals in the use of recycled-content and salvaged landscape materials. The information in this guide is strictly for use on a voluntary basis. It is not a substitute for the exercise of sound judgment and not intended as a recommendation for a particular product or service.

For information about Bay-Friendly landscaping or to find out about the Bay-Friendly training and qualification programs, please visit www.BayFriendly.Org.

Other Free Bay-Friendly Resources for Landscape Professionals

Available online at www.Bay-Friendly.Org or by calling (510) 444-SOIL:

- *Bay-Friendly Landscape Guidelines: Sustainable Practices for the Landscape Professional*
- *A Bay-Friendly Landscaping Guide to Mulch: Save Money, Control Weeds, and Create Healthy Landscapes* (English and Spanish versions available)
- *A Bay-Friendly Landscaping Guide to Grasscycling: Save Time, Save Money and Create Beautiful Lawns* (English and Spanish versions available)
- *A Case Study: Grasscycling*
- **For your clients:**
 - *Ask Your Lawn Care Professional about Grasscycling for Beautiful, Lush, Healthy Lawns*
 - *Choosing a Landscape Professional for Your Bay-Friendly Garden*
 - *Bay-Friendly Gardening Guide*

Other Recycled Materials Resources

- **From StopWaste.Org:**
 - *Builders' Guide to Reuse & Recycling:*
www.stopwaste.org
 - *Fact Sheet on Recycled-content Park and Recreation Products:*
www.stopwaste.org/docs/parkandrec5.pdf
- The US Composting Council lists participants in their Seal of Testing Assurance (STA) Program at <http://compostingcouncil.org/section.cfm?id=23>. The *Field Guide to Compost Use* is available to download at <http://compostingcouncil.org/article.cfm?id=64>.
- US EPA's Comprehensive Procurement Guidelines Program:
 - designates standards for recycled content materials:
www.epa.gov/epawaste/conserves/tools/cpg/products/index.htm
 - offers *Buy-Recycled* facts sheets for landscape, park and recreation products for downloading from www.epa.gov/epawaste/conserves/tools/cpg/factshts.htm

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