

# SARA CONNER COURT APARTMENTS

SETTING A GREEN & BAY-FRIENDLY EXAMPLE *Hayward, CA*



## Sara Conner Court Apartments

is a 57-unit community of affordable rental homes. The project revitalizes a brownfield site in Hayward, California, previously occupied by a beverage processing plant, gas station and

dry cleaner. Developed in partnership with the City of Hayward, this urban infill development is named in honor of the late Sara Conner, a community volunteer and longtime board member of the nonprofit affordable housing developer, Eden Housing.

One of Eden's goals for Sara Conner Court Apartments was to build an exemplary project that would inspire local development of quality homes for people with low incomes. The project team put considerable effort into creating a community that is not only safe, attractive and affordable, but also environmentally friendly and healthy.

### LOCATION

Hayward, California

### PARCEL SIZE/DENSITY

1.8 acres / 30 dwelling units per acre

### BUILDING TYPE

2 and 3 story townhouse-style units above a concrete podium parking structure, and 3-story wood-frame apartments

### TOTAL SQ. FT.

53,941 sq. ft. (net) units; 1,761 sq. ft. community area

### TARGET POPULATION

Families with low incomes

### NUMBER OF UNITS

57 one, two and three-bedroom rental units

### COMPLETION DATE

August 2006

### OWNER/DEVELOPER

Eden Housing, Inc., Hayward, CA

### ARCHITECT

Pyatok Architects, Oakland, CA

### LANDSCAPE ARCHITECT

Rich Seyfarth, Berkeley, CA

### GENERAL CONTRACTOR

Segue Construction, Point Richmond, CA

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## ■ Green Building Features ■

Sara Conner Court doesn't have glamorous green features like solar electric systems or vegetated roofs. Instead, the team improved the project's environmental performance while maintaining its affordability by focusing on fundamental strategies such as solar orientation, daylighting, natural ventilation and durability.

### LIVABLE COMMUNITIES

The four buildings are arranged around a spacious 8,500-square foot courtyard with areas for playing, relaxing, barbecuing and picnicking. The largest building has 30 two- and three-story townhouse-style units above a parking structure. Despite its size, the building doesn't feel out of scale thanks to bays and indentations that give the impression of six smaller buildings. The other three buildings are wood frame, stucco-clad structures with handicap-accessible flats on the ground floor and two-story townhouse-style apartments above.

The buildings and parking areas were kept compact to allow plenty of space for a courtyard, play area and landscaping. Other community amenities include a small grass lawn, attractively landscaped walkways, a community room, computer lab and central laundry facility. Each apartment has its own patio or deck.

The community is served by public transit and is located within walking distance of local elementary and middle schools, grocery stores, a low-cost medical clinic and other neighborhood services.

#### INSIDE TIP:

*Weigh community, livability, density and open space benefits from the outset of the development process.*

Compact housing developments can be good for the community and the environment because they typically use land and public infrastructure more efficiently than sprawling developments. But on urban lots it's not easy to create higher density housing that also allows adequate space for parking, outdoor recreation and landscaping. For Sara Conner Court Apartments, Eden chose to build many of the homes above a podium parking structure. Although the parking structure costs considerably more than surface parking, it preserves valued open space and contributes to a more livable community.

### LOWER ENERGY USE & GREENHOUSE GAS EMISSIONS

The project was designed to be at least 15% more energy efficient than required by California's Title 24–2001 building energy standards. The apartments have no air conditioning; rather, they were designed for good natural ventilation, with operable windows at the front and back of each unit to provide cross breezes. The courtyard and breezeways ensure that each unit gets plenty of daylight and fresh air. The parking structure is open so that car exhaust is flushed out with fresh air rather than with energy-consuming exhaust fans.

## GREEN at a GLANCE

Here are key green aspects of Sara Conner Court Apartments

#### PLANNING & DESIGN

- Urban infill; brownfield remediation
- Proximity to public transit, schools and neighborhood services
- Ample open space, natural ventilation and daylighting
- Community spaces include courtyard, play area, community room, computer lab

#### SITE

- 50% of jobsite waste reduced, reused or recycled
- Indoor air quality and hazardous waste plans followed during construction

#### STRUCTURE

- Drainage plane under siding to shed moisture
- Durable siding and 50-year roof
- Raised heel trusses

#### SYSTEMS

- High efficiency exterior and exit sign lighting
- Energy Star appliances in units
- No air conditioning
- Water-efficient toilets, faucets and showerheads
- Range hoods vented to the outside
- Sealed ducts for energy efficiency
- Central laundry facility with Energy Star clothes washers and gas-fueled dryers

#### FINISHES & FURNISHINGS

- Low-emissions carpet
- Exposed edges of cabinet boxes fully sealed to prevent formaldehyde outgassing
- Natural linoleum flooring
- Low VOC interior paints, adhesives and sealants
- Exterior wood trellises are weather-resistant cedar instead of pressure-treated lumber



The apartments' efficient gas-fueled hydronic heating systems allow the water heater to do double duty, providing hot water to the faucets as well as heating the apartment. Each apartment has its own gas meter, which costs more to install than a central meter but provides an incentive for the residents to keep their energy use—and related greenhouse gas emissions—in check. All heating ducts were fully sealed to improve the efficiency of the heating system and protect indoor air

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#### INSIDE TIP:

*Look for multiple benefits and stay ahead of the regulatory curve.*

Eden was committed to exceeding the requirements of California's building energy code, known as Title 24, by at least 15%. During the design process, however, the team realized that the larger of the four buildings was coming in somewhat below that energy performance benchmark. They analyzed extra measures that would improve the design's energy performance while still being affordable. Increasing the insulation in the floor/roof assembly above the parking structure was one option, but the team opted instead for tighter sealing of the heating ducts. This saves energy and provides an added benefit of better indoor air quality. Also, even though the project was developed under Title 24–2001, Eden expected that the 2005 code update would require tighter duct sealing. They decided to stay ahead of the regulatory curve by choosing tighter duct sealing for this project.

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#### HEALTHY MATERIALS AND PRACTICES

Carpets in living rooms and bedrooms bear the Carpet and Rug Institute's Green Label, an indication of lower chemical emissions. In addition, the carpets were installed with adhesives that have low levels of volatile organic compounds (VOCs). Exposed composite-wood materials in the kitchen cabinet boxes are fully sealed with a low VOC sealant to prevent the offgassing of formaldehyde. The entryway, kitchen and dining area flooring is natural linoleum instead of vinyl. The kitchen range hood's exhaust fans vent to the outside, and bathroom exhaust fans are on timers tied in to the light switch so that they stay on long enough to adequately vent the space.

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#### INSIDE TIP:

*Make sure the linoleum installer follows the manufacturer's specifications.*

Natural linoleum is a high quality, eco-friendly product, but it is more complicated to install than vinyl sheet or tile. The installation went smoothly on this project, but on a previous project Eden had encountered installation problems related to the jobsite's moisture and temperature conditions. To avoid such problems, use an installer certified by the linoleum manufacturer, and make sure they understand and agree to follow the manufacturer's specifications.

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## ■ Bay-Friendly Landscaping Practices ■

The project team, with guidance from StopWaste.Org's Bay-Friendly Landscaping program, designed an outdoor setting that's beautiful and environmentally sound. Here are some of the steps they took:

### NURTURE THE SOIL

Healthy topsoil is alive with billions of microorganisms that play a vital role in protecting soil from erosion, feeding plants and reducing pollution. Unfortunately, conventional building practices often treat soil as if it were a lifeless medium—compacting it with construction equipment or removing it from the site altogether. By the time the landscapers arrive on the job, the topsoil may be totally gone or lifeless and hard as rock, and not surprisingly, what is then planted fails to thrive or dies.

Teresa Eade, senior program manager with Bay-Friendly Landscaping, applauds the Sara Conner Court team for their soil protection efforts. They removed topsoil before construction began and stockpiled it away from construction activities. Later it was respread in the site's planting areas, amended with compost and organic soil amendments to supplement missing nutrients, and aerated to a depth of 12 inches. "You can really tell the soil is healthy by how healthy the plants are," Eade says.

#### INSIDE TIP:

##### *Amend the Soil with Compost*

In Northern California, the standard material used to add organic matter to the soil is nitrolized sawdust, a byproduct of forest-products industries. Nitrolized sawdust can be unpredictable in the soil because it is not biologically stable, and in the short-term it negatively affects beneficial soil organisms. Compost, on the other hand, is stable in the soil and adds billions of beneficial soil organisms. Also, using compost closes the recycling loop by reusing organic matter that might otherwise have been landfilled. When buying compost, choose products that have been certified by a third party for quality. The U.S. Composting Council has a Seal of Testing Assurance (STA) program that provides third-party certification. The compost used at Sara Conner Court was an STA-certified compost from BFI Organics.

### CONSERVE WATER AND PROTECT WATER QUALITY

The site is now beautifully landscaped with plants suited to the Bay Area's Mediterranean climate, characterized by a six-month dry season and cool rainy winters. Selected plants include trees such as pineapple guava, shrubs such as barberry, Oregon grape, quince and rosemary, and perennials such as fleabane, sedge and lavender.

A key element of the landscaping plan is hydrozoning, which simply means situating plants with similar water needs together so that they're watered by the same valve on the irrigation system. Turf demands a lot of water, so it's particularly important to zone any lawn areas separately from drought-tolerant plants. At Sara Conner Court, the turf is limited to a small lawn in front of the development and another next to the play area, and the turf is irrigated separately with a high efficiency irrigation system.

## GREEN at a GLANCE

*Continued from previous.*

#### BAY-FRIENDLY LANDSCAPING

- Topsoil removed and stored during construction
- Soil tested and improved with organic amendments, STA-certified compost and recycled mulch
- No synthetic fertilizers used
- Shade trees moderate building temperature and reduce heat island effect
- Stormwater directed toward lawns, planting beds and bioswales to reduce flow of rainwater to storm drains
- Hydrozoning reduces water use
- Diverse plant palette of California natives and other drought-tolerant plants
- No species planted that are listed by Cal-IPC as invasive in SF Bay Area
- Turf minimized; grass clippings are grasscycled
- Grass-porous pavement in courtyard area minimizes impervious surfaces and provides fire lane
- Nursery pots returned to vendor for reuse
- All plant debris during construction and ongoing maintenance separated for recycling into compost
- Play structure and landscaping materials contain recycled content





All rainwater that runs off the parking areas and the buildings' roofs drains to the lawns, planting areas or bioswales. This allows the runoff to percolate into the soil, where organisms can break down contaminants such as motor oil into harmless components. It also recharges the groundwater, reduces the volume of water and can delay the flow of rainwater into the storm drain until after peak flows, which minimizes erosion of local creeks.

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**INSIDE TIP:**

*Nix the sidewalk lawn strips.*

Avoid putting in lawn strips next to sidewalks. Turf needs to be watered regularly but it is difficult to mow, fertilize or water narrow strips efficiently; much of the irrigation water will be wasted as overspray or runoff, damaging sidewalks and roads. At Sara Conner Court, attractive groundcover and other non-invasive, low-water plants line the sidewalks.

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**CREATE WILDLIFE HABITAT**

On a visit in November 2006, five months after the landscaping was installed, Eade noticed abandoned hummingbird nests in the new trees. "That means the hummingbirds would have nested as soon as the trees were planted," she says. "And we saw a hummingbird still feeding on a Mexican sage. We also saw some beneficial insects attacking an aphid infestation."

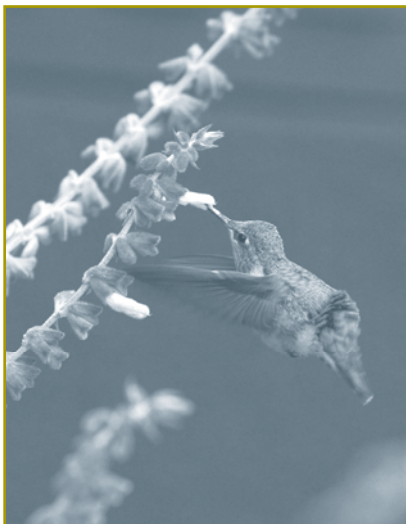
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**INSIDE TIP:**

*Plan for diversity.*

A diverse palette of plants creates a beautiful environment for people, attracts birds and means that the plants won't be as prone to pest problems, which in turn means that pesticide use can be minimized. If the plants are also drought tolerant and not invasive, water is also conserved and waste is prevented.

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## ■ Financing ■

Green building features were designed into this project from the beginning.

<b>SITE ACQUISITION COSTS</b> .....	\$1.9 million
Land .....	\$1.8 million
Demolition .....	\$117,000
Off-site improvements .....	\$582,000
Acquisition financing and title costs .....	\$47,000
Subtotal .....	\$2.6 million

### DEVELOPMENT COSTS

Soft costs .....	\$3.7 million
Hard costs (remediation & construction) .....	\$12.7 million
Furnishings .....	\$65,000
Developer Fee .....	\$1.4 million

<b>TOTAL BUDGET</b> .....	\$20.5 million
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### FUNDING SOURCES

City of Hayward .....	\$4.5 million
Redevelopment Agency of the City of Hayward .....	\$1.75 million
Construction and permanent loans through Silicon Valley Bank .....	\$2.9 million
Enterprise Social Investment Corp. equity generated by the sale of low income housing tax credits .....	\$11.5 million
StopWaste.org grant .....	\$55,000
Enterprise Foundation's Green Communities grant program .....	\$50,000

<b>AVERAGE COST/SQ. FT.</b> .....	\$368/sq. ft.
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<b>AVERAGE COST/UNIT</b> .....	\$359,650
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### AFFORDABILITY TARGETS

30% of median income .....	6 units
40% of median income .....	6 unit
50% of median income .....	28 units
60% of median income .....	16 units
Onsite property manager .....	1 unit

## MULTIFAMILY GREEN BUILDING GUIDELINES CASE STUDY

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This Case Study was written by StopWaste.org as part  
of its Multifamily Green Building Guidelines.

To obtain the Guidelines and many other  
waste-reduction and green building publications,

visit [www.multifamilygreen.org](http://www.multifamilygreen.org)

or call 510-891-6500.