

BETTY ANN GARDENS FAMILY APARTMENTS

Mainstreaming Green



FIRST COMMUNITY HOUSING

The Betty Ann Gardens

affordable housing project in San Jose, California, demonstrates the successful confluence of mainstream construction practices with environmental sensibilities.

Completed in 2003, the 76-unit suburban development lies on 3.9 acres along the banks of the Penitencia Creek, a riparian preserve on North King Road.

This project exemplifies the goals of its San Jose-based developer, First Community Housing (FCH), to make a positive impact on the community “by building sustainable, high-quality, affordable housing developments and offering resident services that meet the needs of those who earn less than the area’s median income.”



LOCATION

North King Road at Berryessa Road, San Jose, California

PARCEL SIZE/DENSITY

3.87 acres;
20 dwelling units per acre

BUILDING TYPE

3-story building with rental apartments

TOTAL SQ. FT.

Floor area: 85,169 sq. ft.
Building footprint: 27,504 sq. ft.

TARGET POPULATION

Families with low incomes

NUMBER OF UNITS

76 total
1-bedroom: 16
2-bedroom: 36
3-bedroom: 20
4-bedroom: 4

COMPLETION DATE

August 2003

OWNER/DEVELOPER

First Community Housing, San Jose, CA

ARCHITECT

Office of Jerome King, AIA, San Jose, CA

GENERAL CONTRACTOR

Branagh Construction, Oakland, CA

OTHER

Engineering Network performed Title 24 analysis; Plogco Inc. provided HVAC design; Betty Ann Gardens, LLP, to own and operate; FCH will remain a general partner.

CONTACT FOR MORE INFO

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The initial design approved by the City of San Jose was not specifically for a green building project. However, a change of staff at First Community Housing opened the door to more aggressive incorporation of green features. Since this happened after the project was well underway, it was too expensive to pursue major changes to siting and orientation. But it was still possible to include many green materials and efficient systems.

The development's key green building attributes include proximity to public transit, use of low-toxicity materials, energy-efficient lighting and appliances, and recycled-content roofing and flooring materials. Residential features are designed to encourage community interaction, and include a children's play lot, a community center with kitchen, activity rooms and offices, and lawn and mini-plaza areas.

■ What Makes it Green ■

ENERGY

Overall, the project uses 26% less energy than allowed by California's Title 24 energy code. All Betty Ann Gardens apartments feature ENERGY STAR® air conditioners, dishwashers, refrigerators and compact fluorescent lamps. ENERGY STAR® products save electricity and reduce residents' utility bills. Insulation above levels required by code and vinyl-frame double-glazed windows and sliding doors also help conserve energy and keep the homes comfortable. The apartments include combination water/space hydronic heating and cooling systems, which are generally more energy efficient and less costly to operate than conventional water heating and forced air systems.

MATERIALS

Many of the building materials used on this project contain recycled content or are otherwise resource efficient. Engineered joists and trusses and OSB sheathing were used in place of solid wood and plywood. Fiber-cement siding was substituted for solid wood siding, with the added benefit of greater durability and reduced maintenance. The community center's roof is a blend of cellulose fiber and 100% recycled plastic, molded to resemble slate tiles. All cabinets and trim are medium-density fiberboard (MDF) with no added formaldehyde; this material is manufactured with more than 90% preconsumer recycled wood. All carpeting contains recycled content, and carpet tiles, rather than large rolls, were installed so that worn sections can be selectively replaced.

GREEN at a GLANCE

Key green aspects of Betty Ann Gardens are listed here. To learn about incorporating these and other features in your project, refer to the appropriate section of the *ACWMA Multifamily Green Building Guidelines*.

PLANNING & DESIGN

- Bus stop in front of development; free public transit passes provided to residents
- Design for community interaction: children's play lot; community center with lounge, computer learning center, kitchen, activity rooms and offices; lawn and mini-plaza areas.
- Restoration and protection of nearby creek
- Preservation of existing trees onsite

STRUCTURE

- Engineered joists and trusses, and OSB sheathing
- Fiberglass batt insulation with no added formaldehyde
- Fiber-cement siding
- Community center roof: 100% recycled plastic and cellulose
- Double-glazed, vinyl-framed windows and sliding doors

SYSTEMS

- Combination water/space hydronic heating
- Compact fluorescent lights
- ENERGY STAR® air conditioners, dishwashers and refrigerators

FINISHES & FURNISHINGS

- Low-VOC interior paints and varnishes
- Recycled-content carpet tiles
- Linoleum flooring
- Cabinets and trim: MDF with no added formaldehyde; more than 90% preconsumer recycled wood



PHOTO: COMMUNITY DESIGN

HEALTH

To reduce harmful offgassing, batt insulation with no added formaldehyde was used, as well as MDF cabinets and trim (see Materials above). In kitchens and bathrooms, linoleum flooring was laid instead of vinyl. Low-VOC interior paints and varnishes were used throughout the project, which also help maintain good indoor air quality.

WATER

By restoring and protecting the nearby Penitencia Creek, project designers contributed to improved water quality and stormwater runoff management. Restoration work involved cleaning out garbage, replanting areas and adding temporary irrigation for the newly planted trees. Installation of ENERGY STAR® dishwashers helps reduce overall water and energy use. Unfortunately, due to the project's relatively late integration of green building features, other water-conserving measures such as permeable paving and drought-tolerant landscaping could not be implemented without adding burdensome costs.

Betty Ann Gardens demonstrates the successful confluence of mainstream construction practices with environmental sensibilities.



PHOTO: COMMUNITY DESIGN

COMMUNITY DESIGN

A bus stop is located in front of Betty Ann Gardens and residents are provided free “Eco-passes” for unlimited use of local public transportation. The developer pays \$30 per person per year for these passes. A community center with lounge, computer learning center, activity room, kitchen and office space supports interactive community life. The site's heritage trees have been protected, which, along with landscaped lawn and plaza areas, provide natural beauty, open space and recreational opportunities.

■ Tips from the Trenches ■

Embed green building features at the earliest stages. The decision to more aggressively pursue green building strategies came late, after the project had already received approvals from the City of San Jose. As a result, the project team had to work within the bounds of the approved design. Some green features, like changing the heights and orientations of the buildings, would have been feasible early on, but required changes in the City's development approvals and were therefore technically and economically unfeasible at the later date. Fortunately, the general contractor accommodated the developer's green building goals, and worked with the architect to develop an alternative set of cost estimates for the green features.

Work collaboratively throughout the process. From preliminary design through finishing touches, the project’s general contractor, developer and architect worked together in a highly collaborative environment. Goals and processes were established at pre-bid and pre-construction, which helped minimize change orders and contain costs. It wasn’t until after the initial design approval that a change in staff at First Community Housing precipitated the addition of more green building features. The developer presented alternative materials and practices and because of the existing collaborative relationship, these ideas were quickly evaluated and many were adopted.

■ Financing ■

Wherever possible, the developer worked with the architect and general contractor to incorporate green building practices in a cost-effective manner. Given the relatively late introduction of green measures, the project demonstrates practical green building strategies while staying within an acceptable budget.

SITE ACQUISITION COSTS \$2,720,000

DEVELOPMENT COSTS

Construction \$11,124,300
 Soft costs \$7,775,700
 Total \$18,900,000

FUNDING SOURCES

City of San Jose (loan) \$5,129,744
 City of San Jose (grant) \$934,370
 Tax credit limited partner \$6,058,696
 CitiBank \$7,610,000
 General partner \$66,065

AVERAGE COST/SQ. FT. \$130.61

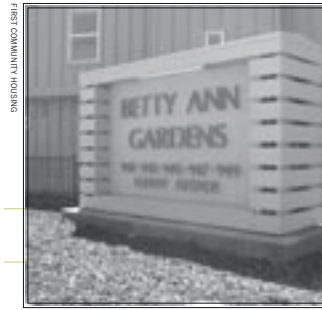
AVERAGE COST/UNIT \$146,373

AFFORDABILITY TARGETS

30% of median income 8 units
 50% of median income 15 units
 60% of median income 52 units
 Onsite property manager 1 unit

MULTIFAMILY GREEN BUILDING GUIDELINES
CASE STUDY

**BETTY ANN
 GARDENS FAMILY
 APARTMENTS**



This Case Study was written by the Alameda
 County Waste Management Authority 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
 or call 510-614-1699.