



# Green Infrastructure & Stormwater Management CASE STUDY

## Pacifica Cohousing Community

**Location:** Carrboro, NC

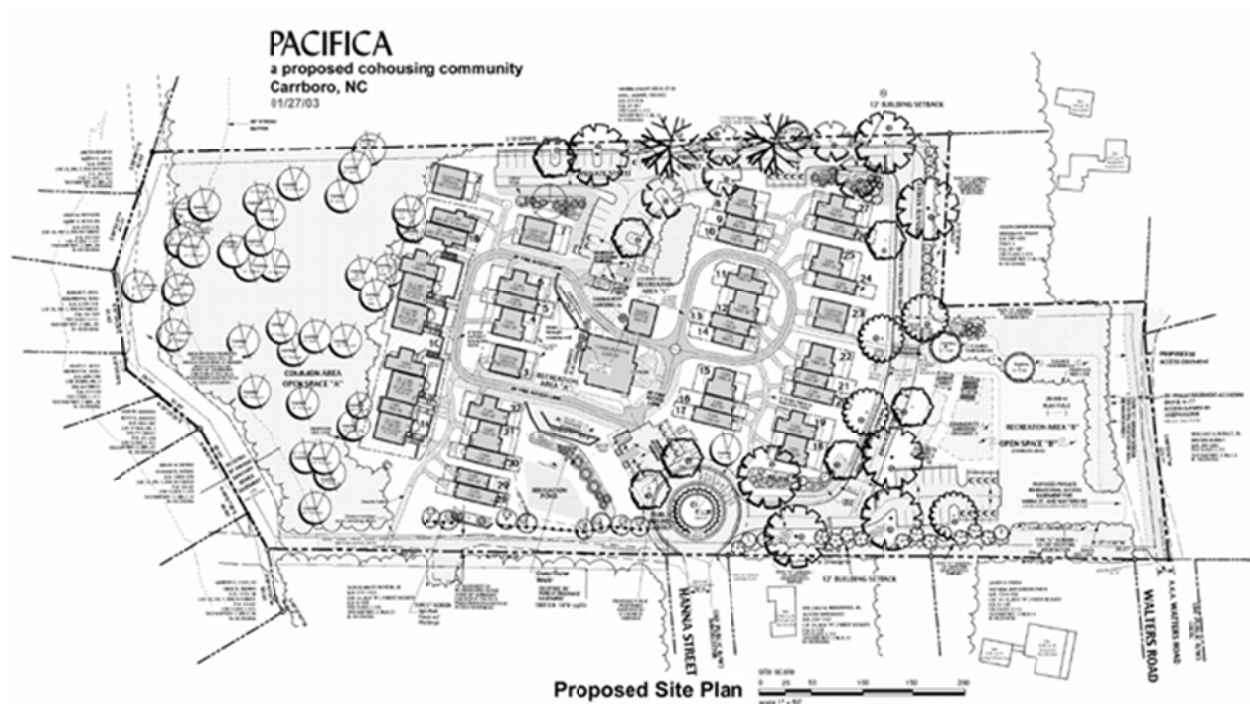
**Client:** Carrboro Collaborative Development Association

**Design Firm(s):** Howard A. Partner Landscape Architecture; Carrboro Collaborative Development Association; Robert N. Joyner, PE

**Landscape architect/Project contact:** Howard A. Partner, RLA, ASLA

**Email:** [stormworks@nc.rr.com](mailto:stormworks@nc.rr.com)

**ASLA Chapter:** North Carolina



## Project Specifications

**Project Description:** Pacifica is a cohousing community close to downtown Carrboro, NC. Construction began in 2005, and continued for another two years. The first Pacifican moved in on May 1st, 2006, and now all 46 homes are occupied. The community was designed around the guidelines of community, sustainability, diversity, and affordability. The stormwater system was designed to minimize increases in stormwater runoff, minimize channelization and piping, and focused on distributed stormwater pollutant removal. Cisterns and rain barrels are also employed for rainwater harvesting.

**Project Type:**

Townhouse building type co-housing project  
Part of a new development

**Design features:** Bioretention facility, bioswale, cistern, porous pavers, and curb cuts. Porous pavers were used for paved sidewalks and porous concrete for some parking areas. Level spreaders were also employed to distribute runoff through existing undisturbed woodlands.

**This project was designed to meet the following specific requirements or mandates:**

State statute, county ordinance, local ordinance

**Impervious area managed:** 1 acre to 5 acres

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** greater than 5 acres

**The regulatory environment and regulator was** supportive of the project.

**Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements?** Clients requested available runoff water for irrigation and usable green spaces for gardening and recreation.

**Cost & Jobs Analysis**

**Estimated Cost of Stormwater Project:** \$50,000-\$100,000 (Public funding: None)

**Was a green vs. grey cost analysis performed?** No

**Cost impact of conserving green/open space to the overall costs of the site**

**design/development project:** Developing the site with small building footprints, closely spaced on one area of the site reduced costs for road, driveway, and sidewalk connections between parking areas, and reduced costs of underground infrastructure, including storm drainage.

**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Did not influence costs. Refer to comments on limiting site development area.

**Number of jobs created:** Undetermined

**Job hours devoted to project:**

Planning and Design: All designers: 1,000 hours (approximate)

Construction: Not available

Annual Maintenance: By residents

## Performance Measures

### Stormwater reduction performance analysis:

	Predevelopment %	Developed %
1-year storm	79%	66%
2-year storm	74%	60%
10-year storm	61%	44%
25-year storm	57%	41%
100-year storm	49%	34%

**Community & economic benefits that have resulted from the project:** As an environmentally conscious co-housing community, Pacifica actively promotes efficient energy use, recycling, and sustainable landscaping. These values extend as benefits to the community at large. The co-housing development type serves as a model to the community for minimizing impacts on the natural environment, for providing economical housing, and demonstrating a model of community participatory decision making for shared benefits. Some reports of increased property values have been attributed to cohousing communities in Carrboro, including Pacifica (this has not been confirmed).

## Additional Information

**Links to images:** Site Plan: <http://pacificasonline.org/about-us/about-pacifica>

Photographs: <http://www.facebook.com/pages/Dancing-Pines-Farm/132569970848#!/pages/Pacifica-Cohousing/263914921535?sk=photos>

A number of tours per year (NC State University classes, national cohousing tour, green building tour, etc.) occur at Pacifica, focused on its sustainable design features including low impact stormwater design and energy efficient design of homes and common house.