



A Sustainable Community

A small, infill neighborhood meets the twin goals of building community and sustainable living

By Paul Deffenbaugh, Editorial Director

They're called "pocket neighborhoods." It's a term invented by architect Ross Chapin, and his book, "Pocket Neighborhood: Creating Small Scale Community in a Large Scale World," is the definitive text on the subject.

In 1995, Chapin joined forces with The Cottage Co., founded by Jim Soules, and they built the first pocket neighborhood on Whidbey Island in Puget Sound. After developing pocket neighborhoods primarily in the Seattle area, Soules brought the concept to Petaluma, Calif., where he created Keller Court Commons, a community of eight houses with a central grassy courtyard and a small common building, which opened in June 2018.

The simple idea driving pocket neighborhoods is that rethinking housing developments allows for greater variety of housing density and brings the community and neighborhood closer together. Residents can't help but be involved with each other since they sit on front porches, walk paths together



PHOTO: SCOTT HESS



PHOTO: THE MORRISONS

Bright colors contrast with the subtler palette of cedar and metal. On the commons building, a local artist used colored lime and frescoing techniques on cementitious boards to create vibrant pattern. It's offset by burnt cedar boards done in the Japanese Shou Sugi Ban technique.



PHOTO: SCOTT HESS

to their cars and share a common building, while still maintaining their privacy in a detached home.

Soules engaged MAD Architecture, Petaluma, and together they designed a neighborhood that draws on the historic agricultural influences of the surrounding area and delivers a low-maintenance, sustainable community, which can be seen in the standing seam metal roofing, corrugated metal wall panels, solar arrays and bright color palette.

THE LOCATION

The original lot was on a sloped site near downtown Petaluma and occupied by a Victorian-style 1897 farmhouse. It featured a cluster of 28 Live Oak trees and had probably at some time been used to raise chickens. At the turn of the century, Petaluma was known as the "Egg Basket of the World."

Soules describes how the parcel divided. "It was originally 2.8 acres, and we split off 10,000 square feet for the farmhouse and 10,000 square feet for a custom home. That left us about 1.8 acres gross. Excluding areas where we couldn't build, such as under the protected trees and the steep slope, that left a net buildable site of 1.1 acres. Our objective is always to shoot for eight to 10 dwelling units per acre with 1,500-square-foot or less two-story homes. We were looking for more of a medium density."

Chris Lynch, principal of MAD Architecture, drew on Soules' formula for pocket neighborhoods (10 feet between houses, walkways a certain distance from the front fence, which is a certain distance from the front of the house) to layout eight homes on small private lots, surrounding a central courtyard. The land overlooks downtown Petaluma, and each home has a view of Sonoma Mountain to the east. The commons building was constructed on an excavated terrace area so its low profile wouldn't block the view. Homes in the corner lots have two-story towers that open up the views that would be blocked by the houses in front of them.

Each house sits on a small private lot with a moderate garden space that can be tended by the homeowner. This community is not the typical new home community, targeted to new homebuyers, first move-up buyers or second move-up buyers. It aims to attract a demographic that more consistently matches the people actually buying single-family detached homes these days, instead of the traditional buyer. According to the National Association of Realtors, single women account for about 20 percent of all home purchases. Married couples still dominate at 63 percent, but more and more often they are people without children.

"The target [for pocket neighborhoods] has typically been empty nesters and singles," says Soules. "There is no exclusion of children. We would be thrilled to have single moms with children." In a



PHOTO: SCOTT HESS



PHOTO: THE MORRISONS

community such as Keller Court Commons, Soules argues, there are readily available babysitters and people who can support each other, whether it's a young family with a single parent, or an aging-in-place couple.

DESIGN INFLUENCES

The design is "rural chic, but contemporary style architecture," says Soules. "I always wanted to use metal siding and natural wood. I wanted something extremely low maintenance."

Because the site is in the Oak Hill historic district and included a historic Victorian farmhouse, "our first challenge," says Lynch, "was convincing the city that we weren't going to do a little neo-Victorian village." They found photos of outbuildings from the site to bolster their historical claim. "Our idea was not to copy the Victorian," he says, "but relate to it by the architecture being in the scale and material of the old farm buildings there. And then, of course, we pushed it to the next level to be more playful."

"The materials—corrugated metal, cedar board and battens, a lot of concrete—a lot of that was homage to the old farm buildings that were there. Even taking some of the forms from those old buildings and reinterpreting," says Lynch. "You can see that on the porches with integrated flower boxes. And the spacing of the boards on the porches allow light to come through like on an old barn."

But the driving vernacular of the design is set by the metal building components—standing seam metal roofs and corrugated metal wall panels. The Galvalume-coated roof panels, wall panels and perforated panels were all supplied by Metal Sales Manufacturing Corp., Louisville, Ky.

Soules has a penchant for bright colors, which

can be seen throughout the community. But a wide variety of materials, textures and colors can end up being visually confusing. "It could quickly unravel," says Lynch. "As it's designed now, we pushed it right to the edge. We confined a lot of the color on the commons building and the two towers." The neutral color of the metal roof and walls combined with the natural cedar board and batten provide a unifying canvas for the whole community.

Among the other details that help keep the design consistent are simple things such as spacing the porch slats on the same pattern as the board and battens, and making sure the perforated metal surrounding other porches fits the corrugated pattern of the siding. All done seamlessly.

As with any agriculturally inspired design, maintenance and durability are major factors. "From the get go," says Soules, "I wanted to use metal siding and natural wood. I wanted something extremely low maintenance. On other projects, after eight or nine years, a lot of painted wood needed attention."

SUSTAINABILITY

Durability is a major element of sustainable design. Materials that need constant repair or replacement increase the carbon footprint of the building, and for that reason metal building components are a significant contributor to the durability, maintenance requirements and sustainability of the community.

"We chose metal roofs," says Lynch "so we could attach the solar panels to the standing seam. It's a lot more efficient. You can just clip them in." The solar panels were supplied by Enphase Energy Inc., Petaluma, and Crandall Roofing, Santa Rosa, Calif., fastened them to the roofing with fasteners from Colorado Springs, Colo.-based S-5!

Parking and storage is centralized to keep the living areas pedestrian friendly. Of the 2.8 acres, only a small portion is covered by roadway, which in car-crazy California is a very new concept.





PHOTO: THE MORRISONS

Porches and careful window placement give the close-quartered houses greater privacy, but still invite interaction with the neighbors.

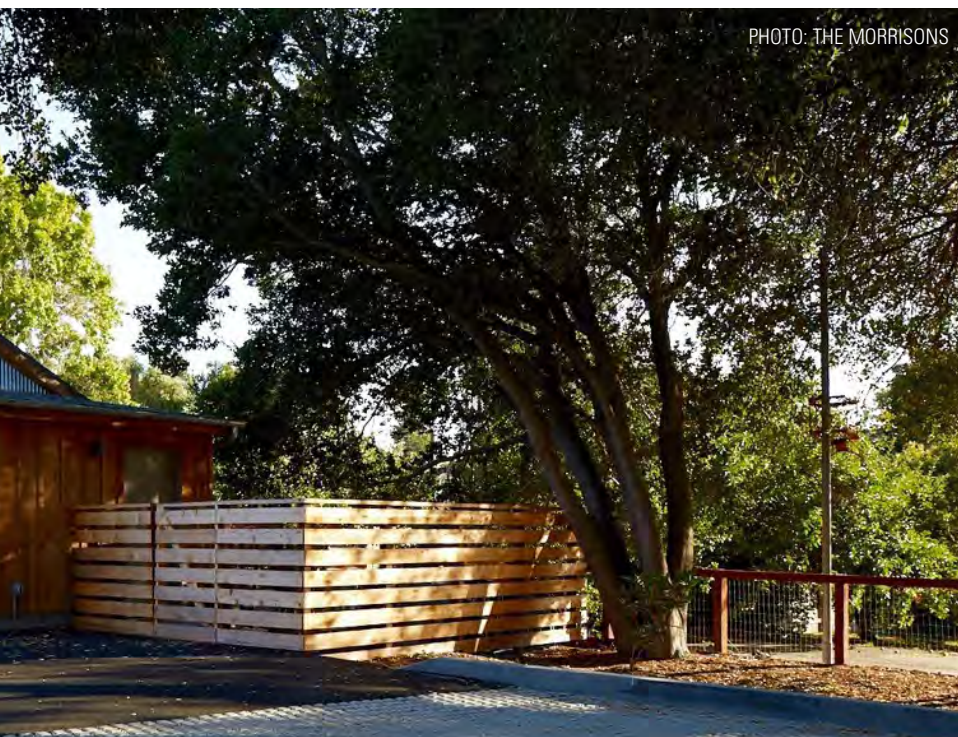


PHOTO: THE MORRISONS

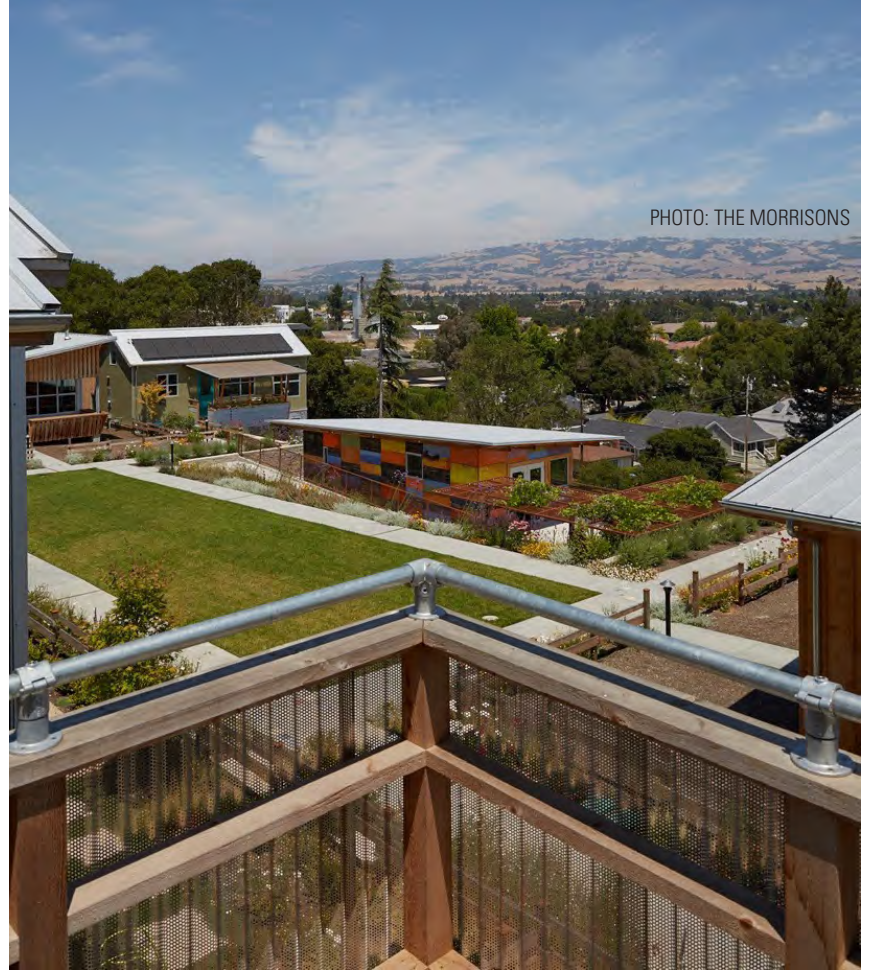


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More than the high-profile solar arrays, which deliver about 2.5 to 3 kW of solar power, it is the size of the homes that contributes the most to sustainability. The average size of a single-family home in 2018 was more than 2,600 square feet, according to the National Association of Home Builders. These two-bedroom houses run between 1,200 square feet and 1,500 square feet. They feature modern, open floor plans, but keeping the size down makes it much easier to heat and cool them. "The size is sustainable," says Lynch. "The mere fact that they're not big units means not that many resources are going into them."


The goal is to make the homes zero net energy, so they are, according to Lynch, "over insulated" with blown-in insulation. They also are heated with hydronic in-floor heating that uses small electric boilers. "Our whole thing is quality over quantity," Lynch says.

Finally, it is the development itself that contributes to sustainable features. "We are trying to infill existing communities," says Soules, "that already have infrastructure. The underlying piece to smart growth is climate change. We want to get people closer to their jobs." A nearby bus stop can take a resident to downtown in less than five minutes or he or she can walk.

PRIVACY

It's important to note the sense of privacy that still pervades Keller Court Commons, even though the homes are in such close proximity. Lynch moved the windows toward the corners of the houses to open the views and offer a greater sense of privacy, making it harder to look from one house into another. "We had to take advantage of the view," he says, "and keep people from looking directly into the neighbors."

Porches also provide privacy. "There is a range of older style housing in this neighborhood," says Lynch, "and 80 percent of them have porches. The idea is if you're going to have people buying into this community and live on the courtyard, they want to have interaction. But the porch provides an intermediate space. You can feel a bit protected and not right at somebody's feet."

"I think the community will be a niche going forward for the next 20 years," says Soules. "It's a whole different mindset for millennials and whether they see it as an important part of their lifestyle as opposed to rentals or easy-to-market condos. This is a tool to provide more housing choices and strengthen existing communities." 



SOLAR PANELS

Each home features a solar array that contributes to the overall highly sustainable community and aims for zero net energy.

METAL ROOFING

Standing seam metal roofs echo the agrarian influences and provide long-lasting, low-maintenance protection.

GRASSY COURTYARD

Residents use the courtyard for croquet and informal gatherings. It unifies the community and gives every home a focus. The residents live in a park, not a parking lot.

CORRUGATED METAL WALL PANELS

In the same way as the metal roofing, the wall panels pay homage to the agricultural influences of Petaluma plus meet sustainability goals through their durability.

COMMONS BUILDING

The low profile preserves the views for the residents. Splashes of color and texture give the envelope a vital, artistic feeling.

LIVE OAKS

The developer laid out the land to preserve the Live Oaks that surround the community and also serve as a barrier between the homes and the street.

Keller Court Commons, Petaluma, Calif.

Completed: June 2018

Size: Eight single-family detached homes between 1,200 and 1,500 square feet

Land developer: Soules Co., Petaluma, www.soulescompany.com

Architect: MAD Architecture, Petaluma, www.madarc.com

General contractor/metal panel installer: Jacobs Classic Construction, Petaluma

Metal roof installer: Crandall Roofing, Santa Rosa, Calif., www.crandallroofing.com

Solar panel installer: Suntegrity Solar, Santa Rosa, Calif., www.suntegrity.com

Metal roof/wall panels: Metal Sales Manufacturing, Louisville, Ky., www.metalsales.us.com, Circle #40

Roof clamps: S-5!, Colorado Springs, Colo., www.S-5.com, Circle #41

Solar panels: Enphase Energy Inc., Petaluma, www.enphase.com, Circle #42