

What's it like to live with two young kids—and a puppy!—on *seven* levels? Architect Ben Waechter's rendering shows how the zigzagging interior spaces, offset at each half story, connect for his active family.

GREEN *on every* LEVEL

Architect Ben Waechter and his wife, Daria Crymes, make their home in Z-Haus 1, one of two townhomes he designed that take energy-efficient design to new heights.



BY LUCY BURNINGHAM
PHOTOGRAPHY BY DAVID PAPAZIAN

From the outside, the two attached homes in Portland's Boise-Eliot neighborhood stand out with clean lines and cedar siding peppered with wide windows. The cool exterior, with two incognito front doors tucked next to matching garage doors and clean concrete pavers interspersed with Corsican mint, conceals a radical feature—a vertical, accordion-shaped floor plan.

"It's a simple scheme," says architect Ben Waechter, who designed the home and lives in the south house with his wife Daria Crymes, a Realtor, their two children, Zoë, 7, and Ari, 3, and puppy, Bina. "I organized six rooms, each 14 by 19 feet, in a back-and-forth pattern with a half-flight of stairs separating each level."

The layout takes vertical living to new heights. It divides and stacks the rooms, removing hallways and creating a sense of interconnectedness. The zigzagging floors, one of the home's most defining features, inspired its name: the Z Haus.

When you walk through the front door of the 2,816-square-foot house, the sense

of connection is immediate. Outside the living room, which a wall of floor-to-ceiling bookshelves anchors, Zoë and Ari can play in the backyard and simultaneously see their mother gathering mail in the entry one level down, thanks to a huge, sliding glass door. At the same time, they can watch Bina bound up the stairs to the next level.

Waechter extended the idea of the split-level to create these sightlines. "We didn't want a pancake organization with one room disassociated from the next room, and with no visual or spatial connection between floors," he says. "The split-level scheme connects these vertically oriented rooms."

When Crymes and Waechter decided to build a house, they were living in a 1955 ranch. They already owned an old Foursquare in North Portland on an oversized 100-by-100-foot lot in a thriving, close-in and walkable neighborhood.

The idea of adding high-density housing and keeping the Foursquare intact thrilled the couple. "My dad



Crymes and Waechter with Zoë, Ari and their puppy, Bina



"What's great about this room is that it opens onto the backyard," says Crymes. "We can socialize here, but still see the kids playing outside." The table and chair are from Look Modern in Portland. The rug is from Madison Millinger in Portland. The bookcases are from Ikea.



grew up in Portland,” says Crymes. “I’d heard about these old neighborhood hubs and I wanted to be part of one.”

In 2007, after navigating Portland’s land-use process, Crymes and Waechter received permission to add four units. To create homes with yards and

setbacks that fit the neighborhood, Waechter needed to maximize every square foot of available space.

Instead, he decided to build just two homes. Each home would be structurally independent, but share an east-west wall, which would eliminate two

entire surfaces that could lose heat in the winter. The homes would have a robust envelope of eco-friendly materials: tongue-and-groove cedar siding, a rain screen and blown-in insulation. A durable TPO membrane roof, which is 100 percent recyclable, would reflect

light to keep the homes cool in summer.

To make the Z Haus more energy-efficient, Crymes and Waechter invested in custom windows from Innotech composed of unplasticized polyvinyl chloride (uPVC), a nontoxic, renewable material made from petro-

leum byproducts and salt. In a subtle nod to the neighborhood’s aesthetic, the windows’ shape matches those in traditional Foursquare living rooms.

The windows were one of the most expensive features, but they play an important role in heating and cooling

“I like that the kitchen is connected to the living space, but is somewhat apart,” says Crymes. “I can be cooking and still have the kids nearby.” On the Level Custom Cabinets fabricated the thermofoil cabinets, which are topped with Silestone counters.

the home. Because the casement-style windows can also lock in a tilted open position, the house remains secure—and cool. When propped open, a skylight on the top level allows warm air to escape, and draws cool air upward.

The windows, which are Crymes' favorite feature, define every level of the house. The corner windows maximize natural light, which reduces energy use. "We never have to turn on lights until it's dark outside," she says.

Unlike many couples who agonize over the hundreds of decisions required for a new construction project, Crymes and Waechter made quick, practical decisions based on the

idea of the Z Haus as an enduring functional space, not an expression of their personal tastes. "The idea of genericness and flexibility was the driving force behind the layout," says Waechter. "Flexibility is a green thing."

They chose a simple palette to create rooms that, without furnishings, are blank slates of just two tones: white and hardwood. In addition to white walls and ceilings, white-painted hemlock frames tilt-and-lock windows. To create a seamless-looking frame, the window frames were assembled on the ground before they were installed.

To offset the stark whiteness of the rooms, they used the same hardwood throughout the entire home, which

PRIVACY AND OPENNESS

You can have an open floorplan and privacy. Here are tips from Daria Crymes and Ben Waechter, the Z Haus' homeowners, to balance your home's social and private needs.

MAKE A LOGICAL PROGRESSION FROM PUBLIC TO PRIVATE SPACES.

As you travel up through the levels of the house, the spaces become more private. The more social areas of the home take up the lower levels while the master bedroom is at the top. "When we have people over, we congregate in the kitchen and dining areas," says Crymes. "When you're in the spaces near the top of the house, you're removed from the activity going on in the lower levels of the house."

BUILD IN A FLEXIBLE AND EASY WAY TO BLOCK OFF SPACE.

When your whole house is open to view, it's important to have an easy way to gain privacy when you want it. To do this, Waechter, who is an architect, designed a series of wall panels that function like pocket doors (left) to shut off the family room, the office and the bedrooms. Used individually or in combination, the panels add flexibility. "They let you modulate the amount of privacy or openness," he says. "You can curate the space and change the room's character by pulling a panel shut."

CREATE QUIET SPACES IN EXISTING ROOMS. Sometimes you want to be near the action, but not part of it. Set aside an area where you can occupy a shared space, yet be slightly removed. A colorful reading chair in the bedroom allows for a quiet respite, as does the dining table that shares space with an art station. "When you have a family, these spaces are important to have when you need to be available, but you want to be doing something else," says Crymes.

—L.B.



"I've had a home office before, but this one is better because it has good natural light," says Waechter. "The windows let a lot of light in because their placement creates reflection, not shadow." Waechter made the desk and rolling cabinets. The couple found the vintage Eero Saarinen chairs on craigslist.



DEFINING DETAILS (clockwise from left): The ribbonlike sustainable oak floor follows the shape of the stairwell. "At first, I wasn't sure about using short pieces of wood," says Waechter. "But the markings in the wood add character to the house."

A large painting by Portland artist Oanh Tran, a friend who attended the University of Oregon with Crymes, hangs in the bedroom. "I like having art I have a connection to," says Crymes. "Friends or family members created a lot of our artwork."

A chair from Hive in Portland creates a restful place in the master bedroom. "This is one of our quintessential quiet spots," says Crymes. "It's important to have those spaces to go to."



enhances the sense of flow and connectivity between spaces and levels. The floors, which were installed over a radiant hydronic heating system, are made of sustainably harvested No. 2 American white oak, cut into short pieces. The patterns, colors and knots in the floor add visual interest. A nontoxic, wax oil finish allows for quick touchups of scratched areas rather than a wasteful whole-floor refinishing.

"The trickiest part of the floors was creating the stairs without the typical overhang on the rise," says Anthony Brown, the owner of Banzai Wood Floors, who installed the floors. "I love how they turned out. The wood flows from floor to floor without shadows."

Waechter designed the home's layout for flexibility. Depending on the resident, the six rooms can be used for a variety of functions. "I didn't specifically define the function of each room," he says. "The owner can choose the use." A different owner might make four bedrooms, a common living space and a dining room. Someone else might create an art loft, a studio, a writing space, a gear room, a living room and a bedroom.

Crymes and Waechter have divided the space—from bottom to top—into a living area, a dining area and an art station, a family playroom, Waechter's office, the kids' bedroom and a master bedroom. All that can change easily as their needs change over time.

To make the home's stacking layout super-efficient, Waechter created what he calls "wet core rooms," those rooms that require plumbing and ventilation: the kitchen, bathrooms and a mechanical room. By stacking these rooms on top of each other, one per level, he eliminated the need for more than one set of plumbing stacks and shaft spaces and, as a result, gained additional living space.

The largest of the wet core rooms, a white U-shaped kitchen attached to the third level, features energy-efficient stainless appliances from Dacor, Asko and Fisher & Paykel, and custom cabinets with a thermofoil (a thin PVC sheet bonded to fiberboard) finish.



"We chose blue to give the bathrooms a watery, ethereal feel," says Crymes. A Duravit sink is below what looks like a mirror, but is actually a medicine chest from Robern.

Two bathrooms, done in blue, stand out from the white scheme of the main rooms. "We finished the bathrooms in shower-grade stucco with gypcrete floors," says Waechter. "We wanted to make the bathrooms different from the other rooms to show that they had a different function than the rooms that are designed to be living spaces."

To add to the home's flexibility, Waechter came up with the idea of adding 8-by-8-foot sliding panels that function as room dividers starting at the fourth level, where the home's more private spaces begin. "The panels add incredible flexibility," says Mark Allen, the owner of Peg Construction Inc., who fabricated and installed the doors. "When the panels are open, the house feels connected from floor to floor and room to room, but with one pull of the door, you have total privacy in any space."

The doors are made from a specially dried and laminated sugar pine,

designed to hold its shape despite any changes in humidity. "The size of the panels precluded us from bringing them into the house in one piece," says Allen. "I brought each door in two pieces and then assembled them on site."

You might assume that an infill house that shares a wall with its immediate neighbor and that's only 16 feet from the house next door might feel claustrophobic. But the home's windows, from the ground floor up, create spectacular views at every level. The seven outdoor scenes, viewed from each room and with alternating east and west views, create a strong sense of place. "Because of the sameness of the rooms, the views really jump out at you," says Waechter. "Your connection to the outside is heightened because you're always perceiving a change of context."

The changing scene unfolds as you walk up the levels from the living room, which looks onto an enclosed backyard, which the couple landscaped, with help



"The sightlines are a big part of the home's design," says Waechter. "You can always see into the spaces above and below you."

from Crymes' parents. From the dining area, you can look out over homes and the action on the street. "It feels a little medieval because we can open those windows, lean out and talk to people on the street," says Crymes. "But that makes the home really relatable to the neighborhood."

In the bedroom that Zoë and Ari share, the sky is visible above the hilltops. The top floor, a serene and light-filled master bedroom and bath, seems to float among the treetops, overlooking downtown Portland and the distant snowy summit of Mt. Hood.

Yet from the seventh level of the house, you can look down the z-shaped staircase all the way to home's first floor. "When you look straight down the staircase, you can really see that the Z Haus works," says Waechter. "Everything is connected." ■

THEY KNOW GREEN



The Woodworker

Mark Allen, founder and owner, Peg Construction Inc., Portland

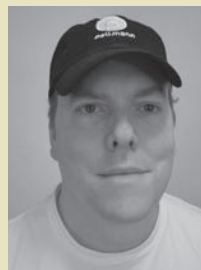
Years in construction: 20

Years owning his own business: 10

On the popularity of working with green materials: "I've been building furniture, fixtures and cabinets for a while, and the desire to go green used to limit

both clients and builders," he says. "With all the sustainable products on the market now, you can incorporate green materials into any interesting project. For example, I really like the way Ben designed the sliding panels that function as doors in the Z Haus."

Contact info: 503-234-2520 or go to pegconstructioninc.com.



The Floor Installer

Anthony Brown, founder and owner, Banzai Wood Floors, Portland

Years owning own business: 17

On laying a continuous wood floor:

"One of the things I find is that a lot of times builders will designate areas for carpets or other flooring materials, so it's rare to be able to do a whole house with a wood floor," he

says. "Houses almost always used to have wood floors in every room. For this project, it was nice to go back to working in that more traditional style, even though the house is a new house. I like that a sustainable product was used for flooring throughout the entire house."

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