Honorable Mention

CATEGORY 3

Nature in Neighborhoods:
Integrating Habitats Winners Series

Neighborhood infill development and oak woodland

re-STORY | reSTORE

Decentralized power sources

Oaks of all ages

Labyrinth landscape

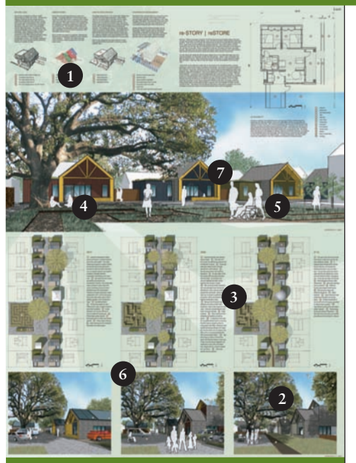
Generation gab

Access for all

Nurture nature

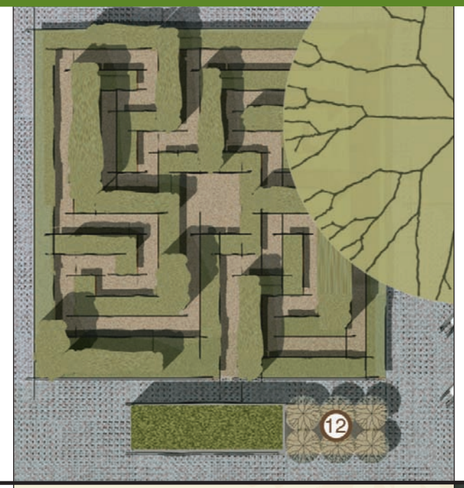
Porches face community space

Keep Nature in Neighborhoods
METRO



Snapshot of a winner

What if our communities included amenities that connect future generations to nature and the place they call home? Here, a housing community nurtures native oak species in a shared greenhouse. Residents commit to a neighborhood stewardship agreement that includes planting trees to establish forest canopy and improve wildlife habitat. Park programs include storytelling by elders and youth to share cross-generational knowledge and foster strong community bonds.



③ Labyrinth landscape

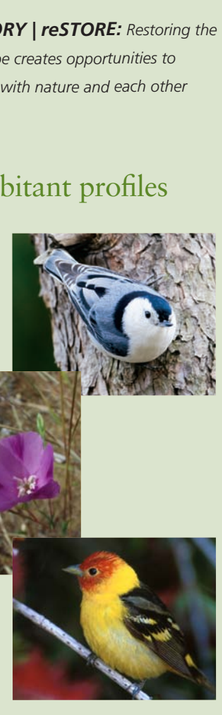
The park space includes a unique maze of trails and gathering areas composed of native shrubs and forbs. The native plant palette provides an stimulating array of colors, shapes and layers that are also good food sources and nesting areas for birds and small mammals. Species such as hazelnut, snowberry, serviceberry, Douglas hawthorn, oceanspray, thimbleberry, and nootka rose grow, bloom and change color with the seasons, making the labyrinth an active, ever-changing community feature.

⑤ Access for all

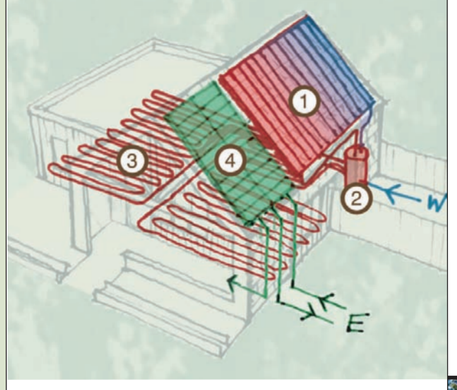
Units accomodate diverse populations and contain unique features specifically designed to address accessibility and affordability. The community layout also allows wildlife to create safe homes nearby.

re-STORY | reSTORE: *Restoring the landscape creates opportunities to connect with nature and each other*

Inhabitant profiles



White-breasted nuthatch (Lloyd Spitalnik), Farewell to spring (Curt Zonick), Western tanager (Curt Zonick)



① Decentralized power sources

Like a tree, these homes are powered by water and sunlight. High-tech rooftop tube collectors and photovoltaic panels generate on-site, renewable energy based on each household's specific needs. Features such as recycled materials, efficient space heating and water use, and natural ventilation create homes that simply use less energy and natural resources — another great way to protect wildlife habitat!

② Oaks of all ages

A generous greenspace is included with each property for oak habitat restoration. The homeowner's manual suggests timelines and plans for oak and understory plantings. Over time, the neighborhood will include young oaks, slow-growing mature oaks, and even oaks that provide valuable deadwood habitat. This kind of tree species diversity is critical for long-term habitat health and stability.

"Using a replicable, rhythmic, modest accessory dwelling unit as a way of achieving LEED Platinum density is a big, well thought through idea."

– James Winkler, jurist

"For the general public, this design presents familiar forms and prescribes material that can be found on the market, in addition to all the 'sustainability' bells and whistles." **– Susan Szenasy, jurist**

④ Generation gab

A 'storytelling' booth is a simple enclosure in which to listen and share local legends and adventures. Stories connect people to each other and to the land, creating a sense of community and purpose essential to restoring a habitat of long-lived oak trees over generations. Everyone is invited to contribute and create a legacy for future residents. "The trees in the street are old trees used to living with people/Family trees that remember your grandfather's name." – Stephen Vincent Benet

⑥ Nurture nature

The community's oak nursery provides trees for the residents' backyard habitats. Extra native oaks are made available for other community restoration projects.

⑦ Porches face community space

Generous porches oriented toward open spaces create opportunities for wildlife-watching and connecting with new and longtime neighbors.

CATEGORY 3

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Neighborhood infill development and oak woodland

Oaks and folks: Generational neighborhoods

Long-lived homes and trees are at the heart of this design. New homes are comprised of quality materials and functional, sustainable design principles that stand the test of time and provide for exceptionally long habitation and use (100+ years). Over time, a mixed-age stand of oaks — including legacy, old growth trees — ages along with the community homes and families. Narrow streets for walking, generous porches, a shared community committment to environmental stewardship and a neighborhood park create a tree-canopied environment where people feel connected to the wildlife, the oak trees and each other.

Team members

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"The illustration of front porches that open out to canopied, green areas really captures a sense of community space and the importance of indoor/outdoor relationships."

– James Winkler, jurist

Jurists

Stefan Behnisch, principal
Behnisch Architects
Stuttgart, Germany
and Venice, Calif.

Joan Nassauer, professor
Landscape architecture
University of Michigan
Ann Arbor, Mich.

Tom Schueler, founder
Center for Watershed Protection
Ellicott City, Md.

Susan Szenasy, editor-in-chief
Metropolis Magazine
New York, N.Y.

Jim Winkler, president
Winkler Development Corporation
Portland, Ore.

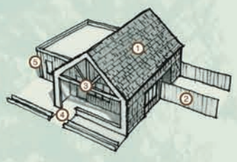
David Yocca, director
Conservation Design Forum
Elmhurst, Ill.

Keep Nature in Neighborhoods METRO

Nature in Neighborhoods:
Integrating Habitats Winners Series

BEYOND LEED

Each home is designed to achieve a LEED Homes Platinum rating (101 points – 20 above the Platinum threshold) and the neighborhood a LEED New Development Gold rating (91 points – will rise with public transportation improvements and further infill). At the same time, the design embraces a long-term notion of sustainability beyond LEED parameters. The siding and framing use sustainably-sourced wood, the only 100% renewable, carbon-negative building material. The rooftop power generators are built onto subframes on top of the roofing assembly to allow for easy substitution of different systems as technologies improve. The buildings' cladding is durable and can go decades without refinishing. There are no gutters to clean.

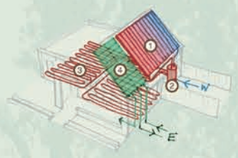


1. recycled-rubber molded shingle roof
2. composite lumber fencing
3. FSC cedar exterior framing
4. composite lumber decking
5. FSC wood siding/shingles over FSC framing

GREEN POWER

Like a tree, the homes are powered by water and sunlight. The design efficiently combines space heating and hot water (two-thirds of a typical home's energy costs) into one system powered by rooftop evacuated tube collectors. The water is stored in an insulated tank and reheated if required by instantaneous water heaters at each fixture. The remainder of the south-facing roof is covered with photovoltaic panels, and the power that is generated can be sold back to the grid as 100% renewably-sourced energy.

No air conditioning system is proposed. Windows are placed to take advantage of westerly summer winds for cross-ventilation. The solid north walls of the bedrooms and porch shield occupants from the north winter winds.

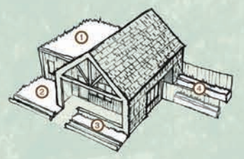


1. 185sf evacuated tube solar collectors
2. hot water tank
3. fully-zoned hydronic floor heating system
4. 140sf photovoltaic panels

HABITAT RESTORATION

The design preserves an 11 by 12-foot clear Habitat Area on each lot for oak habitat restoration. Each Habitat Area can be planted with an oak tree from the nursery and/or a mix of compatible understory species. The homeowner's manual and orientation (also required by LEED) suggest planting plans and a timeline for planting an oak tree, as well as habitat-friendly landscaping activities. This strategy will result in a mixed-age stand, critical for long-term habitat stability. The Habitat Area is partly shaded by the building and the stormwater overflow from the living roof is carried directly to street planters, creating a partially sunny area protected from moisture stress and suited to the development of young oaks.

Each lot also designates two raised beds for conventional gardening/food production, minimizing conflicts between uses.

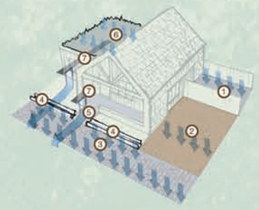


1. 320sf Green Roof
2. 130sf Habitat Area
3. 45sf Planting Bed
4. 53sf Raised Planters

STORMWATER MANAGEMENT

Two-thirds of the roof area drains to a living roof on the north side of the building, which retains stormwater and discharges gradually into an infiltration zone under the edge of the street. The remainder of the roof runoff sheets directly over the side of the building into pervious surfaces along the south side of the structure.

Excess surface runoff is directed towards a row of rain-garden planters that also help to delineate the street edge. These planters retain the discharge, promote some infiltration and evaporation, and gradually drain into the storm sewer. Normal landscape activities (raking, replanting) maintains the system.



1. pervious concrete private deck
2. gravel driveway
3. pervious paver Living Street
4. stormwater planter drains to sewer
5. composite lumber Entry Walk
6. Green Roof
7. rock drains direct north-side runoff to street

The trees in the street are old trees used to living with people.
Family items that remember your grandfather's name.

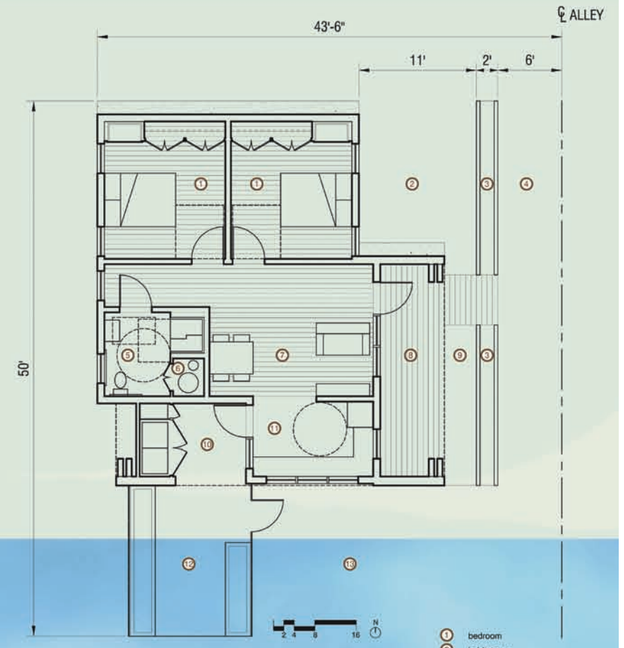
-Stephen Vincent Benet, 1927

re-STORY | reSTORE

Re-Story | Restore proposes a program of infill housing that accommodates legacy oaks and nurtures young trees to increase canopy cover over time and build a mixed-age stand with local genetics. New homes are of quality and materials that provide an exceptionally long design life (100+ years) while accommodating technological advances. They have a classic, modest appearance that will wear well, and a flexible layout and universal accessibility so that residents can use them as they age. Power is generated on-site and the design minimizes hydrologic impacts. Elements such as narrow, shared-use streets; generous porches; and a park program that provides continuing interest for adults and children build a sense of community.

The Oak Savannah habitat the first European settlers found in the Willamette Valley was not a natural succession of a wild forest, as they (and we) assume – rather, it was a landscape managed by people and fire. Native Americans burned the valley floor to create grassland habitat and herd game. Oaks are used to living with people. But we have forgotten how to live with oaks.

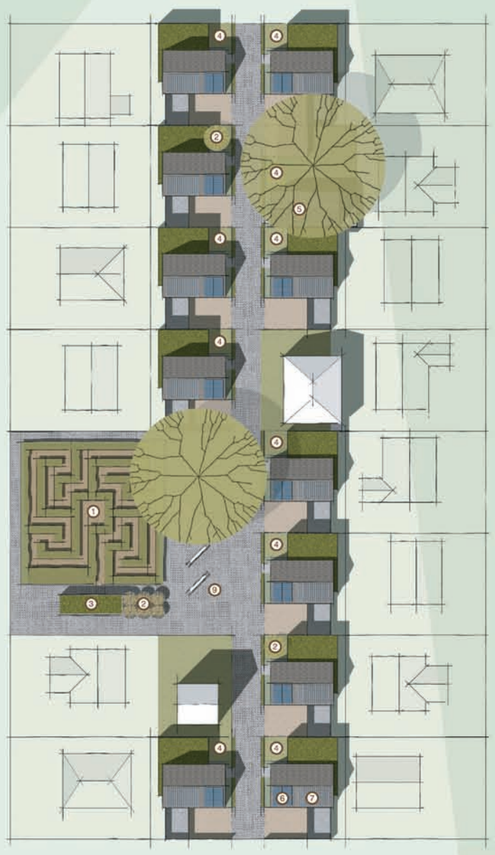
At the heart of the proposal is a park with an oak nursery and a storytelling-booth: a simple enclosure in which to tell, record, and listen to local stories. Its purpose is to connect people to each other and to the land, creating the sense of continuity and purpose essential to restoring a long-lived tree. Beginning with stories from the original inhabitants of the Willamette Valley, then longtime neighborhood residents, it will invite all residents to contribute and create a legacy for future residents. A nursery for young transplantable oaks is also located in the park. The park program invites collaboration with a nonprofit community group that could benefit from growing space and a visible presence in the neighborhood (e.g. the local program Friends of Trees); however, the structure itself does not require any staffing to stay open and in use. The park space also proposes a small, classical labyrinth of native shrubs and an accessible path that invites repeat visits to contemplate changes in seasons, the micro-habitats of insects, and the long life of oaks. This feature could be planned and partly constructed by residents, who would be asked to contribute a stone to the labyrinth pathway and to plant the vegetation.



1. bedroom
2. habitat area
3. stormwater planter
4. alley
5. bathroom
6. utility closet
7. living/dining
8. front porch
9. flower garden
10. laundry porch
11. kitchen
12. deck w/ raised beds
13. driveway

ACCESSIBILITY

Accessory dwelling units traditionally serve as housing for family members requiring assistance with daily life activities, and as more-affordable units for young people and people with fixed incomes. Two of these populations, fixed-income and family-supported residents, are also more likely to have physical limitations. Providing units that are universally accessible serves these traditional populations well. At the same time, the design is flexible and does not preclude able-bodied people from occupying the units. The accessible units also serve the strategy of creating a sense of community continuity; as residents in non-accessible primary structures age, they may choose to move into their secondary unit as a way of staying in the neighborhood. A cluster of accessible units also invites community collaborations, such as a wheelchair-accessible car-sharing program.

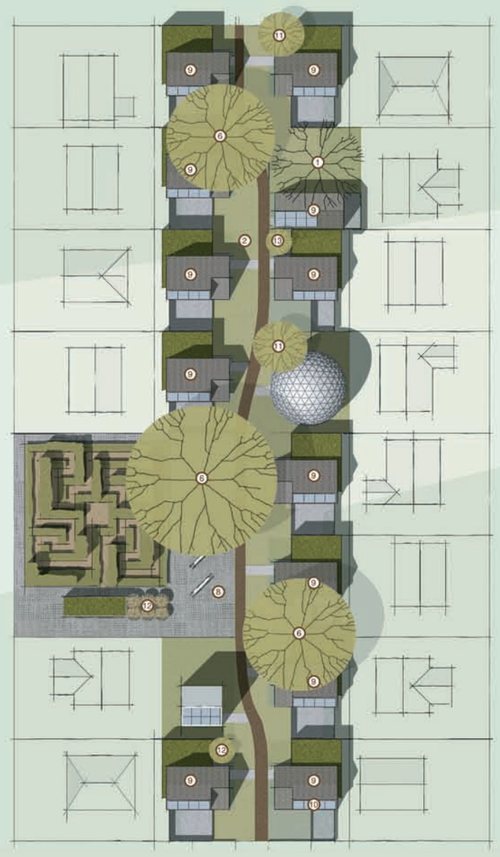


2010

1. Labyrinth composed of native shrubs and forbs in a beaked hazelnut-sword fern plant palette. This native habitat type supports a variety of attractive shrubs that are also good food sources for birds and small mammals, such as beaked hazelnut, serviceberry, snowberry, Douglas hawthorn, oceanspray, thimbleberry, and wood rose. 2. Oak trees from the nursery are planted according to the homeowner's manual. The nursery sets aside a location to grow trees from acorns, providing a source of transplantable trees with local genetics. Provision of nursery space also invites collaboration with a community group that could utilize native oaks in other planting projects, such as Friends of Trees. 3. Storytelling Booth 4. The planting palette for each Habitat Area is also a beaked hazelnut-sword fern woodland. 5. A one-bedroom unit is built on this lot to accommodate the existing oak. 6. Photovoltaic panels (typical) 7. Evacuated solar hot water tube system (typical) 8. Cedar exterior framing 9. Visitor parking lot with wheelchair-accessible car-sharing space

2060

1. Labyrinth species have reached mature height. 2. Oak trees from the nursery are planted according to the homeowner's manual. 3. Young oak trees gain height quickly, and their canopy fills in with maturity. 4. Slow-growing mature oak (*Quercus Garryanus*) 5. As oaks begin to die, the canopy thins and large branches become brittle. An arborist's visit ensures residents are safe, but the declining oak remains in place. 6. With enhanced public transportation and intensified local commercial development, fewer cars are needed to support the community. Some driveways are converted to gardens/food production; others are replaced with Habitat Conservation areas. 7. Because the driveways were designed according to 2007 ADA Guidelines, there is extra space for most users. Here two compact electric cars share the same driveway. 8. Cedar weathers. 9. Visitor parking lot with wheelchair-accessible car-sharing space. 10. In response to the need for increased density close-in to the city, the ADU code is revised to allow for units greater than 800sf. Because of the traditional framing methods and materials, second stories can be added to the ADU without increasing footprint and with minimal shade impact. 11. New technology provides combined hot-water and electrical heating in less area. These units will also be designed onto subframes on top of the roof (rather than integral with it) to preserve flexibility in the future. 12. Silver-gray squirrel (*Sciurus griseus*)



2110

1. This oak is near the end of its life. It will decay in place and provide valuable deadwood habitat. 2. Increased public transportation access, bicycle networks, and local/home employment result in low car ownership. The pervious pavers and stormwater planters are replaced by a structural turf street for limited / emergency use. A bike path provides connectivity. 3. White Breasted Nuthatch (*Sitta carolinensis*) 4. Silver-gray squirrels (*Sciurus griseus*) 5. California Condor (*Gymnogyps californianus*) 6. Slow-growing mature oak (*Quercus Garryanus*) 7. Cedar weathers. 8. Visitor parking lot with wheelchair-accessible car-sharing space. 9. All ADU's expanded to two stories and all driveways converted to Habitat Area or garden. 10. High-efficiency solar power generation system (typical). 11. Fast-growing young oak (*Quercus Garryanus*) 12. Oak trees from the nursery are planted according to the homeowner's manual.

Metro regional government

serves 1.4 million people who live in the 25 cities and three counties of the Portland metropolitan area. Metro's Nature in Neighborhoods initiative brings the regional government and local jurisdictions together to help ensure that the region's wildlife and people thrive in a healthy urban ecosystem.

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Nature in Neighborhoods:
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Blend. Balance. Integrate.

Collaborate to redefine the built environment and restore nature.

More than 100 teams from around the world submitted entries to the Integrating Habitats design competition, proving that every space in which we live, work, shop and play can create places for both people and nature. These designs redefine current standards of environmental sustainability. The award winners illustrate new types of nature-friendly designs that balance development, human needs and the health of natural systems we all depend upon.

www.oregonmetro.gov/integratinghabitats

"Architects, conservation biologists, environmental engineers, landscape architects, landscape ecologists and restoration ecologists must be eager to learn from each other if we are to invent new, environmentally beneficial patterns for the one world that we all share." **—Joan Nassauer, jurist**