



Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

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**GREEN from the Ground Up**  
*Seminars for land-savvy developers*

**For more information** on nature-friendly development practices or Metro's Nature in Neighborhoods initiative, visit [www.oregonmetro.gov/nature](http://www.oregonmetro.gov/nature), send e-mail to [nature@oregonmetro.gov](mailto:nature@oregonmetro.gov) or call 503-797-1555.

Funding for this and other fact sheets in the Nature in Neighborhoods nature-friendly development practices series is provided in part by an **Oregon Department of Environmental Quality** Section 319 Grant.

## Victoria Cottages, townhome development in Gresham



With a malfunctioning dry well and a storm sewer already at capacity, developer Chet Antonsen of Pacwest II, LLC, had just the right set of conditions at the construction site of Victoria Cottages, a 24-unit townhome development in Gresham, to take full advantage of the benefits porous surfaces deliver. Choosing porous asphalt as a roadway cover, pervious concrete for the sidewalks and permeable pavers for the driveways, Antonsen had everything to gain by minimizing stormwater runoff on the largest surface areas of the development. While choosing porous surfaces was the most expensive alternative, Antonsen is now a believer in the system's value for effective stormwater management under the most challenging conditions.

For this project, the price of using porous surfaces was roughly \$2,000 per house for the sidewalk and driveway and \$500 per house for the street. While porous materials cost approximately \$12,000 more than drywells and an underground

detention system would have, using porous materials supported Antonsen's desire to be a better steward of the property and provided another option to using a surface detention system. This opened up extra land allowing for additional lots for the development.

As the developer, Pacwest II bears the responsibility for the warrantee on the porous surface so they're monitoring the site closely to ensure sediment doesn't get onto the street and plug the pavement. During construction, it was critical to keep the surfaces clean from sediment which was achieved by covering the surfaces with a geotextile while the first six houses were built.

The aesthetic benefits that translate into buyer appeal, according to Antonsen, are a surface texture that bears a close resemblance to traditional materials and flexibility for use in design that gives the driveways a high quality appearance.

As the project builder, Doug Moore of Doug Moore Homes Inc., attests to the ease of installing porous surfaces on driveways and sidewalks. He encourages other builders to consider porous surfaces to minimize runoff, despite the additional cost. Moore says he would absolutely consider using porous materials again.

### List of resources

**Portland Cement Association**  
[www.concretethinker.org](http://www.concretethinker.org)  
Information and case studies on pervious paving.

**National Asphalt Pavement Association**  
[www.hotmix.org](http://www.hotmix.org)  
News, conferences and information on porous asphalt.

**Interlocking Concrete Pavement Institute**  
[www.icpi.org](http://www.icpi.org)  
Technical specifications, where to find a certified installer and digital editions of Interlocking Concrete Pavement Magazine.

Partners in the use of low impact development practices:

