

Nature's Hideaway:

Development & Environment Benefit from Pervious Pavement

By Elizabeth Chapman

Over one thousand trees, including mature oaks and swaying palms, set the scene for a residential development in the city of Palm Beach Gardens. Nature's Hideaway is quiet and serene, using the natural attributes of the community to the fullest extent. With pervious concrete used for almost all the exposed pavement, both aesthetic appeal and the environment itself are preserved in this small, single-family development.

Nature's Hideaway is a cul-de-sac with a one-way street that winds through the natural basin. The development began in 1995 when owner and developer, Mike Sands of MS Homes, Inc. purchased 7.8 acres of raw land. In 1998, houses were beginning to be built on the 17 homesites, ranging from one-third to over one-half acre each.

"The developer wanted to preserve the trees on the site, so he went with all pervious pavement," says Dave Meskauskas of Kara Construction, Inc., general contractor for Nature's Hideaway. "The tear-drop-shaped

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street, the sidewalks and half of the driveways are all paved with pervious concrete. This satisfied the county's regulations for containment and management of stormwater in an environmentally sound and economically sensible way."

Sands adds, "Pervious pavement played a major factor in the development, as we would have had to give up one quarter of the property – that's 2 of the nearly 8 acres – for retention areas. Instead the pavement serves this function."

Pervious pavement is a cement-based product with a porous structure that allows rainwater to pass directly through the pavement and into the soil naturally. This is achieved without compromising the strength, durability or integrity of the concrete structure itself. And, the process generally reduces or eliminates the need and the cost of expensive stormwater drainage systems and retention areas.

"Once cured, pervious pavement has a porous texture that allows water to drain through it at the rate of 8 to 12 gallons per minute, per square foot. That's impressive considering tests conclude that a square foot of bahia sod drains at the rate of 2 1/2 to 3 gallons per minute," says Meskauskas, who has installed over one million square feet of pervious pavement in his career.



At Nature's Hideaway, the pervious pavement street was designed in center parts and running lanes. It is 20 feet across and 7 inches thick with 10 inches on the outside and a monolithic footer, angled down. The street paving was done all at one time, with the sidewalks and driveways added as homes were built.

"On the whole, it looks nice and has held up well," says Meskauskas. He continues, "We are all impressed with the street's durability. It is the only access road into the development, with heavy concrete and construction trucks traveling on it regularly."

According to Sands, there are only three open lots remaining in the Nature's Hideaway development. The 14 completed homes are designed to be nestled into the environment and enhanced with natural landscaping and accent lighting. The general architectural style is Key West/Plantation with a bit of traditional and colonial vein. The roof types are limited to concrete, metal, cedar shake or fiberglass shingle. Minimum buildable square footage and maximum amounts of disturbed land have been established.

"Significantly increasing land utilization is one of the up-front economic and environmental advantages of pervious pavement," says Meskauskas. "But there are many other advantages, including lower construction

costs, increased durability, decreased maintenance costs and pollution and erosion control."

Pervious pavement has been in use throughout Europe for about 50 years. In the 1970s, several members of the Florida Concrete & Products Association created a domestic formula originally called "Portland Cement Pervious Pavement." This formula, now known as pervious concrete or porous concrete, has since proven itself highly successful in the U.S. and most particularly in Florida, where water management is a critical and costly concern.

Over the past 20 years, as environmental concerns and regulatory demands have increased the cost of development (especially in Florida), there has been a growing interest in pervious pavement. Nature's Hideaway is just one example of this win-win solution for developers and the environment alike. **FC**

Copies of reference materials on pervious concrete can be purchased through the FC&PA. Contact (407) 895-9333 and ask for publication #605, "Portland Cement Pervious Pavement Manual," and publication #CD01, "Portland Cement Pervious Pavement Video-CD."