

Design strategy cuts development costs naturally

Duany Plater-Zyberk & Co.'s Charlotte office is spearheading efforts to introduce the Light Imprint Initiative to boost the environmental performance of new communities. Light Imprint represents an evolution of the New Urbanism and green movements. It developed out of the need for a new ecological solution to handling stormwater runoff in high-density developments. Its approach to environmental concerns is not found in LEED requirements or form-based building codes. It offers a framework of tools that addresses stormwater through natural drainage, conventional engineering infrastructure and innovative infiltration practices. This toolbox offers a range of environmental benefits; it can also significantly lower construction and engineering costs.

Instead of directing stormwater into a retention pond or creeks through a system of curbs, gutters, pipes and other components, the Light Impact strategy encourages the use of swales, rain gardens and vegetative surface areas to filter and absorb runoff. The need for curbs and gutters is minimized because Light Imprint directs the flow of stormwater across the land surface



photo LIGHTIMPRINT.ORG

A sidewalk made with crushed stone is one element in the Light Imprint Initiative to absorb rain. The strategy reduces the cost of channeling stormwater compared with traditional land-development practices.

into natural areas. Roadway width can be cut by two feet, which reduces paving costs. The use of crushed stone for some roadways reduces impervious surfaces, further allowing stormwater to be absorbed on site while cutting construction costs.

The pitch for developers is that adopting the Light Imprint approach can cut stormwater infrastructure costs by 50%. A study Duany Plater-Zyberk conducted at the residential component of Griffin Park in Greenville, S.C.,

found the developer saved \$500,000 by protecting mature trees and setting aside space for 20 small rain gardens to control runoff. The savings were generated by the need for less than half of the piping required for traditional drainage systems as well as fewer curbs and gutters and by using crushed stone for roads.

The benefits for residents in such developments are aesthetically pleasing natural areas and neighborhood recreation areas.

The Light Imprint Handbook provides an overview of the initiative and is available at www.lightimprint.org. The Web version of the handbook includes an interactive database that allows indi-

vidual property owners, environmentalists, development teams, municipal staff, engineers, land planners and land conservationists to consider variables such as soil hydrology, slope condition, climate, initial costs and long-term maintenance factors. Once the variables are entered in the database, a customized palette of tools specific to the project's needs appears instantaneously. This database provides a simple solution to those overwhelmed



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Program highlights: Duany Plater-Zyberk is advocating the adoption of the Light Imprint initiative, a planning and development strategy that emphasizes sustainability, pedestrian-oriented design and increased environmental and infrastructural efficiency. The approach focuses on strategies to contain stormwater while reducing a community's construction costs. The effort has gained momentum with the distribution of the Light Imprint Handbook, the creation of the Light Imprint Web site and by presentations on the strategy at several national conferences. Several communities are implementing its green techniques, providing real-world examples of its use.

by the massive surge of green information. The initiative will benefit from application on real projects. As experts add content, the toolbox will expand.