

Federal Grant Pays for “Green” Parking Lot at Arboretum

Project: The Morton Arboretum
Main Parking Lot &
Visitor Center Area
4100 Illinois Route 53
Lisle, Illinois

Installation: Porous pavement
system
200,000 square feet

In 2003, the Morton Arboretum in Lisle, Illinois, embarked on a \$43-million expansion project that would better showcase its spectacular plant collections and natural areas. To pave the main parking lot and visitor center area, Arboretum officials chose to apply an environmentally friendly permeable paving system at the site. Not only did this “green” solution meet the Arboretum’s ecological needs, but it was also constructed at a significantly reduced cost, thanks to a federally funded grant under U.S. EPA Section 319.

When the Arboretum constructed its new facilities, the parking areas surrounding the development were subject to regulations that would reduce non-point source pollution in the adjacent Meadow Lake and the East Branch of the DuPage River. Non-point source pollution caused by stormwater or melting snow running over non-porous surfaces can damage local water quality and harm aquatic life in streams that flow through urban areas. The dilemma? The

Arboretum needed to increase its parking capacity from about 160 cars to 500 cars and busses, while attempting to enhance water quality in Meadow Lake. To accomplish this, the organization designed and constructed a parking lot utilizing cutting-edge Best Management Practices (BMPs)

including a porous pavement system and bio-swale medians.

A porous pavement system allows for natural stormwater drainage and groundwater recharge. Simply put, the parking lot that was created using this system allows water to flow right through, retaining water runoff and directing it through a series of natural filtration systems before it enters

Meadow Lake. This filtration process safeguards the Arboretum’s plants and ecosystem. Overall, the system helps the Arboretum to meet its stormwater management requirements, eliminate the need for space-wasting retention ponds, and also further enhance the beauty of this outdoor museum.

Even more appealing for the Arboretum, the state of Illinois awarded a \$1.242 million grant to fund the project as an environmental demonstration under U.S. EPA Section 319. As part of the grant agreement, the Arboretum will offer workshops to train city managers, developers and engineers to promote the use of porous pavement systems as a structural best management practice in north-eastern Illinois. Advanced Pavement Technology (APT) will be a participant in these workshops.

“Using a porous pavement system, the Arboretum met its stormwater management requirements, eliminating the need for space-wasting retention ponds and further enhancing the beauty of this outdoor museum.”

“APT is honored to support a highly respected institution like the Arboretum by helping with the education process for this paving system,” says APT CEO Chuck Taylor. “This installation is an excellent example of what APT is doing with its

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Bio-Aquifer Storm System (BASS™) to meet companies' stormwater management needs. The benefits of these porous pavement systems are truly extraordinary."

LPS Pavement Company was responsible for the efficient mechanical installation process used at the site, with labor savings of approximately 50% over conventional hand-laid applications. The project engineer was Christopher B. Burke Engineering West, Ltd., and the general contractor was V3 Construction Group. The project was completed during the spring of 2004.

A nationally recognized design/build paving consultant, APT has a solid track record of proven performance with the installation of flexible paving systems. Featuring more than 30 years of experience, the APT team is now leading the paving industry with innovative solutions that help to protect our environment.

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Advanced Pavement Technology (APT) is the exclusive resource for the proprietary *Bio-Aquifer Storm System* (BASS™), a permeable paving system breakthrough that is both cost-effective and environmentally sound. Under the Clean Water Act, U.S. federal law has mandated that states must control non-point source water pollution. APT's BASS™ method is an acceptable structural Best Management Practice (BMP) to meet this requirement, as well as a superior pavement solution with multiple benefits. By choosing BASS™ from APT, owners and project managers gain the following advantages:

- Enhanced land planning through the potential elimination of required retention/detention ponds
- Superior control of short-duration stormwater runoff (to near 100%)
- Reduced downstream flows and minimized potential for bank erosion
- Critical improvement of water quality using natural filtration methodology
- Valuable cooling effect during first runoff capture
- Flexible capacity for detaining water under road or parking surface
- Significant savings by reducing conventional storm sewers, catch basins and parts
- Reduced maintenance costs for pavement repair, sealing and replacement
- Minimized stormwater hook-up fees
- Decreased liability to owners through elimination of open wet areas
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