

# REDESIGNED BIOSWALE SYSTEM FOR BIG BOX RETAIL

Recently, Divisions took over care of a bioswale system for a big box retailer in Richmond, IN. Originally outside Divisions landscaping scope, malfunctions with the system were compounding over time creating a pressing need for overhaul. The bioswale was originally designed to manage and filter runoff water in their parking lot. As an alternative to storm sewers, if maintained, these vegetative filter buffers have proved to be an effective drainage method, designed to move and temporarily store runoff water and filter out pollutants, improving water quality. These swales are designed with sloped sides, filled with native vegetation, proper soil mixture, and a variety of rock. The water's flow path, along with the wide and shallow ditch, is aimed to maximize the time water spends in the swale, which aids in the trapping of pollutants and silt.

## THE CHALLENGE

Directly behind the Richmond, IN store is a [neighboring arboretum](#) which sits on 466 acres of woodlands, meadows, swamps, and streams that can be enjoyed by the public. Because the water from the swales ultimately feeds into the arboretum the quality of the retailer's water runoff is of concern. Besides becoming unsightly, the original bioswale installation could no longer drain or filter water properly – resulting in flooded parking spaces and stagnant standing water. (See Figure 1) These concerns drove the retailer's corporate landscaping team to begin planning the reconstruction of the bioswales.



Figure 1: Standing Water

## THE SOLUTION

Immediately, Divisions Maintenance Group took action to assist in designing the new bioswale system. To assure the system was installed properly, Divisions invited and encouraged the city to participate in frequent monitoring of the site, which was usually done on a daily basis. Anytime there were modifications to the original landscape project, Divisions would walk the site with the city and receive approval on any work done. The new system was installed and the bioswales were transformed into the beautiful, functional conveyance system that was originally intended. In addition to the bioswale work, Divisions also corrected the grading of the parking lot, which now allows rainwater to flow more freely into the bioswale. (See Figure 2) Divisions is now responsible for maintaining the bioswale system with chemical free applications and regular upkeep and special care to the 1300 native plants that now grow in the installation.



Figure 2: New bioswale installation