



PROJECT: BELLE SHERMAN KENDALL LIBRARY

CLIENT: CITY OF HOUSTON

DATE: NOVEMBER 2010

Kendall Library

The new three-story Belle Sherman Kendall Library at 609 N. Eldridge not only replaces the existing Bell Sherman Kendall Library on Memorial, but it also serves as a community center, complete with a classroom, after school and summer recreational programs, and a fully equipped half-gym. The new Kendall Library will also acquire a LEED® Silver Certification. Contributing to that certification is an underground water harvesting system which is fed by a series of bioswales that that is then used to irrigate the surrounding landscape.

Architect
English + Associates Architects
Houston, TX

Civil Engineer
Othon Engineering
Houston, TX

Landscape Architect
Asakura Robinson
Houston, TX

Installer
Construction EcoServices
Houston, TX

BEFORE: Slow Flow Engineered Media Clogged Bioretention System



AFTER: FocalPoint Biofiltration System eliminates sub surface clogging



LOW IMPACT DEVELOPMENT

As an alternative to traditional parking where the parking spaces slope away from head-in parking medians and toward a series of drive lane drains and catch basins, the Kendall parking spaces were graded toward the head-in parking medians. The medians are comprised of two 100 foot long by 12 foot wide bio-swaes which receive runoff from the surrounding parking lot, where an engineered soil matrix was placed on the entire surface area of each swale to filter hydrocarbons and TSS found in storm water runoff prior to being stored in a 30,000 gallon rainwater harvesting system which are directly infiltrated without the need for inlets, and located beneath the swales where the stored water awaits reuse for landscape irrigation.

LESSONS LEARNED

Within six months of the completion of the bioswaes, it was learned that high organic content in the soils had clogged the geotextile fabric separating the soils from the underdrain/storage system drastically reducing flow and backing water up into the parking lot to a depth that was deemed intolerable by the library and it's clients. Construction related issues were also suspected of reducing infiltration in the bioswale. The only option appeared to be to completely tear out each of the bioswaes and

reconstruct them using less organic content in the mix and improved construction oversight in hopes of preventing similar problems in the future. When Construction EcoServices (a Convergent Water Technologies VAR) became involved, the FocalPoint Biofiltration System was presented as an alternative design that would not only solve the problem definitively, but save thousands of dollars in redesign and construction work.

FOCALPOINT BIOFILTRATION SYSTEM

The FocalPoint Biofiltration System is a combination of a High Performance, flat pipe underdrain, a bridging mesh that is clog proof, bridging stone, and an advanced high performance biofiltration media that flows at a rate of over 100" per hour. What this unique combination of parts creates is a system that provides unsurpassed water quality and drainage characteristics. The FocalPoint was able to meet the needs at Kendall Library in 70SF what the traditional bioswale unsuccessfully attempted to do in 1200 SF. With a simple retrofit of the two swales, placing the FocalPoint at the lowest elevation in each, Construction EcoServices was able to solve Kendall Library's drainage problem with a simple, quick, cost-effective retrofit.