

AGUIRRE & FIELDS: ENGINEERING SUSTAINABILITY

TRANSFORMING PARKING LOTS INTO GREEN INFRASTRUCTURE

Project Details

Aguirre & Fields, LP, headquartered in Sugar Land, TX, specializes in infrastructure planning and engineering across Texas. Their expertise spans various civil engineering disciplines, including land development, site design, roadways, and bridges. In an effort to explore new market opportunities in Low Impact Development (LID) and Green Infrastructure, Aguirre & Fields decided to retrofit their own parking lot as a demonstration project. This retrofit serves as a real-world example to showcase the benefits of LID, such as enhanced aesthetic appeal, increased time of concentration, and decreased peak flows. Additionally, the installation of an R-Tank Reuse System has enabled them to reduce annual potable water use by over 50%.

The design of the retrofit incorporates a combination of bioswales, a high-performance biofiltration system, and an underground rainwater harvesting system. As a result, Aguirre & Fields not only provides LID-based designs for their clients but also utilizes their own facility as a living laboratory. This initiative has made their office one of the first LID-based sites in Fort Bend County.



What Convergent Water Technologies Provided

Retrofitting an existing parking lot with Low Impact Development elements can have profound environmental benefits. At Aguirre & Fields, the implemented solutions achieved a 90% reduction in peak flow and allowed for the capture of 3,500 gallons of stormwater. Consequently, the site now discharges water at predevelopment levels, ensuring no net impact on the watershed.

Beyond flow reduction, water quality has significantly improved. The high-performance FocalPoint High Performance Modular Biofiltration System (HPMBS) effectively removes total suspended solids, hydrocarbons, phosphorus, nitrogen, and other pollutants before the water exits the site.

If similar strategies were implemented across new parking lot expansions, urban roadway projects, and redevelopment efforts, the negative impacts of a century's worth of urbanization on water quality and discharge volumes could potentially be reversed.

Why Aguirre & Fields Chose Convergent Water Technologies

Exploring new design and development approaches can be challenging, even for progressive engineering firms. Without experience in LID-based designs, firms may struggle with materials testing, proper installation methods, and overall project execution. To mitigate these risks, Aguirre & Fields partnered with Convergent Water Technologies to ensure the best possible outcomes for their parking lot retrofit.

Convergent Water Technologies brings years of experience in LID design and construction, leading to the development of next-generation LID solutions such as FocalPoint and the R-Tank Reuse System. Their collaboration with manufacturers worldwide enables them to create innovative compliance-driven solutions that reduce costs while maintaining high performance. These solutions are simple to design, easy to install, and come with performance guarantees and warranties not typically available through other methods.



Distributed by Convergent Water Technologies

Convergent has decades of experience in developing and delivering problem solving stormwater innovations. Convergent believes that adopting new ideas quickly, and integrating the process of innovation into stormwater regulation, product development and distribution is the only answer to our looming water crisis.

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