



Lower Rio Grande Valley: Low Impact Development Implementation and Education

Water Body	Arroyo Colorado Tidal (Seg 2201), Arroyo Colorado Above Tidal (Seg 2202)
Location	Hidalgo, Cameron, and Willacy Counties
River Basin	Nueces-Rio Grande Coastal (22)
Contractor	Texas A&M University at Kingsville (TAMUK)
Project Period	May 5, 2011 to August 31, 2014
Project Total	\$1,504,207 (Federal 60% and Local Match 40%)

Low Impact Development (LID)

LID is a comprehensive approach to site planning, design, and pollution prevention strategies that, when combined, create a more economically sustainable and ecologically functional landscape. LID works with nature to manage storm water as close to its source as possible. This approach treats storm water as a resource, rather than a waste product, and integrates hydrologic and water quality functions into all aspects of the urban landscape and infrastructure. The result is functional and appealing site drainage which restores the ecological integrity of receiving waters, promotes the natural movement of water within an ecosystem or watershed, and reduces construction, maintenance, and inspection costs. Examples of LID management approaches and technologies include rain gardens, porous pavements, green roofs, and rainwater harvesting for later use.

Project Description

The Lower Rio Grande Valley (LRGV) continues to be one of the fastest-growing areas in the United States. With increasing growth, the remaining public lands in the region will face ever increasing pressure to accommodate off-site rainwater discharges from encroaching developments, subdivisions, and planned communities. Incorporating successful best management practices (BMP) into facility infrastructure and amenities at public lands will optimize the benefits and reduce the negative impacts of storm water runoff. As urbanization continues at a rapid rate, public support for LID practices and their use in new construction is necessary to mitigate the threats of nonpoint source (NPS) pollution in storm water runoff and to reduce pollutant loads to the Arroyo Colorado.

The Arroyo Colorado flows through Hidalgo, Cameron, and Willacy Counties and eventually empties into the Laguna Madre. The Arroyo Colorado Above Tidal (Segment 2202) is currently impaired for high bacteria levels and pollutants within fish tissue samples. The Arroyo Colorado Tidal (Segment 2201) is impaired for



low dissolved oxygen levels, bacteria, and pollutants within fish tissue samples. In response to low dissolved oxygen levels, the Arroyo Colorado Watershed Partnership was formed, and a [Watershed Protection Plan \(WPP\)](#) was published in January 2007. The WPP describes the measures proposed for implementation between 2007 and 2015.

This project will work to ensure that LID measures are put into practice in various cities throughout the LRGV and the Arroyo Colorado watershed. Under this project, TAMUK will specifically work with the City of Brownsville, the City of San Juan, the Valley Nature Center (VNC) (Weslaco), and the City of La Feria to design, construct, and maintain structures and facilities using LID technology. Visitors to these LID demonstration sites will be educated regarding LID practices and environmental stewardship through organized presentations and/or tours. Monitoring data will be collected at each site to assess load reductions and water quantity and quality

benefits of the LID practices. Additional efforts to institutionalize LID practices will include development of a LID technical guidance document, model land development codes, and LID training courses.

Current Status

LID Design reports and pre-construction activities are currently underway. Quarterly regional outreach activities are being conducted. The quality assurance project plan (QAPP) is currently being developed.

For More Information

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Websites

<<http://www.stormwater.stei.org>>
<www.arroyocolorado.org/>

Project Highlights

- 05/05/2011 – The contract was signed.
- 05/05/2011 – The Post-Award Meeting was held at TCEQ office.
- 06/17/2011 – Construction (earthwork only) of a wetland began at the VNC in Weslaco, TX.
- 09/12/2011 – The relocation of two LID sites was approved by TCEQ.
- 10/20/2011 – TCEQ Project Manager visited the proposed LID sites.
- 12/15/2011 – The Draft QAPP was submitted to TCEQ.