

**LOWER RIO GRANDE VALLEY TPDES STORMWATER TASK FORCE
 TEXAS A&M UNIVERSITY – KINGSVILLE
 INSTITUTE OF SUSTAINABLE ENERGY & THE ENVIRONMENT
 TEXAS TRANSPORTATION INSTITUTE – TAMU-COLLEGE STATION
 ARROYO COLORADO WATERSHED PARTNERSHIP**

Register Now!



**TAMU-Kingsville
 Citrus Research Center
 321 N. International Blvd.
 Weslaco, TX**



City of La Feria
 Recreational Center LID
 Pervious Paver Project



City of Weslaco Rain
 Harvesting System Weslaco
 Library LID Project



Constructed Wetlands
 Valley Nature Center
 Weslaco, TX



South Texas College
 Biofilter/Bioretention
 System, McAllen, TX

**LRGV LOW IMPACT
 DEVELOPMENT
 OUTREACH, EDUCATION
 AND DEMONSTRATION
 PROGRAM**

*Announces registration for its
 LID Technical Design
 Short Course Series
 August 18, 19 and 20, 2014*

**INTRODUCTION TO LOW
 IMPACT DEVELOPMENT BEST
 MANAGEMENT PRACTICES AND
 STORMWATER MANAGEMENT**

*August 18, 2014
 8:30 am to 5:00 pm
 \$235*

**HOW TO DESIGN LOW
 IMPACT DEVELOPMENT
 BEST MANAGEMENT
 PRACTICES**

*August 19-20, 2014
 8:30 am to 5:00 pm
 \$355
 \$495 both courses*

Registration starts June 30, 2014

**For information contact
 TAMU-KINGSVILLE at
 at**

**kujg2004@tamuk.edu
kuas2045@tamuk.edu**

Student rate: \$200 (3-days)

Instructors:

Kim D. Jones, P.E., Ph.D., TAMU-Kingsville
 Jude Benavides, Ph.D., UT-Brownsville
 Beverly Storey, PLA, TAMU-College Station
 Jett McFalls, PLA, TAMU-College Station

Speakers:

Stephan J. Nix, Ph.D., P.H., TAMU-Kingsville
 Michael Barrett, P.E., Ph.D., UT-Austin
 Suzanna M. Perea, EPA Region 6 Water Quality Protection Division
 René González, P.E., Perez Consulting Engineers, McAllen (invited)

LRGV LID Project Team:

Javier Guerrero, E.I.T., M.S., Ph.D. Student, TAMU-Kingsville
 Augusto Sanchez Gonzalez, M.S., CFM, TAMU-Kingsville
 Brianna Saenz, E.I.T., M.S., CFM, TAMU-Kingsville
 Jaime Flores, P.G., Texas Water Resources Institute, TAMU-College Station
 Melisa Gonzales, City of Alamo, LRGV TPDES Stormwater Task Force Chair

CEU and PDU certificates available upon request.

Register on Line:

https://moneyconnect.tamuk.edu/C20209_ustores/web/store_cat.jsp?STOREID=145&CATID=181

Please Sponsor the LID Short Course Series

Constructed Wetlands Level Sponsorship (\$995)

- ✚ 3 Training Registrations (3-day)
- ✚ Logo on TAMU-Kingsville Website and Training Materials
- ✚ Logo on Venue Signage and Acknowledgement During Event



Bioretention Level Sponsorship (\$795)

- ✚ 2 Training Registrations (3-day)
- ✚ Logo on TAMU-Kingsville Website and Training Materials



Rain Garden Level Sponsorship (\$495)

- ✚ 1 Training Registration (3-day course)
- ✚ Logo on Training Materials

Sponsor a Future Engineer (\$200)

- ✚ Sponsor a student
- ✚ Acknowledgement during Course
- ✚ Meet and Greet with Students

DAY 1 (INTRODUCTION TO LID BMPs AND STORMWATER MANAGEMENT)

8:00 AM	Registration
8:30 AM (Beverly Storey)	<p>Guest Speaker: Dr. Kim D. Jones, P.E. – Chair, Environmental Engineering Department Frank D. Dotterweich College of Engineering, Texas A&M University – Kingsville - Welcome</p> <ul style="list-style-type: none"> ✦ Introduction of Speakers, Staff, Sponsors and Programs ✦ Introduction of Instructors ✦ LRGV TPDES Stormwater Task Force
8:45 AM (Beverly Storey)	<p>UNIT 1 – INTRODUCTION</p> <ul style="list-style-type: none"> ✦ Learning Outcomes ✦ Regulatory Overview – Stormwater Management Programs ✦ MS4 Regulations ✦ Impacts of Development ✦ Introduction to Low Impact Development ✦ LID Systems ✦ Lower Rio Grande Valley LID Demonstration projects
10:00 AM	Break
10:15 AM (Beverly Storey)	<p>UNIT 2 – LID PHILOSOPHY, PRINCIPLES AND PRACTICES</p> <ul style="list-style-type: none"> ✦ LID Goals ✦ LEED ✦ LID Techniques
12:00 PM (Dr. Kim Jones)	<p>Lunch (on site)</p> <p>Guest Speaker: Suzanna M. Perea, EPA Region 6 Water Quality Protection Division Topic: EPA Green Infrastructure (GI) Program</p>
1:00 PM (Beverly Storey)	<p>UNIT 3 – LID SITE PLANNING</p> <ul style="list-style-type: none"> ✦ Conventional vs. LID ✦ Planning ✦ Site Development Goals ✦ Site Design ✦ Hydrology ✦ Treatment Trains ✦ Pretreatment ✦ Operation & Maintenance ✦ LID Selection Criteria
2:00 PM (Jett McFalls)	<p>UNIT 4 – LID HYDROLOGIC ANALYSIS BASICS</p> <ul style="list-style-type: none"> ✦ Hydromodification ✦ Functional landscape ✦ Hydrologic Analysis ✦ Modeling ✦ Rational Method ✦ LID Analysis ✦ Curve Number ✦ Guidance
3:00 PM	Break
3:10 PM (Jett McFalls)	<p>UNIT 5 – LID SITE DESIGN AND RETROFIT</p> <ul style="list-style-type: none"> ✦ Conventional vs. LID ✦ Planning ✦ Impervious vs Pervious ✦ Setbacks and Footprints ✦ Decision Tree ✦ Design and Retrofit ✦ Local Regulations
4:00 PM (Beverly Storey)	<p>UNIT 6 – LID DESIGN PROBLEM</p> <ul style="list-style-type: none"> ✦ Sample Problem ✦ Work in Teams ✦ Discussion
5:00 PM	END OF DAY 1

DAY 2 (PERMEABLE PAVEMENTS, DETENTION / RETENTION, SAND FILTERS, INFILTRATION BASINS, AND CONSTRUCTED WETLANDS)

8:00 AM	Registration
8:30 AM (Beverly Storey)	<p>Guest Speaker: Dr. Stephan J. Nix, P.H. – Dean, Frank H. Dotterweich College of Engineering Texas A&M University – Kingsville - Welcome</p> <ul style="list-style-type: none"> ✦ Introduction of Speakers, Staff, Sponsors and Programs ✦ Introduction of Instructors ✦ LRGV TPDES Stormwater Task Force ✦ LRGV LID Demonstration projects ✦ EPA GI program ✦ LID Objectives
9:00 AM (Dr. Kim Jones)	<p>Guest Speaker: Suzanna M. Perea, EPA Region 6 Water Quality Protection Division Topic: Low Impact Development</p>
9:15 AM (Beverly Storey)	<p>UNIT 1 – LID TECHNIQUES: PERMEABLE PAVEMENTS</p> <ul style="list-style-type: none"> ✦ LEED ✦ Pavement Types ✦ Design ✦ Permeable Surfacing Types ✦ Considerations, Limitations ✦ Design Technique/Example ✦ Operation & Maintenance ✦ Factsheet ✦ Design Calculator
10:15 AM	Break
10:30 AM (Beverly Storey)	UNIT 1 – LID TECHNIQUES: PERMEABLE PAVEMENTS (CONT.)
11:30 AM (Dr. Kim Jones)	<p>Guest Speaker: Michael Barrett, P.E., Ph.D., UT-Austin Topic: Vegetated Filter Strips</p>
12:00 PM (Augusto Sanchez)	<p>Lunch (on site) Guest Speaker: Dr. Kim D. Jones, P.E. – Chair, Environmental Engineering Department Frank D. Dotterweich College of Engineering, Texas A&M University – Kingsville Topic: LRGV LID Outreach, Education and Demonstration Site Program and R³TEC Training Facility</p>
1:00 PM (Jett McFalls)	<p>UNIT 2 – LID DETENTION AND RETENTION, INFILTRATION BASINS AND SAND FILTERS</p> <ul style="list-style-type: none"> ✦ Purpose ✦ LEED ✦ Design Criteria ✦ Types ✦ Design Examples ✦ Infiltration Basins, Sand Filters ✦ Design Calculator
2:30 PM (Dr. Kim Jones)	<p>Guest Speaker: Michael Barrett, P.E., Ph.D., UT-Austin Topic: “Minimizing the Cost of Stormwater Facilities through Proper Selection and Design Choices”</p>
3:00 PM	Break
3:15 PM (Dr. Kim Jones)	<p>UNIT 3 – CONSTRUCTED WETLANDS</p> <ul style="list-style-type: none"> ✦ Regulatory Issues ✦ Design Criteria ✦ Types ✦ Water Balance Equation ✦ Design Steps ✦ Operation & Maintenance
5:00 PM	END OF DAY 2

DAY 3: (BIORETENTION, GRASS SWALES, VEGETATED ROOFS, RAIN HARVESTING SYSTEMS, & OTHER LID BMPs)

8:15 AM (Dr. Kim Jones)	UNIT 4 – BIORETENTION <ul style="list-style-type: none"> ✦ Design Criteria ✦ LEED ✦ Benefits/Limitations ✦ Design Steps ✦ Key Design/Consideration issues ✦ Retrofit Examples ✦ Treatment Train ✦ Fact Sheet ✦ Design Calculator
10:00 AM	Break
10:15 AM (Dr. Kim Jones)	Guest Speaker: René González, P.E., Perez Consulting Engineers, McAllen, TX Topic: South Texas College LID Parking Lot – Case Study
10:45 AM (Dr. Jude Benavides)	UNIT 5 – LID TECHNIQUES: WATER QUALITY SWALES AND OTHER BMPs <ul style="list-style-type: none"> ✦ LEED ✦ Swale Types ✦ Design Considerations ✦ Design Process ✦ Vegetated Filter Strips ✦ Infiltration Trench ✦ Calculator
12:00 PM	Lunch (on your own)
1:30 PM (Dr. Jude Benavides)	UNIT 6 - GREEN ROOFS, RAINWATER HARVESTING AND OTHER LID TECHNIQUES <ul style="list-style-type: none"> ✦ LEED ✦ Green Roofs ✦ Garden Roofs ✦ Green Roof Design Calculator ✦ Rain Water Harvesting ✦ Rain Harvesting Design Calculator ✦ Considerations, Limitations ✦ Water Reuse ✦ Planter Boxes ✦ Curb Cuts
3:00 PM	Break
3:15 PM (Beverly Storey)	UNIT 7 – LID DESIGN CHARETTE <ul style="list-style-type: none"> ✦ Bioretention Retrofit Design Example ✦ Design and Analysis
5:00 PM	END OF CLASS

Lower Rio Grande Valley TPDES Stormwater Task Force Members:

City of Brownsville – Jose Figueroa
City of Donna – Roy Jimenez
City of Alton – Rudy Garza
City of San Benito – Jacinto Hinojosa
City of Palm Valley – Rosendo Flores
City of Mission – Juan De La Garza
City of Harlingen – Martha Viada, E.I.T.
Cameron County – Ernesto Hinojosa, P.E.
City of Alamo – Melisa Gonzales
City of Los Fresnos – Carlos Salazar

City of La Feria – Paula Rodriguez
City of San Juan – Xavier Cervantes, AICP
City of Edinburg – Omar Cano, E.I.T.
Cameron County DD#1 – Carlos Ayala
City of Weslaco – David Salinas
City of La Joya – Isidro Venecia
City of Primera – Javier Mendez
City of Palmview – Ramon Segovia
Santa Cruz Irrigation District #15 – Joe Hinojosa, REM



Dr. Kim David Jones is currently serving as Professor and Chair of the Environmental Engineering Department at Texas A&M University Kingsville, and Director of the Institute for Sustainable Energy and the Environment (ISEE). Dr. Jones received his BS Degree from the USMA at West Point in General Engineering, a Masters Degree from University of Texas at Austin in Petroleum Engineering, and Masters and Doctoral Degrees in Environmental Engineering from Georgia Tech. He worked for 11 years as a production engineer for Atlantic Richfield Company in Texas, Louisiana and overseas in Indonesia. Subsequently, he worked for several years as a Staff Engineer for Camp, Dresser & McKee in Atlanta, Ga. Dr. Jones has been leading efforts in water quality engineering research and teaching courses for many years focused on ecological engineering approaches to modern environmental planning and watershed management. He has written over 50 technical publications on biofiltration, restoration, constructed wetlands, and water treatment. Dr. Jones has been awarded the 2013 Javelina Alumni Association Distinguished Researcher Award and the 2005 Faculty Lecture Award at Texas A&M University-Kingsville. He is a registered Professional Environmental Engineer in the States of Georgia and Texas.



Dr. Jude Benavidez, is an Associate Professor in the Department of Environmental Sciences at the University of Texas at Brownsville. He joined the faculty there in 2005 and has spent several years establishing a bachelors program in Environmental Sciences at UTB. His research interests include hydrologic modeling and water resources management. His current research projects focus on GIS applications in hydrology and water quality, both with a particular focus in local area water resources such as the Arroyo Colorado, Cameron County area resacas, and the Lower Laguna Madre. Dr. Benavides received a B.S. in Civil Engineering from the University of Notre Dame and holds an M.S. and a Ph.D. in Environmental Science and Engineering from Rice University. He has served as an associate editor for the ASCE Journal of Hydrologic Engineering and is a founding member of the Severe Storm Prediction, Education, and Evacuation from Disaster (SSPEED) Center located at Rice University. Dr. Benavides is also the chair of the Arroyo Colorado Watershed Partnership (ACWP) Steering Committee, one of the first watershed partnerships formed in the State of Texas. He is a founding board member of the Arroyo Colorado Conservancy – a non-profit organization dedicated to continuing the collaborative watershed restoration work initiated by the ACWP.



Beverly Storey is an Associate Research Scientist for the Texas A&M Transportation Institute's (TTI) Environment and Planning Program. Ms. Storey is a Professional Landscape Architect in the State of Texas with a Bachelor of Science degree in Forestry and Master of Landscape Architecture, both from Texas A&M University. She has been employed with TTI over 20 years. Ms. Storey has served as principal investigator or co-principal investigator on numerous research studies sponsored by TxDOT, NCHRP, FHWA, EPA, TCEQ and various state agencies. She has co-authored and taught numerous short-courses on stormwater management during construction activities and low impact development for various sponsors such as the Lower Rio Grande Valley Stormwater Task Force with Texas A&M University at Kingsville, TxDOT, Texas General Land Office, and the South Dakota Department of Transportation's Water Quality Enhancement Program for Construction. A recent project through the Southwest Region University Transportation Center (SWUTC) developed a master plan using portions of the SEC Lab for hands-on LID training. The master plan includes various LID stations such as permeable pavements, bioretention, green roofs, and rainwater harvesting. She is a member of the Transportation Research Board Committees AHD50 Roadside Maintenance and Operations, AFB40 Landscape and Environmental Design, and the AFB50T Task Force on Context Sensitive Solutions.



Jett McFalls is an Assistant Research Scientist and has been with the TTI's Environment and Planning Program since 1990. He is the manager of the Sediment and Erosion Control Laboratory (SEC Lab). The SEC Lab is a 19 acre, international facility that conducts water quality research including full-scale performance evaluations of erosion and sediment control products. He has served as principal investigator or co-principal investigator for numerous water quality research studies, including projects working with TxDOT, TCEQ and the EPA. McFalls also co-authored several erosion/sediment control training and certification courses for highway construction for various state DOTs.

Mr. McFalls is a Professional Landscape Architect with a Bachelor of Science in Landscape Architecture from Texas A&M University. He is a member of ASTM D18 Soil and Rock Subcommittee. McFalls is an active member of the International Erosion Control Association where he is currently on three Subcommittees: Stormwater Management, Erosion and Sediment Control, and University Partners. He serves on the Water Environment Federation (WEF) Stormwater Innovation Team. He is a member of the Editorial Advisory Board of the Erosion Control Journal.