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### Research, Applied Technology, Education and Services (RATES) – Research and Education Institute

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### Lower Rio Grande Valley-TPDES Storm Water Task Force

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**STORMWATER**  
CONFERENCE

# Lower Rio Grande Valley 24<sup>th</sup> Annual Water Quality Management & Planning Conference Program

June 5-10, 2022  
The Beach Resort  
South Padre Island, Texas



**RESEARCH, APPLIED TECHNOLOGY,  
EDUCATION AND SERVICE, INC. (RATES)**

**Board Members**



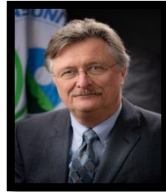
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**Benjamin Vondrak**  
*Field Operations*

**Rene Estrada**  
*LRGV TPDES SWTF Intern*



**Pete Kirkey**  
*Research Technician*



LRGV TPDES Stormwater Task Force  
 P.O. Box 697  
 Edinburg TX 78540  
 (956) 609-9060

June 6, 2022

Greetings,

On behalf of the LRGV TPDES Stormwater Task Force, along with RATES/RGV and our partners, welcome to the 24th Annual *Lower Rio Grande Valley Water Quality Management & Planning Conference*. The Task Force is pleased to lead the planning and delivery of this annual event.

Our conference focuses on research topics germane to South Texas and the U.S.-Mexico border region. It is our goal to develop team-based and research inspired programs to train and educate our future engineers. Working with our partners, we have brought together representatives from academia, private industries, environmental groups, research communities and state and federal agencies to be a part of a team exchanging ideas concerning environmental and engineering issues impacting coastal and semi-arid regions and the Rio Grande Valley, and transferring that information to the decision makers and stakeholders who influence the economic, social and physical infrastructure along the border region.

It is our hope that this conference serves as a platform for discussing sustainability issues that are both important and relevant to the Lower Rio Grande Valley. This year the conference includes topics on the Lower Laguna Madre Estuary Program, the Lower Laguna Madre & Port of Brownsville Watershed Protection Plan, low impact development, stormwater runoff flow reduction strategies, RESTORE, academia research topics, and many other interesting themes. **Our 2022 conference is pleased to announce that event topics will highlight planning, updates and working sessions associated with the recently formed Lower Laguna Madre Estuary Program.** We hope you consider participating in this event and hope you have an enjoyable and stimulating time at the conference.

Sincerely,


Jose Hinojosa, Chair

June 5-7, 2022 – Pre-Conference Activities		
<i>United States Army Corps of Engineers (USACE) – Steady Flow Water Surface Profile Computation Using HEC-RAS</i>		
7:30 – 8:00	<b>Course I</b>	<b>Main Conference Room</b>
		<b>Registration and Check In</b>
8:00 – 5:00		<b>Main Conference Room</b>
		<b>HEC – RAS Course</b>  Schedule Start time: 0800 CT Break 1015 - 1030 CT Lunch 1200-1300 CT Break 1515 - 1530 End time: 1700 CT  Instructor Brian M. Hall, P.E., U.S. Army Corps of Engineers
		<b>Day 1</b> <b>River Hydraulics Modeling with HEC-RAS</b> Course Introduction Water Surface Profile Calculation Geometric Data Requirements for Water Surface Profile Calculations Cross Section Layout Review Workshop Steady Flow Data Requirements Steps in Developing a Hydraulic Model with HEC-RAS Calculation of Water Surface Profiles Review Workshop
		<b>Day 2</b> <b>Viewing Results, HEC-RAS Bridge and Culvert Analysis</b> Viewing Results Hydraulics of Bridge Waterways Selecting a Bridge Modeling Approach Application of HEC-RAS to Bridge Hydraulics Bridge Computations Review Workshop Overview of Culvert Hydraulics
		<b>Day 3</b> <b>HEC-RAS Culverts, Floodway Analysis, and Trouble Shooting</b> Application of HEC-RAS to Culvert Hydraulics Culvert Analysis Review Workshop Trouble Shooting with HEC-RAS Output Analysis Review Workshop Floodplain and Floodway Determination Floodway Determination Review Workshop




<b>Conference begins.</b>	
<b>Wednesday, June 8, 2022</b>	
<i>Plenary – Welcome, Conference Themes, Technical Sessions</i>	
7:00 – 8:30	<b>Main Conference Room</b> <b>Registration, Check In, Breakfast</b>
Plenary Group Session 0	<b>VIRTUAL</b> <b>Stormwater 0 – Plenary, Welcome, and Keynote</b> Chair: Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE Research Applied Technology, Education Vice-Chair: Jose Hinojosa, Santa Cruz Irrigation District #15, Chairperson Lower Rio Grande Valley TPDES Storm Water Task Force
	8:00 – 8:10 <i>“Welcome”</i> <b>Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE</b> CEO & President Research, Applied Technology, Education and Service, Inc. (RATES) Potsdam, NY/Edinburg, TX
8:10 – 8:20	<i>“The LRGV Stormwater TPDES Task Force – History and Beyond”</i> <b>José Hinojosa, REM</b> General Manager Santa Cruz Irrigation District #15 & Chairperson LRGV TPDES Stormwater Task Force
8:20 – 8:40	<i>“Resacas: City of Brownsville Ecosystem Restoration Project”</i> <b>Reuben Trevino</b> Title U.S. Army Corps of Engineers
8:40 – 9:10	<i>“The River and Estuary Observatory Network and Rio Grande Flood Initiative”</i> <b>Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE</b> CEO & President Research, Applied Technology, Education and Service, Inc. (RATES) Potsdam, NY/Edinburg, TX
9:10 – 9:30	<i>“Presentation”</i> <b>Ali Esmacili, Ph.D.</b> Dean of the Division of Math, Science, & Bachelor Programs South Texas College
Plenary Keynote 9:30-10:00	<b>Ricardo Solis, Ph.D.</b> President South Texas College


<b>Wednesday, June 8, 2022</b>	
<i>Plenary – Welcome, Conference Themes, Technical Sessions</i>	
Break 10:00 – 10:15	<b>Main Conference Room</b> <b>Networking, Coffee Break, Exhibitors</b>
Group Session I	<b>Main Conference Room</b> <b>Stormwater 1 – Stormwater Management</b> Chair: Ernesto Solis, Title, City of Alamo Vice Chair: Melissa Gonzales, Special Projects Director, City of Alamo
	10:15 – 10:45 <i>“Reclamation Project”</i> <b>David Fuentes</b> Commissioner Hidalgo County Precinct 1
10:45 – 11:15	<i>“Texas Integrated Flooding Framework”</i> <b>Dr. Mohammad “Shahidul” Islam</b> Civil Engineer (Hydraulics) The U.S. Army Corps. Of Engineers
11:15 – 11:45	<i>“Watershed Assessment for the Lower Rio Grande Valley”</i> <b>Lisa Mairs</b> Senior Project Manager The U.S. Army Corps. Of Engineers
Lunch 12:00 – 1:30	<b>Main Conference Room</b> Chair: David De La Fuente, Title, City of Edinburg Vice-Chair: Robert Valenzuela, Title, City of Edinburg
Keynote Speaker Virtual 12:15 – 1:00	<b>Jayne Harkins</b> Commissioner International Boundary and Water Commission
Roundtable Discussion 1:15 – 2:15	<b>Bastrop Room (3<sup>rd</sup> Floor)</b>
	<b>Roundtable Discussion with South Texas College Sensor Technology Engineering Program (by invitation only)</b>

	<b>Main Conference Room</b>
Group Session II	<b>Stormwater II – General Topics</b> Chair: Megan Meidel Title, City of Primera Vice Chair: Celina Gonzales, City Manager, City of Primera
1:30 – 2:00	<i>“Empowering Decision Makers in Texas with Information They Want”</i> <b>Shonda Mace</b> Project Manager Texas Government Land Office
2:00 – 2:30	<i>“CMP 16 Project of Special Merit”</i> <b>Augusto Sanchez Gonzales</b> Director of Estuary, Environmental and Special Projects Cameron County
2:30 – 3:00	<i>“GBEP, Galveston TX”</i> <b>Anna Huff</b> Communications Manager – The Meadows Center for Water and the Environment Texas State University
Break 3:00 – 3:15	<b>Main Conference Room</b>  Networking Coffee Break, Exhibitors
Group Session III	<b>Main Conference Room</b>  <b>Stormwater III – General and Funding Topics</b> Chair: Cleo Longoria, Title, City of San Benito Vice Chair: Roy Jimenez, Title, City of Donna
3:15 – 3:45	<i>“Regulatory 101”</i> <b>Kristie Wood</b> Title The U.S. Army Corps. Of Engineers
3:45 – 4:15	<i>“Region 15 Flood Infrastructure Fund Program”</i> <b>Jason Pinchback</b> Manager, Coastal Resources General Land Office
4:15 -4:45	<i>“TBA”</i>

Dinner 7:00 – 8:00	<b>Main Conference Room</b>  Chair: Commissioner David Garza, Cameron County Precinct3
Keynote Speaker 7:30 – 8:00	<b>“Presentation” Major O’Sullivan</b> The U.S. Army Corps. Of Engineers
After Dinner Event 9:00 – 11:00	<b>To Be Announced</b>  Hosted by Guzman and Munoz Engineering and Surveying, Inc.   <b>GUZMAN &amp; MUNOZ</b>

<b>Thursday, June 9, 2022</b>	
<i>Technical Sessions</i>	
7:00 – 8:00	<b>Main Conference Room</b>
	<b>Breakfast</b>
Group Session IV	<b>Main Conference Room</b>
	<b>Stormwater III – General Stormwater Topics</b>
	Chair: Maribel Guerrero, Assistant Engineering and Public Works Director, City of Brownsville Vice Chair: Bernard Rodriguez, Planning Coordinator, City of San Benito
8:00 – 8:30	<i>“Presentation”</i> <b>Heather Robinson</b> Project Manager Texas Commission on Environmental Quality
8:30 – 9:00	<i>“Presentation”</i> <b>Kristin DeBone</b> Title Texas Commission on Environmental Quality
9:00 – 10:00	<i>Lower Laguna Madre and Brownsville Ship Channel Partnership Steering Committee Roundtable meeting</i> <b>Agenda Forthcoming</b>
	
Break 10:00 – 10:15	<b>Main Conference Room</b>
	Networking, Coffee Break, Exhibitors
Group Session V	<b>Main Conference Room</b>
	<b>Stormwater V– Public Works</b>
	Chair: Velinda Reyes, Office of Commissioner Ellie Torres, Hidalgo County Vice Chair: Rene Estrada, Commissioner, City of Combes
10:15 – 10:45	<b>Hidalgo North and Central Steering Committee Roundtable Meeting</b>

11:15 – 11:45	  	<i>Raymondville Drain Watershed Partnership, U.S. IBWC Floodway Watershed Partnership, and Hidalgo and Willacy County Floodway Watershed Partnership Steering Committee Meeting</i> <b>Agenda Forthcoming</b>
Lunch 12:00 – 1:30		<b>Main Conference Room</b>
		Chair: Name, Title, Entity
Keynote Speaker Virtual 12:15 – 1:00		<b>Charles McGuire</b> Water Division Director Environmental Protection Agency
Group Session VI		<b>Main Conference Room</b>
		<b>Stormwater VI – Non Point Source Pollution</b> Chair: Melissa Gonzales, Title, City of Alamo Vice Chair: Israel Garza, Title, City of San Juan
1:30 – 2:00		<i>“Evaluation, of Field-Scale Stormwater Bioretention cells Hydrology and Nutrient Removal in the Arroyo Colorado Watershed, Texas”</i> <b>Juan C. Roman, Pamela Mugisha, and Tushar Sinha</b> Student Texas A&M University – Kingsville
2:00 – 2:30		<i>“RTHS”</i> <b>William Kirkey, Ph.D.</b> Title Research, Applied, Technology, Education and Services
2:30 – 3:00		<i>“TWDB Freshwater Flows Project Update”</i> <b>Name</b> Title Research, Applied, Technology, Education and Service

Break 3:00 – 3:15	<b>Main Conference Room</b> Networking, Coffee Break, and Exhibits
Group Session VII  3:15 – 3:45  3:45 – 4:15  4:15 – 4:45	<b>Main Conference Room</b> <b>Stormwater VII – Stormwater Topics</b> Chair: Jose Aceves, Title, City of Harlingen Vice Chair: Raul Garcia, Stormwater Specialist, City of Los Fresnos
	<i>“Presentation”</i> <b>Rex Costley</b> Deputy District Engineer Texas Department of Transportation
	<i>“Presentation”</i> <b>Ivan Santoyo</b> Title City of Laredo
After Hour Event 8:00 – 11:00	Hosted by South Texas Infrastructure Group, LLC 

<b>Friday, June 10, 2022</b> <i>Texas Water Development Board FIF Program and LLM Estuary Planning</i>	
8:30 – 10:00	<b>Hibiscus (3<sup>rd</sup> Floor)</b> <b>Estuary Program I – TBD</b> Chair: Augusto Sanchez-Gonzales, MS, CFM Director of Estuary, Environmental and Special Projects, Cameron County
	<i>“RATES and LRGVDC CAT 1”</i> <b>Name</b> Title Entity
	<i>“Guzman Munoz Willacy CAT 1”</i> <b>Name</b> Title Entity
10:00 – 10:15	<i>“Harlingen CAT 1”</i> <b>Name</b> Title CSE
	<i>“HALFF Brownsville CAT 1”</i> <b>Name</b> Title Entity
	<b>Hibiscus (3<sup>rd</sup> Floor)</b> Networking Coffee Break and Exhibits
10:15 – 12:30	<i>LLMEP Board of Directors Meeting</i>  <i>“Water Topics”</i> <b>Juan “Chuy” Hinojosa</b> Texas State Senator: District 20  <b>Kathleen Jackson, P.E.</b> Title Texas Water Development Board
11:30 – 12:30 Keynote Speaker	
Lunch 12:30	<b>Hibiscus (3<sup>rd</sup> Floor)</b> Lunch

Lower Laguna Madre Partnership	<b>Hibiscus (3<sup>rd</sup> Floor)</b>
1:30 – 2:00	<i>“Presentation”</i> <b>Doug Jacobson</b> Title Environmental Protection Agency
2:00 – 2:30	

**Saturday, June 11, 2022**  
*25th' Annual WQ Management and Planning Conference*  
*Breakfast Workshop- Planning next year's conference*

DRAFT



**Members of the LRGV TPDES Stormwater Task Force**  
**Founded in 1998**



**City of Alamo**  
 Taskforce Representatives  
 Melissa Gonzales  
 Ernesto Solis  
[www.alamotexas.org](http://www.alamotexas.org)



**City of Edcouch**  
 Taskforce Representatives  
 Victor Hugo De La Cruz  
 Manuel Hernandez



**City of La Villa**  
 Taskforce Representatives  
 David Alaniz  
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**City of San Benito**  
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 Agustin Lopez Jr.  
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**City of Brownsville**  
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**City of Edinburg**  
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Cameron County

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**Willacy County**  
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**Cameron County DD#1**  
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## Silver



Civil Systems Engineering Inc. (CSE) is a small engineering firm specializing in water resources and transportation engineering, and GIS services. The philosophy of our engineering practices is Systems Engineering. The traditional piece-meal project approach cannot meet the needs of complex engineering problems facing our communities today. A sound engineering solution that can be implemented must be derived from a systematic approach with considering all aspects pertaining to a project, tangible and intangible. Applying our established systems engineering approach to our daily engineering practices, CSE has saved millions of dollars for our clients. Our experienced professionals, depth of capabilities, resources, and advanced technology enable us to provide innovative, cost-effective, and constructible solutions to our clients. The success of our firm relies on our experienced and competent engineering members. Our principal engineers include: Deren Li, Ph.D., P.E., D.WRE, CFM (President); Kurt E. Killian, P.E., CFM (Vice President); Homero L. Gutierrez, P.E. (Senior Project Manager); Javier Zamora, P.E., CFM (Senior Project Manager); Adebola Fashokun, P.E., CFM (Senior Project Manager); James Hathorn, P.E., CFM (Project Manager); and Darin Sanders, P.E., CFM (Project Manager). Our engineering staff possess an extensive range of engineering experience, technical skills, and depth of education. The CSE engineering staff has his/her personal commitment to our clients' projects every day. Our responsiveness to unique client needs and interests is what differentiates our work and the valued results we deliver. CSE is an equal opportunity employer and is certified as Historically Underutilized Business (HUB No. 1331030764300) by State of Texas, Disadvantaged Business Enterprise (DBE No. 15-02-9213) by City of Houston, and Minority Business Enterprise (MBE No. 15-09-9213) by City of Houston. CSE fully complies with all Affirmative Action Program policies. <https://www.cseengineers.com/index.html>



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[www.tedsi-infrastructure.com](http://www.tedsi-infrastructure.com)

## Bronze



### City of Los Fresnos

The area which is now home to present day Los Fresnos is not unknown to history. In fact, this area along the Rio Grande River and the Gulf of Mexico played a significant role in both the US-Mexican War and the American Civil War. The plain of Palo Alto (tall timber) just five miles south of town was the site of the opening battle of the war between the U.S. and Mexico in 1846. In 1907 Lon C. Hill, Jr. bought 14,232 acres and parceled them into lots. This eventually evolved into the layout of the original town site of "modern" Los Fresnos which was finally developed in 1915.

[www.cityoflosfresnos.com](http://www.cityoflosfresnos.com)



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South Texas Infrastructure Group, L.L.C. (STIG) is a locally owned engineering firm providing a variety of civil engineering services for both the public and private industry since March 11, 2013. Our firm focuses on delivering quality, cost-effective, and innovative engineering solutions in a timely manner. STIG offers a broad range of experience in consulting services which include transportation engineering, public works, land development, utility design/coordination, planning, project management and construction phase services. We have experience in a capacity of multi-disciplined engineering services, which makes us able to exceed project/client demands and expectations. STIG offers experience, vision, dependability, and creative design approaches.



Since 1994, S&B Infrastructure, Ltd. has built a long list of outstanding achievements. For 27 years, has provided planning, multi-discipline engineering design, construction, and construction phase services in the following market sectors: Transportation, Federal, Public Works, and Industrial and International, for our clients throughout Texas.

## Keynote Speakers



**Kathleen Jackson (June 10th)**  
***Texas Water Development Board***

Kathleen Jackson was reappointed to the Texas Water Development Board by Governor Greg Abbott on March 9, 2017. She was appointed to the Board by Governor Rick Perry on March 18, 2014. Jackson has a diverse background representing agricultural, environmental, industrial, and wholesale-supply interests, which includes developing and implementing water management strategies for Southeast Texas. As a registered professional engineer, Jackson served as public affairs manager for one of the world's largest petroleum and petrochemical producers.



**Maj. Ian P. O'Sullivan (June 8th)**  
***The U.S. Army Corps. Of Engineers***

Major Ian P. O'Sullivan was commissioned in the United States Army in May 2006. He earned a Bachelor of Science in Geospatial Information Science from the United States Military Academy at West Point, and a Master of Science in Geological Engineering from the Missouri University of Science and Technology. He is a graduate of the U.S. Army Command and General Staff College (CGSC) as well as the Engineer Officer Captain's Career Course and Basic Course.



**Jayne Harkins (June 8<sup>th</sup>)**  
***U.S. Commissioner of the International Boundary and Water Commission***

Jayne Harkins was appointed U.S. Commissioner of the International Boundary and Water Commission, United States and Mexico, by President Donald J. Trump in 2018. As Commissioner, she serves as head of the U.S. Section of the Commission, overseeing personnel in twelve offices along the U.S.-Mexico border and in Washington, DC. The Commission is responsible for applying the boundary and water treaties between the two countries. It operates and maintains various infrastructure projects along the U.S.-Mexico border, including international storage dams, hydroelectric power plants, flood control levees, wastewater treatment plants, and monuments demarcating the international boundary. Commissioner Harkins is the first woman Commissioner for either the United States or Mexico in the 129-year history of the Commission.



**Charles Maguire (June 9<sup>th</sup>)**  
***EPA Region 6 Water Division Director***

Charles Maguire joined EPA Region 6 in July 2018. He oversees the implementation of the Clean Water Act and the Safe Drinking Water Act in the five-state area of EPA's Region 6. Charles came to Region 6 from the Texas Commission on Environmental Quality in Austin, Texas, where he served as Director of the Radioactive Materials Division since 2012, and Director of Water Quality Division from 2009 to 2012. Charles' resume includes experience as a senior executive and manager along with varied experience in environmental programs with an emphasis on water. Before joining TCEQ, Charles served for four years as the Manager of the Southwest Regional office of National Pork Producers Council in Dublin, Texas, coordinating the dairy industry certification program in Texas. Previously, Charles spent several years as the Assistant Director for Economics and Policy Analysis at the Texas Institute for Applied Environmental Research and participated in the creation of the organization by the Texas Legislature. Prior to TIAER, Charles served as President and CEO of a small business and Assistant Vice-President in the banking industry. Charles holds a bachelor's degree from Texas A&M University where he majored in Aerospace Engineering. He also holds a Master in Business Administration, Finance also from Texas A&M University.

## Partners

## Regulatory Speakers

## RATES Board Members



**Andrew Ernest, Ph.D., P.E., BCEE, D.WRE, Edinburg, TX**  
**Professor – Civil Engineering, UTRGV**

Dr. Andrew Ernest has accumulated over 20 years of professional experience in Environmental and Water Resource Engineering and awarded over \$20 million in grants and contracts throughout his career. Ernest has more than 100 publications in his name, including more than 40 masters' theses he has supervised. His research focuses at the nexus of environmental informatics and water resource capacity development. Ernest bases his research efforts around his interest in investigating the role of innovation, entrepreneurship and engineering service in stimulating effort-based economies as a mechanism for promoting capacity development and sustainability.



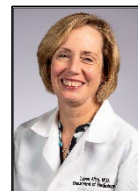
**Javier Guerrero, MS., E.I.T., Edinburg, TX**  
**Director of Water Studies – Civil Engineering, UTRGV**

Founded, Lower Rio Grande Valley (LRGV) TPDES Stormwater Task Force – Facilitates the organization of a coalition of 25 local governments. Project topics: Stormwater management, non-point source pollution, watershed protection, estuary program initiatives, and flood drainage initiatives; 1998 Founded, LRGV Sports Complex and Municipal Parks Environmental Council – Coalition of 16 local governments represented by Parks and Rec Directors. Project topics: Low Impact Development and Green Infrastructure planning and implementation; 2014 Founded, Lower Laguna Madre Estuary Program Partnership. Project is in the planning stages, strategic fund development funded by the Texas General Land Office, encompasses 6 counties; 2015 Developed of a Regional Watershed based Stormwater Management Plan pursuant to the Texas Commission on Environmental Quality's (TCEQ's) TPDES MS4 program. The plan was adopted by 21 MS4s in the LRGV; 2010 Founded, LRGV Low Impact Development Outreach, Education and Research Demonstration Site program. Comprised of over thirty (30) Best Management Practice (BMP) demonstration facilities located at 11 sites throughout the Lower Laguna Madre Watershed. B.S. Engineering Technology, Structural Analysis and Design, University of Houston-Downtown; M.S. Environmental Engineering, Texas A&M University-Kingsville.



**Dave Bonner, Ph.D., Potsdam, NY**

Dave Bonner received a B.A. in Physics and B.S. in Mathematics from Statue University of New York at Pittsburgh. He then pursued an M.A. in Mathematics from Wayne State University in Detroit, MI. and a M.S. in Mathematics from State University of New York Albany. He received his Doctorate from State University of New York at Albany. He currently the President and CEO of Adirondack Area Network.



**Talissa Altes, MD**  
**Radiologist – Columbia, MO**

Dr. Talissa Altes is a radiologist in Columbia, Missouri and is affiliated with multiple hospitals in the area, including Harry S. Truman Memorial Veterans Hospital and University of Missouri Health Care-Columbia. She received her medical degree from University of Washington School of Medicine and has been in practice for more than 20 years.



**Jeff Lape**

**U.S. Environmental Protection Agency – Washington D.C.**

Jeffrey Lape is recognized as a national leader and expert on Federal water programs and policies. Mr. Lape has served in the Senior Executive Service for 15 years and is a national expert in watershed restoration, protection, and partnerships. Mr. Lape has extensive experiences implementing water resource protection programs at the Federal, State and Local levels of government and in the private sector.



**Hollis Rutledge**

**President and Owner of Hollis Rutledge and Associates – Mission, TX**

Mr. Hollis Rutledge, the founder of HRA, Inc., was called upon twice to serve as a Presidential Appointee in Southwest Region 7, first by President Reagan as a Special Assistant over five states with US Housing and Urban Development (HUD) and then by President Bush as a Regional Administrator for the General Services Administration over eleven states. He was Executive Director of the Hidalgo-Willacy Job Training Partnership Act (JTPA) Program, former owner of Delta Systems Services, Inc. – an engineering and architectural firm, Director of Planning and Administration for the City of San Benito, City Manager for various municipal governments, real estate agent, owner of a marketing and consulting firm, Marketing Director for various professional service organizations and a Certified Teacher.

**RATES Staff**



**Jodi E. Lees**

**Chief Financial Officer – R.A.T.E.S.**

Jodi E. Lees received her B.B.A. in Accounting from Texas A&M University-Kingsville. Since 2018, she serves as Chief Financial Officer for Research, Applied Technology, Education and Service.



**Amber LaFountain**

**New York States Projects Coordinator – R.A.T.E.S.**

Amber Rae La Fountain graduated from the State University of New York at Potsdam with a B.S. in Business Administration. She later received her Master of Business Administration in Accounting from the American Military University. Since this year, she serves as the New York State Projects Coordinator for Research, Applied Technology, Education and Service, Inc.



**Chris Fuller**

**Chief of Research – R.A.T.E.S.**

Dr. Fuller first obtained his B.S. in Biology at Texas A&M University-College Station. He then continued his education, graduating from Texas A&M University-Kingsville with a M.S. in Environmental Engineering. Lastly, receiving his Ph.D. in Civil Engineering from Texas A&M University-College Station. Since this year, he is serving as Chief of Research for Research, Applied Technology, Education and Service, Inc.



**William D. Kirkey, Ph.D.**

**Research Engineer – R.A.T.E.S.**

Dr. Kirkey received his B.S. and M.S. in Electrical Engineering from The State University of New York Buffalo State. He then obtained his Ph.D. in Engineering Science from Clarkson University. Since 2018, he is currently a Research Engineer for Research, Applied Technology, Education and Service, Inc.



**Pete Kirkey**

**Research Technician – R.A.T.E.S.**

Pete Kirkey earned his bachelor's degree in Computer Science SUNY Buffalo. Pete Kirkey is currently the Research Technician for Research, Applied Technology, Education and Service, Inc.



**Deanna M. LeVrier**  
**Accounting Manager – R.A.T.E.S.**

Deanna LeVrier graduated with her Bachelor of Applied Science in Organizational Leadership and is currently pursuing her Master's Degree in Business Administration from The University of Texas Rio Grande Valley. She currently serves as the Accounting Manager for Research, Applied, Technology, Education and Service.



**Ben Vondrak**  
**Field Technician Manager**

Benjamin Vondrak graduated from Clarkson University with a Bachelor of Science in Entrepreneurship and Innovation and a minor in Environmental Policy. Ben Vondrak is currently the Field Technician Manager for Research, Applied Technology, Education and Service, Inc.

## THE LOWER RIO GRANDE VALLEY TPDES STORMWATER TASK FORCE



**The LRGV TPDES Stormwater Task Force.** In 1998, founded by Andrew Ernest and Javier Guerrero, a coalition of thirteen (13) Lower Rio Grande Valley (LRGV) local governments joined to form the LRGV TPDES (Texas Pollutant Discharge Elimination System) Stormwater Task Force (TASK FORCE) in a joint effort to develop a proactive regional approach to comply with the TPDES Phase II Municipal Separate Stormwater Sewer System (MS4) rules. The Task Force developed a regional stormwater management plan (SWMP) adopted by the membership. The SWMP includes Best Management Practices (BMPs) that are required as part of the six (6) Minimum Control Measures (MCMs) of the State's TPDES program. **Today the TASK FORCE is comprised of seventeen (17) local governments sharing one regional SWMP.**

**Organization and Mission of the LRGV TPDES Stormwater Task Force.** The TASK FORCE project idea was born from a 1998 local stormwater brainstorming round table held in La Feria, Texas. Several preliminary meetings continued at various cities until the coalition was formally organized. Local government officials and qualified professionals representing various communities in the LRGV region attended these meetings. The group agreed to develop a way to achieve a regional SWMP to comply with the TPDES regulations. The group formalized the organization by contractually empowering TAMUK to facilitate the group and by developing a system of by-laws that included election of board members and officers.

The TASK FORCE uses a unique, collaborative regional approach to involve various levels of government, including the Texas Commission on Environmental Quality (TCEQ) and the Environmental Protection Agency (EPA), in developing cost-effective solutions that will achieve compliance with the TPDES rules. The TASK FORCE project embodies the spirit of the mutually beneficial relationships between local governments and embellishes this relationship with academia and regulators. After nineteen (19) years, although the impact of this organization has translated into a regional collaboration movement not seen anywhere else in the State, the overall impact of this organization has yet to be fully realized. The primary goal of the TASK FORCE project in 1998 was to develop and implement a regional SWMP to comply with Phase II regulations. In 2002, TASK FORCE participants began entering into local government interlocal agreements with TAMUK, which outlined the desire to address stormwater quality issues on a regional basis and named TAMUK as its facilitator. In executing these interlocal agreements, emphasis was placed on developing programs that study existing successful programs, addressing community goals, providing technical assistance and training, and promoting regional approaches.

In 2006, the TASK FORCE modified its mission to include stormwater quality management approaches to address broader water quality and watershed issues, particularly those associated with the Arroyo Colorado Watershed Partnership (ACWP), a local Total Maximum Daily Load (TMDL)-related organization. The TASK FORCE project has already enjoyed side benefits of increased communication and cooperation and created a collaborative process for discussing water quality issues in the LRGV's four-county region. In addition, this collaboration and others like it, has enabled the participating communities to successfully secure many grant funding opportunities since the TASK FORCE's inception. Academic researchers and faculty provided facilitation and management assistance for the TASK FORCE project, initiating this effort through a National Science Foundation (NSF) grant, other grants, and from annual membership fees collected from the member-local-governments. The funds provide resources for staff to facilitate the group's efforts in formulating TASK FORCE project goals and developing TASK FORCE programs. Funds, in part, are also used to host workshops, expert panel discussions, conferences, seminars and training sessions.

In 2008, during a TASK FORCE meeting held in Mission, TX, the organization formed several committees: ordinance, grant, scholarship, outreach, training, housekeeping, construction, and others. The TASK FORCE worked closely with the committees in developing the SWMPs by responding to recommendations and suggestions posed by these committees. Recently, these committees have been replaced with work groups which now work with researchers in facilitating the organization and implementing the SWMPs. One key workgroup, responsible for luring millions of dollars worth of grant funding to the Valley, is the Low Impact Development (LID) workgroup. The LRGV LID Outreach, Education and Demonstration program is a highly regarded project in the region that resulted from

collaboration efforts within this workgroup.

**New Paradigm.** The new stormwater paradigm presents many questions to local governments in the LRGV. What is a stormwater management program, what will it cost, who will fund the program, is it needed, and how much will it cost? The TASK FORCE realizes a regional program is a key part of a successful regional storm water program. But regulators and academia do not have a firm grasp of the costs associated with developing and implementing such a program. Although the average citizen often takes for granted the services municipalities provide, the stormwater services are nonetheless expected. The region now requires that local governments provide a stormwater runoff pollution protection service. This new paradigm requires the development of infrastructure and funding strategies to support providing this service.

**Storm Water Quality is Now a Municipal Responsibility.** This is not the first-time local governments have been confronted with environmental water quality regulations that affect the manner that cities allocate funds. TMDL regulations recently started developing new performance measures for local governments, and LRGV communities have become very familiar with the Arroyo Colorado TMDL studies. Based on these studies, the drafters of the Arroyo Colorado Watershed Protection Plan (ACWPP), which included members of the Task Force, concluded that urban stormwater runoff is contributing to the impairment of the Arroyo Colorado. Thus, the timing of the formation of the Task Force could not have been better. Local governments typically tend to procrastinate when it comes to addressing non- mandated environmental issues, usually because of lack of resources and lack of expertise and understanding rather than due to a non-proactive attitude. Still, finding funds to implement a regional SWMP program is a huge responsibility for any local government. Cost effectiveness and revenue potential were major considerations for our local governments when developing this Task Force.

In the LRGV, the communities share similar demographics and similar environmental concerns. Most residents live in low- or fixed-income households and cannot afford to pay fees to support the environmental-related requirements. Thus, there is a strong case for any type of collaboration that would keep costs down. In the LRGV, each community is contiguous to other communities, with some cities bordered by four (4) other cities. Thus, the LRGV appears as one urbanized metropolitan region. Although all these communities experience similar TPDES stormwater problems, none had in place a TPDES stormwater program or related ordinance. Since the creation of the TASK FORCE, stormwater tasks were generally viewed as “add-on” responsibilities for departments and staff that have other primary responsibilities. To varying degrees, with the exception of McAllen and Brownsville, the communities had existing staff (such as sanitary sewer, code enforcement, or road department personnel) handling stormwater operations, maintenance, regulation and enforcement. None of the communities could maintain a person, much less a department, to handle stormwater administration, planning, design, and engineering; water quality planning and monitoring; and capital improvements and expenditures. The regional approach taken by the TASK FORCE allows the LRGV communities to share these responsibilities, which results in a much more cost-effective program for addressing stormwater issues. Also realized in time, the TASK FORCE network provides a vitally important link to these small communities when new employees take on storm water related duties after key employee turnover. **The TASK FORCE project will recognize its twentieth (20<sup>th</sup>) year of existence in 2018, and the organization is determined to continue evolving and to continue strengthening its partnership in the future.**

**Transition from TAMUK to The University of Texas Rio Grande Valley (UTRGV).** In September 2016, the TASK FORCE decided to move its operation from TAMUK to UTRGV, a move that will be complete by July 2017. Moving the operation to a more local venue assures daily availability of resources and support to the TASK FORCE from the College of Engineering & Computer Science, the Civil Engineering Department and the UT System. With locations in Brownsville and Edinburg, UTRGV is poised to assist the TASK FORCE to achieve higher levels of success.

**Transition from UTRGV to RATES/RGV.** In January 2019, at its annual retreat, the TASK FORCE opted to pursue becoming a non-profit agency promoting not only its compliance requirements, but education, research and community engagement. RATES, Inc., an existing research institute, founded in 2005, and the TASK FORCE agreed to merge and become RATES, Inc. dba RATES/RGV. Today, RATES/RGV is becoming a rapidly growing research institute in the Lower Rio Grande Valley that looks forward to promoting educational events, awarding scholarships and providing much needed professional training.