



The Droplet

Florida Water Environment Association Integrated Water Resources Committee

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Chair:
Lauren Holman

Vice Chair:
Liz Bartell

Secretary:
Leslie Turner

Treasurer:
Nestor Sotelo

Over 100 Attendees at Joint Luncheon!

The FWEA Integrated Water Resources Committee (IWRC), together with the Central Florida Chapter and the Water Reuse Committee organized a luncheon held on July 8th.

Jeff Elledge, Director, Department of Water Resources, SJRWMD, presented the *Statewide Stormwater Treatment Rule Development* (top left picture) and Christianne Ferraro, PE, Program Administrator, Water Facilities Management, FDEP, presented *Permitting Stormwater as a Supplemental Supply for Reclaimed Water Reuse Systems* (bottom right picture).

Over 100 people attended the event. The IWRC would like to thank the committee members who organized the event, all of the attendees, and our two presenters for making the luncheon such a success!

A similar luncheon is currently being planned with the First Coast Chapter for the fall.



IWRC Members who attended the luncheon from left to right: Joel Jordan, Gabriel Retana, Chad Drummond, Lauren Holman, Liz Bartell, Leslie Turner, Elizabeth Perez, Nestor Sotelo

Innovative Solution to St. Cloud's Water Supply Issue

The residents of St. Cloud complained for years about the City's water quality. It had a brown color due to high levels of dissolved organic carbon (DOC), and it smelled because of hydrogen sulfide. What's more, the City was legally required to send its water utility customers a notice of non-compliance because their water exceeded the Maximum Contaminant Level standards for the disinfection byproducts Total Trihalomethanes and Haloacetic Acids.

Jones Edmunds & Associates, Inc. worked with the City to create a unique solution: the largest operating magnetic ion-exchange (MIEX®) water plant in the United States. The facility lowered TTHMs and HAAs below the MCL and provided EPA-compliant water within three days of coming online. It also reduced chlorine demand by 90%, removed 61% of DOC, eliminated 98% of odor, reduced total sulfide to below 0.3 mg/L, and removes color to below the MCL of 5 Color Units. The plant now produces 90 percent of the City's water. It has been recognized with several state and national awards and is notable for many reasons:

- Largest MIEX® plant (9 MGD expandable to 12 MGD) in the United States;
- First MIEX® facility specifically designed to promote hydrogen sulfide removal
- First full scale deployment of environmentally-friendly Sodium Bicarbonate as an alternate regenerant to salt
- "Gravity Flow Concept" - without re-pumping, groundwater flows from the wells, through the entire facility and out to the customers
- First full scale deployment of magnetic post polishing filters





Sustainable Stormwater Management Required under the 2007 Energy Independence and Security Act (EISA)

Several Federal initiatives, Executive Orders, and laws have been enacted over the past few years that lay the foundation for establishing sustainable workplace environments for Federal employees and for improved protection of water resources. These include: stormwater management directives for the U.S. Army Corps of Engineers, Naval facilities and Air Force commands through the use of Unified Facilities Criteria (UFC) for Low Impact Development (2004); guiding Principles for Federal High Performance and Sustainable Buildings Memorandum of Understanding (MOU) signed by multiple federal agencies in 2006; and Executive Order (E.O.) 13423 *Strengthening Federal Environmental, Energy, and Transportation Management* (January 2007).

In December of 2007 the 110th Congress passed The Energy Independence and Security Act (EISA). In addition to several energy-related provisions, EISA also included *Section 438 Storm Water Runoff Requirements for Federal Development Projects*. This small section of the Act has the potential to significantly alter the way that stormwater is managed at federal facilities.

EISA sets forth stringent requirements for stormwater management for federal development projects. Specifically, Section 438 of the Act requires that "the sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, **to the maximum extent technically feasible**, the predevelopment hydrology of the property with regard to the **temperature, rate, volume, and duration of flow.**"

The intent is for federal facilities to adopt "greener/sustainable" techniques, also known as Low Impact Development (LID) practices. LID is an ecosystem-based approach to stormwater management. The primary goal of LID practices is to mimic the predevelopment site hydrology by using site design techniques that store, infiltrate, evaporate, and detain runoff. Use of these techniques helps to reduce off-site runoff and ensure adequate groundwater recharge. There are many examples from around the country of federal buildings that have incorporated green design and LID stormwater features such as green roofs, permeable surfaces, bioretention, raingardens, constructed wetlands, rainwater capture and reuse, etc. Several of the most recently constructed federal buildings have achieved Leadership in Energy and Environmental Design (LEED) certification under the program developed and managed by the U.S. Green Building Council. (www.usgbc.org).

The most important aspect of Section 438 is the new standard for stormwater management with the use of the statement "to the maximum extent technically feasible." To meet the intent of the statute, the Federal facility must use **all known, available and reasonable methods** of stormwater retention and/or reuse to prevent the off site discharge of stormwater runoff consistent with the performance standard. EISA has raised the bar for stormwater management at federal facilities. How high the bar has been raised is yet to be determined. Engineers, hydrologists, scientists, planners, and architects have improved our ability to design better stormwater management facilities. New approaches to stormwater management including LID techniques have changed in the way that we treat stormwater. Stormwater is now viewed as a resource to manage and protect and not just an annoyance to quickly convey off a site and discharge into the nearest stream, lake or wetland.

As the Economic Stimulus Package is employed and federal building projects quickly move toward implementation there is hope that stormwater management will become an important component in the sustainable designs that will last for decades and protect and improve our water resources.

Credits:

Steven Roy, LEED AP
Geosyntec Consultants
Acton, MA

Chad Drummond, P.E.
Geosyntec Consultants
Orlando, FL

Calendar of Events

<u>Date</u>	<u>Description</u>
August 4, 2009	IWRC Committee Meeting Teleconference
September 2009	Joint Luncheon with First Coast Chapter
September 11, 2009	FWEA Central Florida Chapter Golf Tournament
October 6, 2009	IWRC Committee Meeting Teleconference
November 3, 2009	IWRC Committee Meeting Teleconference
December 1, 2009	IWRC Committee Meeting Teleconference

Officer Contact Information

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Website	David Scott	David.Scott@jig.com
Newsletter	Leslie Turner	turnerla@cdm.com

Welcome New Members!

<u>Name</u>	<u>Company</u>
Gabriel Retana, Ph.D.	Brown and Caldwell
Todd Sturtz	Nova Water Technologies
Saurabh Srivastava	PB

Please consider becoming a member of the IWRC. Visit our website at <http://www.fwea.org>, then click on committees, then integrated water resources committee.

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