South Miami-Dade Issues Coordination Initiative

The South Florida Water Management District is committed to providing the necessary resources and management involvement to ensure coordination and oversight of the multiple, ongoing water-related projects and initiatives in south Miami-Dade County.

Surface and groundwater systems are highly interactive and decisions affecting water use, mining, flood control, wetlands restoration and water management operations extend well beyond each individual project. In addition, the implications of sea level rise continue to be studied and major Everglades restoration projects are under construction.

The South Miami-Dade Issues Coordination project provides the focal point for oversight and coordination of the multiple ongoing District projects and initiatives within south Miami-Dade County. The projects that fall under the scope of the South Miami-Dade Issues Coordination Charter include the following:

- Implementation of the FPL/SFWMD 5th Supplemental Agreement
- FPL Unit 6 and 7 Site Certification Application (plant and transmission facilities)
- South Miami-Dade Agricultural Drawdown Study
- Rock mining permit coordination
- Technical support to District legal team (south Miami-Dade issues)
- New water control structures (Card Sound Rd and Fla. City canals)
- C-111 construction/operation Phase I and II
- Regulatory monitoring and compliance
- Biscayne Bay Coastal Wetlands Project
- Biscayne Bay Water Supply Rule Development
- Florida Bay Water Supply Study
- South Miami-Dade outreach

Specifically, the goals of the coordination project are to:

- Provide information in support of executive decision-making based on a thorough understanding of technical issues and constraints across multiple projects ongoing in South Miami Dade County.
- Provide guidance and oversight to Project Managers/Project Team members as needed to:
    - Prevent conflicting actions among the multiple projects ongoing in South Miami-Dade County.
    - Ensure products are consistent with District policy and are technically sound.
    - Provide support in the identification and assignment of project resources as required to resolve issues and meet District commitments/deadlines.
- Develop long-range strategies and policies for consideration by District executive management and Governing Board to manage the impacts of sea level rise on the water resources and operations of the District within South Miami-Dade County.
- Provide technical support to the defense of litigation brought against the District.

An additional goal of the South Miami-Dade Issues Coordination Initiative is to provide stakeholders and interested parties with background information and timely updates on the numerous projects under development in the region; ensure access to data and technical evaluations conducted in support of District water resource actions; and provide notice and supporting documents/ presentations regarding public meetings and workshops.

To formalize the District's commitment to a more holistic approach to addressing south Miami-Dade issues and concerns, an internal project charter has been approved at the highest levels of agency management. The document outlines the key roles, responsibilities, objectives and expected deliverables – including coordination and communication with external partners – for fully supporting and implementing this on-going effort.

The project leads are charged with identifying issues, addressing potential conflicts, allocating resource needs and developing recommendations/solutions. Ongoing and stepped up two-way communication will help keep stakeholders actively engaged and informed.

SFWMD Project Leads
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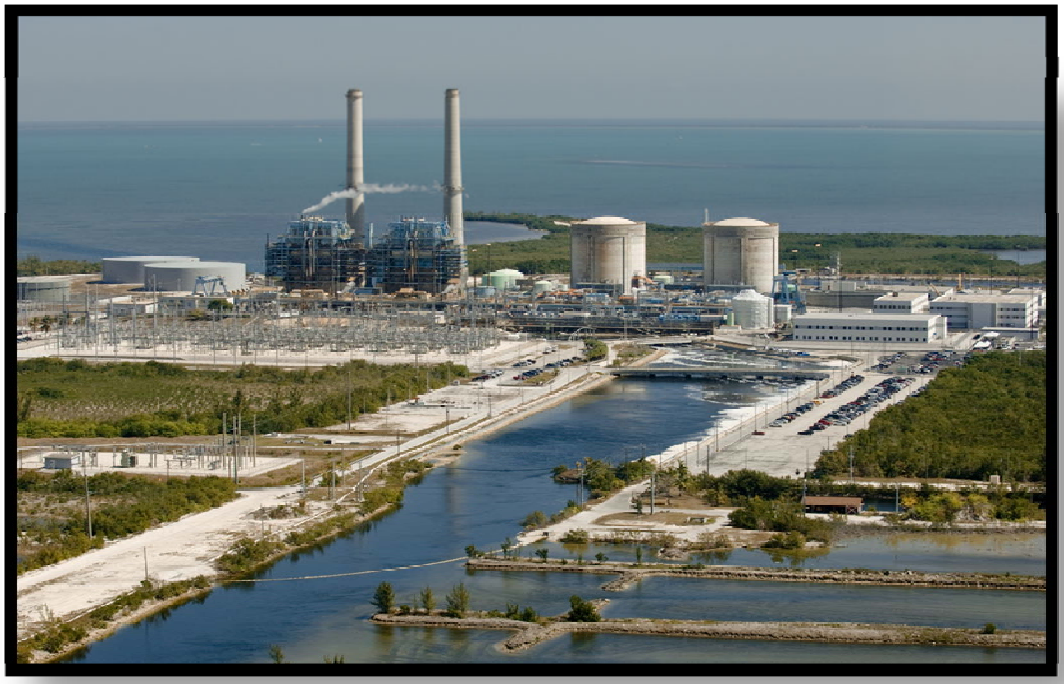
Following are general descriptions of several of the on-going District projects that are included in the South Miami-Dade Issues Coordination Initiative:

- **Implementation of the SFWMD/FPL 5th Supplemental Agreement**



Florida Power and Light operates a surface water cooling canal network in accordance with an Agreement executed with the District beginning in 1972. Changing conditions over time have resulted in amendments to the original Agreement. The most recent revisions were adopted by both agencies in October 2009 (Fifth Supplemental Agreement). Included in this Agreement is an extensive monitoring plan to be constructed and maintained by FPL with the purpose of assessing the extent of influence exhibited by the operation of the cooling canal system on water resources on or beneath adjacent lands and the Bay. The Agreement contains actions to be taken by FPL in the event that

the District determines that impacts associated with the cooling canal system do not comport with the provisions of the Agreement.

- **FPL Unit 6 and 7 Site Certification Application**

  FLP has filed an application with the State of Florida Site Certification Board seeking approval to construct and operate two additional nuclear reactors at its Turkey Point site. The District is a commenting agency under the State site certification process and reviews aspects of the FPL application that are consistent with District water management authorities. A multi-disciplined team of District scientists, regulators and engineers are working with agency representatives from Miami-Dade County, the National Park Service and other state agencies in reviewing the application. Once that process is complete, a District report will be prepared for consideration by the Governing Board prior to transmittal to DEP. The District's report, along with reports from other reviewing agencies, will be considered by DEP. DEP will ultimately make recommendations to the State of Florida Site Certification Board on FPL's application.

- **South Miami-Dade Agricultural Drawdown Study**

The South Miami-Dade Agricultural Study was initiated at the request of stakeholders who had concerns that the long-standing practice of operating District canals in order to provide drainage to row crops may be lowering groundwater with unintended consequences (saltwater intrusion in the Biscayne aquifer; reduced fresh groundwater seepage beneath Biscayne Bay). A series of stakeholder meetings have been held on this topic and data on

hydrology and land use trends have been compiled. Water levels and canal operations during the 2009/2010 growing season have been documented and stakeholders have presented options and alternatives to meet the multiple objectives of the area. Hydrologic data collected during the 2009/2010 growing season will be statistically analyzed to identify relationships between canal stages and groundwater stage responses in temporal and spatial terms. The results of this analysis will be used to better quantify the area of influence and impacts of canal operations on groundwater stages and surface water discharges to the Bay. The data will also be used in conjunction with groundwater flow models (LECSR) to evaluate impacts of alternative management options in the area.

- **Rock Mining Permit Coordination**

Rock mining in South Miami-Dade County represents some unique challenges with regard to the potential impacts to Comprehensive Everglades Restoration Plan (CERP) project hydrology and the orientation of the coastal saltwater interface. These technical issues are further complicated by the fact that several different agencies issue permits for mining activities (SFWMD, DEP, Miami-Dade DERM, and USACE). Currently, criteria regarding setback distances and depth of excavation is not uniformly addressed among the regulatory agencies. In addition, sea level rise has the potential to cause salt water to move into retired mining pits exposing shallow strata in the aquifer to saltwater intrusion.

Coordination activities are geared towards developing consensus among the regulatory agencies on permitting strategies to protect the water resources from unintended impacts of mining and to provide technical support to District ERP permitting.

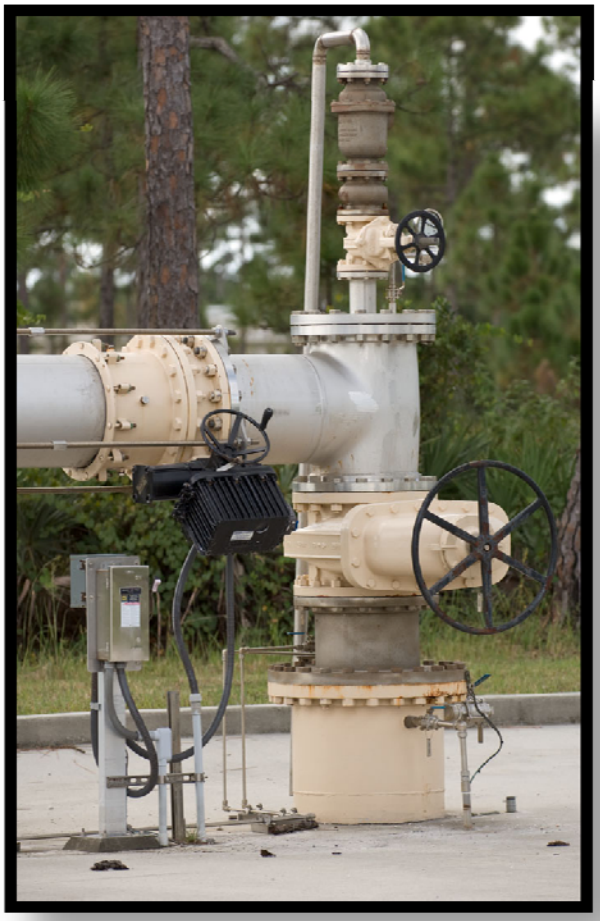
- **<u>Water Control Structures (Card Sound Road/Florida Cities Canals)</u>**

The Card Sound Road Canal is the result of fill excavations associated with the construction of Card Sound Road connecting the City of Homestead to Florida Keys. The Canal does not directly provide drainage to the City of Homestead as it dead-ends at the confluence of Card Sound Road and US 1. It also doesn't act as an outfall for the L-31E Canal or the Model Lands canals (which discharge to the east via S-20 structure). It provides drainage to the Model Lands via groundwater seepage from the east and surface water/groundwater from the west (the west side of the canal is at ambient land surface with no berm). The Card Sound Road Canal was not historically controlled, allowing tidal migrations of salt water from the Bay to freely move several miles inland. Over the years, plans have called for the construction of water control features in the canal to reduce the drainage of wetlands and limit the tidal encroachment of salt water. The first such structure is the FPL Mitigation Bank Structure which was constructed in 2010. It is located adjacent to where the L-31E Canal dead-ends at Card Sound Road. FPL is constructing this structure pursuant to a condition of the Everglades Mitigation Bank Permit to improve the hydrology of Model Lands wetlands. A second structure, proposed

by Miami-Dade County, is slated for construction two miles to the south of the FPL structure to limit the migration of salt water and to improve the hydrology of County-owned wetlands adjacent to the proposed structure.

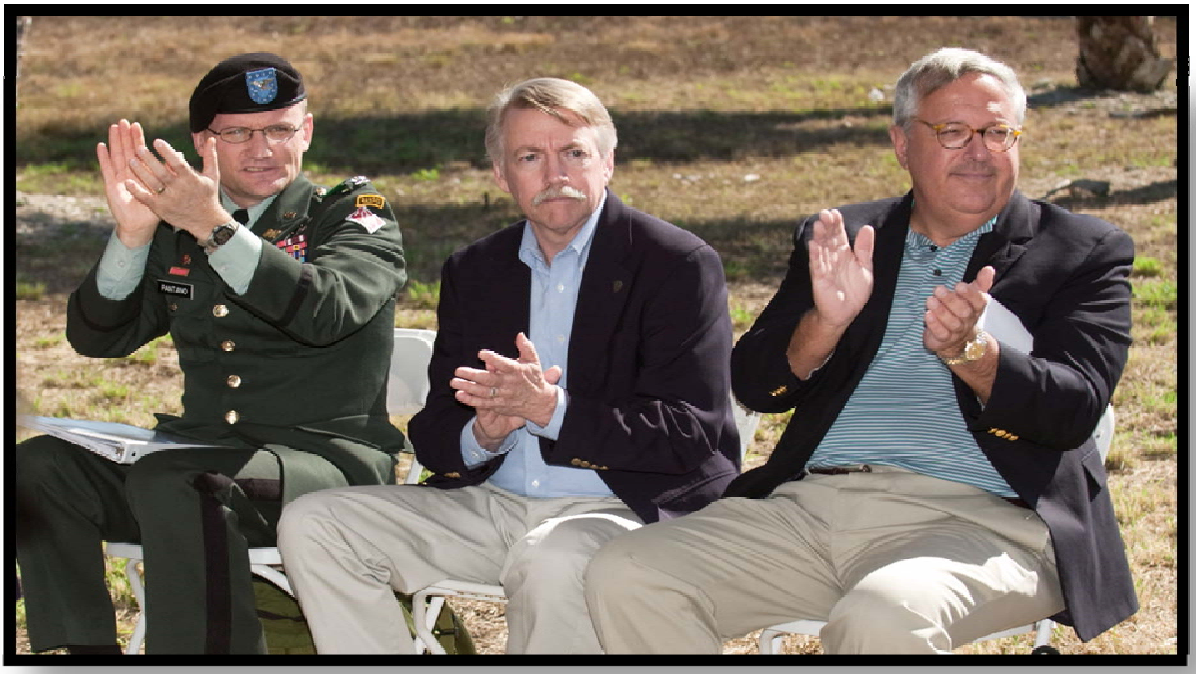
The Florida Cities Canal is located along the northern extent of the Model Lands and provides drainage to agricultural and urban lands within the City of Homestead. Surface and groundwater collected in this canal discharge to tide through the operable structure S-20F. Consideration is being given for the placement of a water control structure in the eastern end of the Florida Cities Canal to aid in providing freshwater flows to the Model Lands and improve fresh groundwater recharge along the coast.

- **Regulatory Monitoring and Compliance**



Several public water supply wellfields serving thousands of citizens in south Miami-Dade are located within the Issues Coordination area and all are near saline groundwater. Over the years, safe yield allocations and alternative water supply sources have been established for these wellfields through regulation and alternative water supply funding grants. Each utility is required to measure pumpage and monitor groundwater conditions across the area of influence of its wellfield and report progress on developing required alternative supplies on a prescribed schedule related to the projected growth rate in their service area. Alternative supplies include reclaimed water, Floridan aquifer desalinization and wellfield relocation. Water conservation is also an integral part of protecting the wellfields. The District's Regulatory Compliance section collects data from the wellfields which is evaluated to determine if the wellfield will remain sustainable into the future. As part of the Issues Coordination effort, resources will be directed to aid in the analyses and develop strategies to deal with potential saltwater intrusion.

- **Comprehensive Everglades Restoration Plan (CERP) Projects: C-111 Spreader Canal and Biscayne Bay Coastal Wetlands**



Two major Everglades Restoration milestones were achieved with the groundbreaking of the C-111 Spreader Canal Western Project (January 2010) and initiation of construction at the Biscayne Bay Coastal Wetlands Project - Phase I (L-31E culverts - January 2010, Deering Estate Flowway - May 2010). Both of these are expedited District projects with the objectives of enhancing the freshwater hydrology along the coastal reaches of southern Miami-Dade County. The construction activities associated with the initial phases of these projects are expected to be completed by the spring of 2011. Work continues on the next phase of the projects with our federal partners as the District continues to work towards finalizing the PIR and conceptual design contracts.

- **Biscayne Bay Water Supply Rule Development**

In addition to project construction, the District must protect the project benefits by ensuring that the water needed for the natural system will not be allocated for consumptive uses such as new development. The District has the authority to adopt rules which set aside water for the protection of fish and wildlife or public health and safety. An existing rule, protecting Everglades water from further consumptive uses (adopted in 2006), is being used to protect the project waters associated with the C-111 Spreader Canal Western Project. In the meantime, staff is working with stakeholders to identify and develop specific rules to protect existing beneficial freshwater inflow to Biscayne Bay as well as the project waters associated with the Biscayne Bay Coastal Wetlands Project. These are technically complex rules that consider competing estuarine biologic responses to salinity levels while providing protection for existing legal uses. A series of technical tools including surface and groundwater hydrodynamic models are available for analyzing freshwater/Bay water interactions during the rule development process.

South Miami-Dade Outreach

With the wide range of interest in south Miami-Dade issues at the local, county, state and federal levels, a critical component of the Issues Coordination initiative is outreach and information sharing. An outreach plan is being developed to provide all participants the opportunity to become involved with the process and direct access to data and information at all levels of detail – including the status of projects or conditions of the water resources. This effort will involve web-based updates, news releases, meeting notices and unprecedented access to real-time geophysical data and reports through a new database application under development. By opening and strengthening clear communication channels, all interested parties will be able to work from a common source of knowledge. This will help enable South Miami-Dade's complex projects to move forward with public input and support.