

# MIAMI-DADE AVIATION DEPARTMENT

---

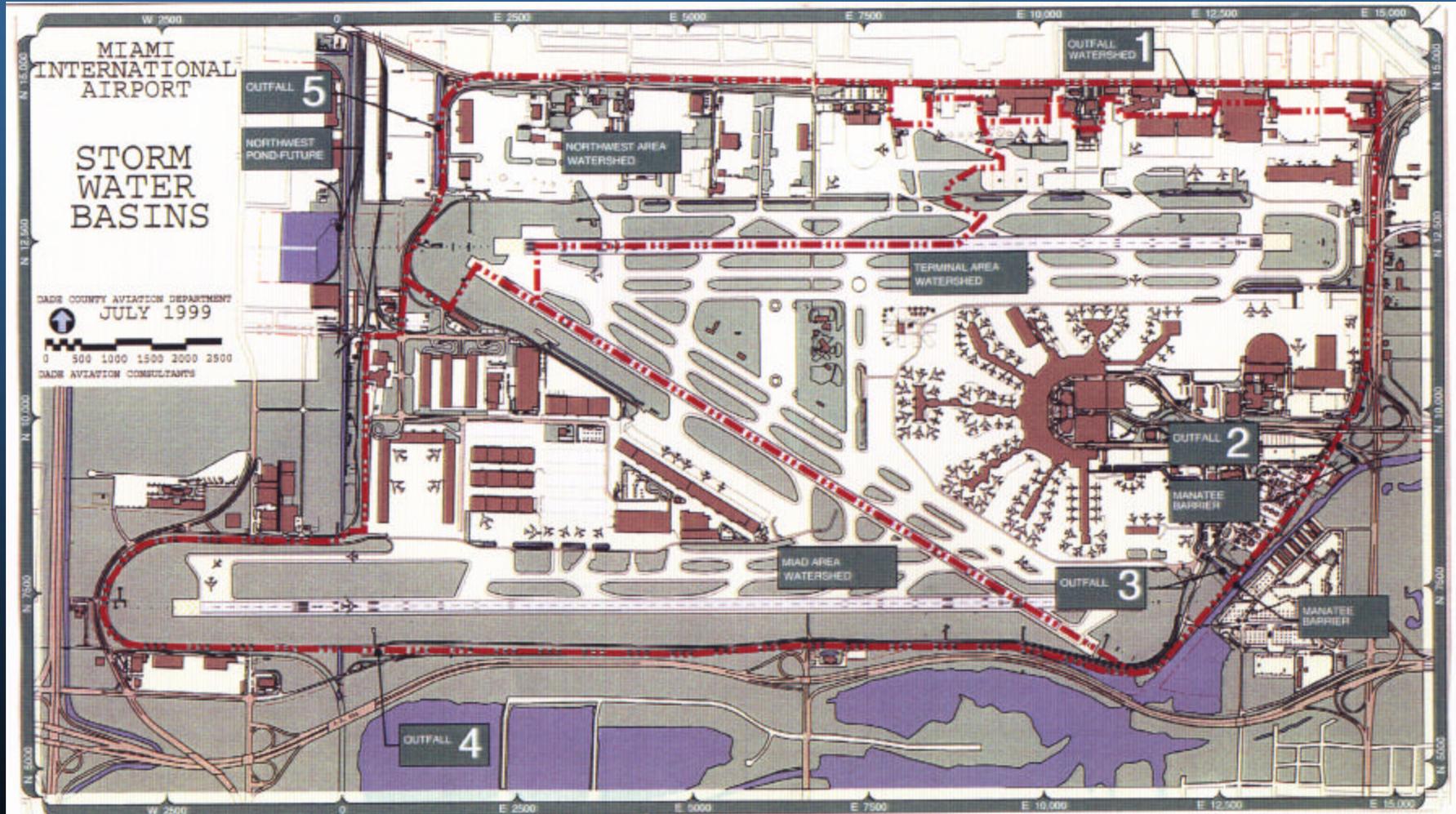
## STORM WATER SYSTEM



# Storm Water System

- Storm water master plans have been developed for Miami International Airport (MIA), Opa-Locka General Aviation Airport (OPF), Kendall-Tamiami General Aviation Airport (KT) , and Homestead Regional Airport (HARB). The master plans are state-of-the-art hydraulic and hydrologic computer models based on the federal aviation administration (FAA) approved layout plan for each airport.
- Storm water master plans have allowed the aviation department to identify existing system deficiencies, establish the drainage design criteria and provide recommendations for future upgrades crucial to the Capital Expansion Program (CEP). In addition, the master plan facilitates the regulatory process.
- The Aviation Department has obtained master permits from the South Florida Water Management District (SFWMD) for the proposed development.

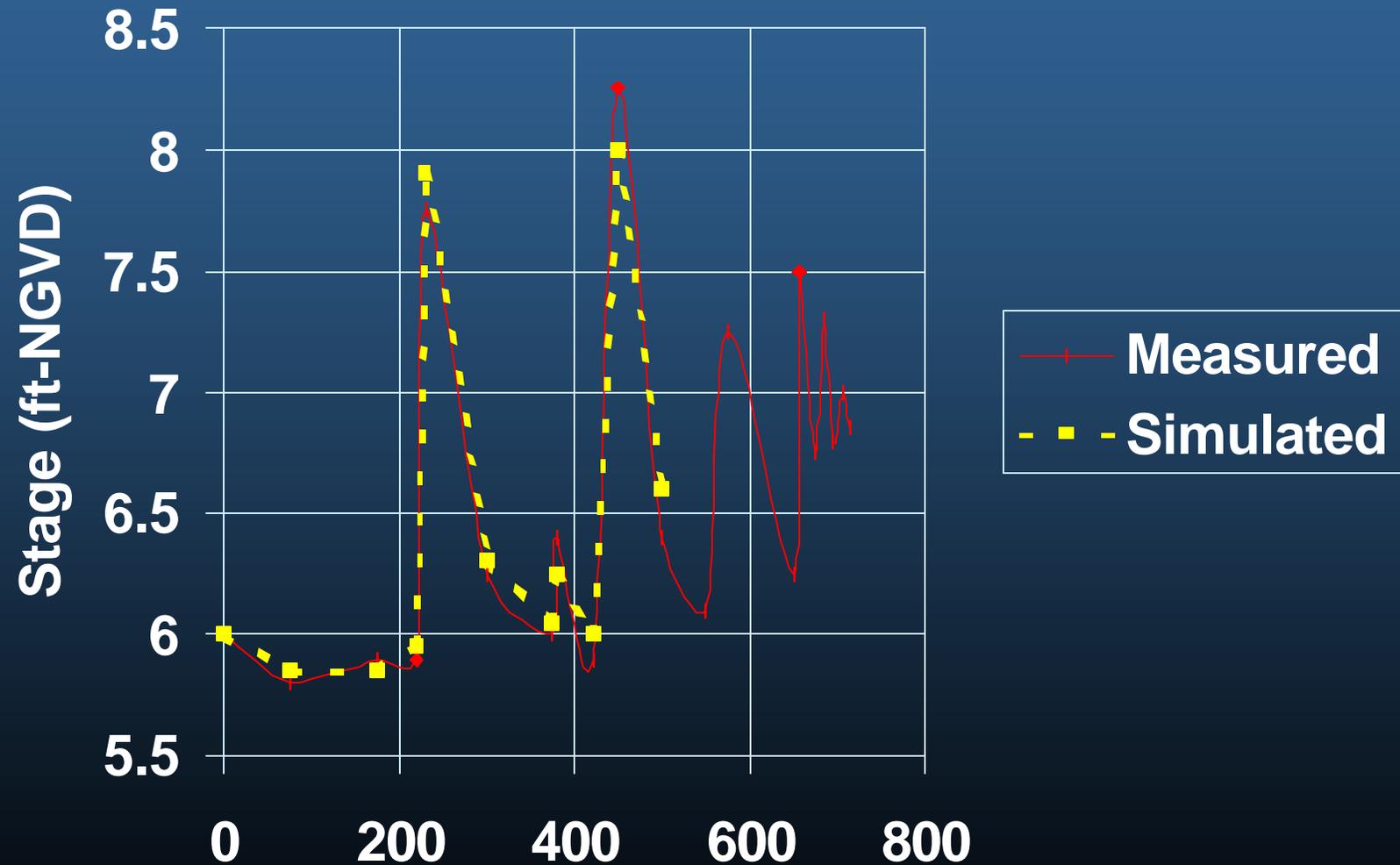
# MIA Storm Water Basins



# Issues and Constraints

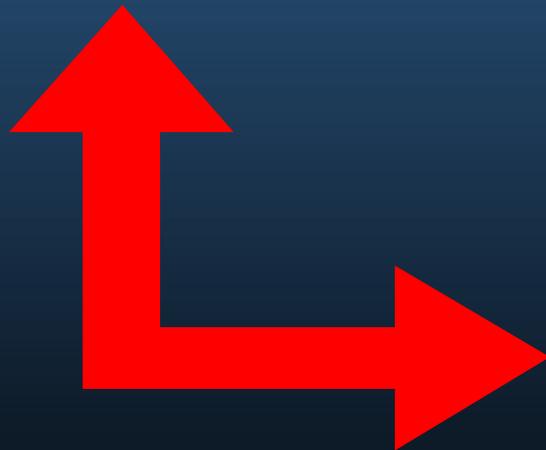
- **FAA Criteria for Airside Ponding and Pond Locations**
- **MDAD Landside LOS**
- **SFWMD Peak Flow Limitations**
- **SFWMD Runoff Treat**

# Calibrated and Verified Models



# Storm Water Program Goals

- Aircraft Safety
- Flood Control
- Water Quality Protection
- Control Groundwater



# Storm Water System

- The storm water system maintenance program at MIA includes over 60 miles of pipe and more than 1,800 structures.



# Storm Water System

- Drainage system improvements identified in the approved master plan are included into the various CEP projects.



# Storm Water System

- Water quality has significantly improved as a result of the implementation of the first flush treatment system (peripheral inlets, grit chambers, oil/water separators and outfall boom and skimmers) throughout airside areas.

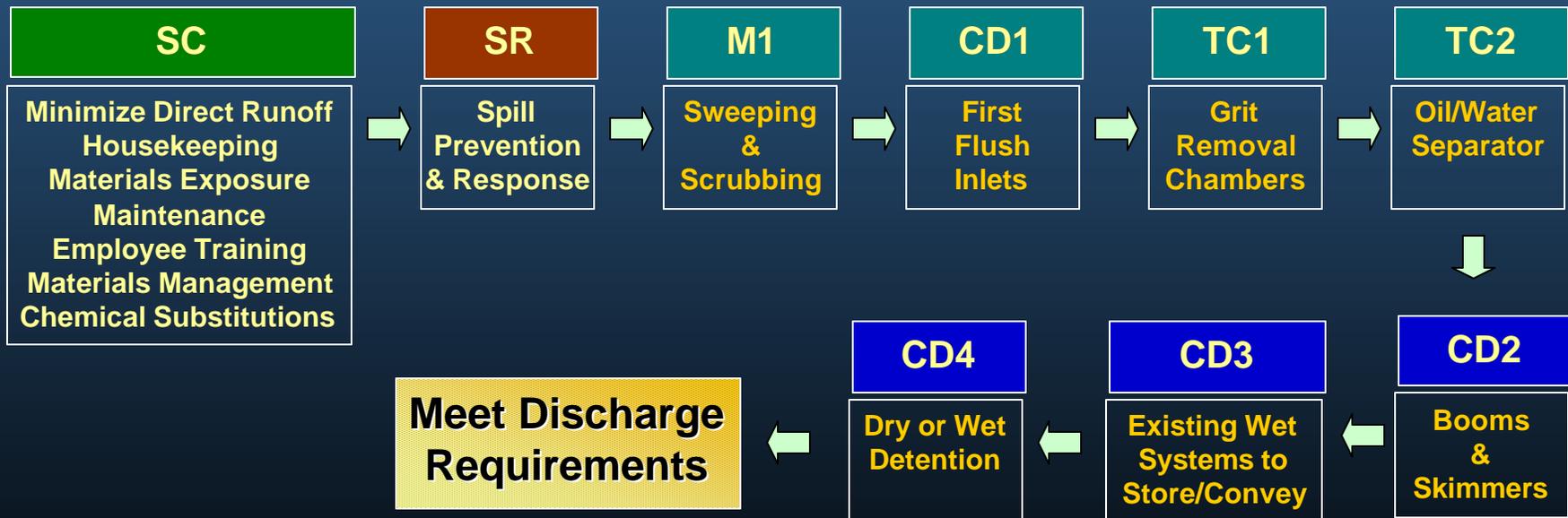


# BMP Treatment Train

## Tenant Responsibility

## Primary MDAD Responsibility

Monitoring

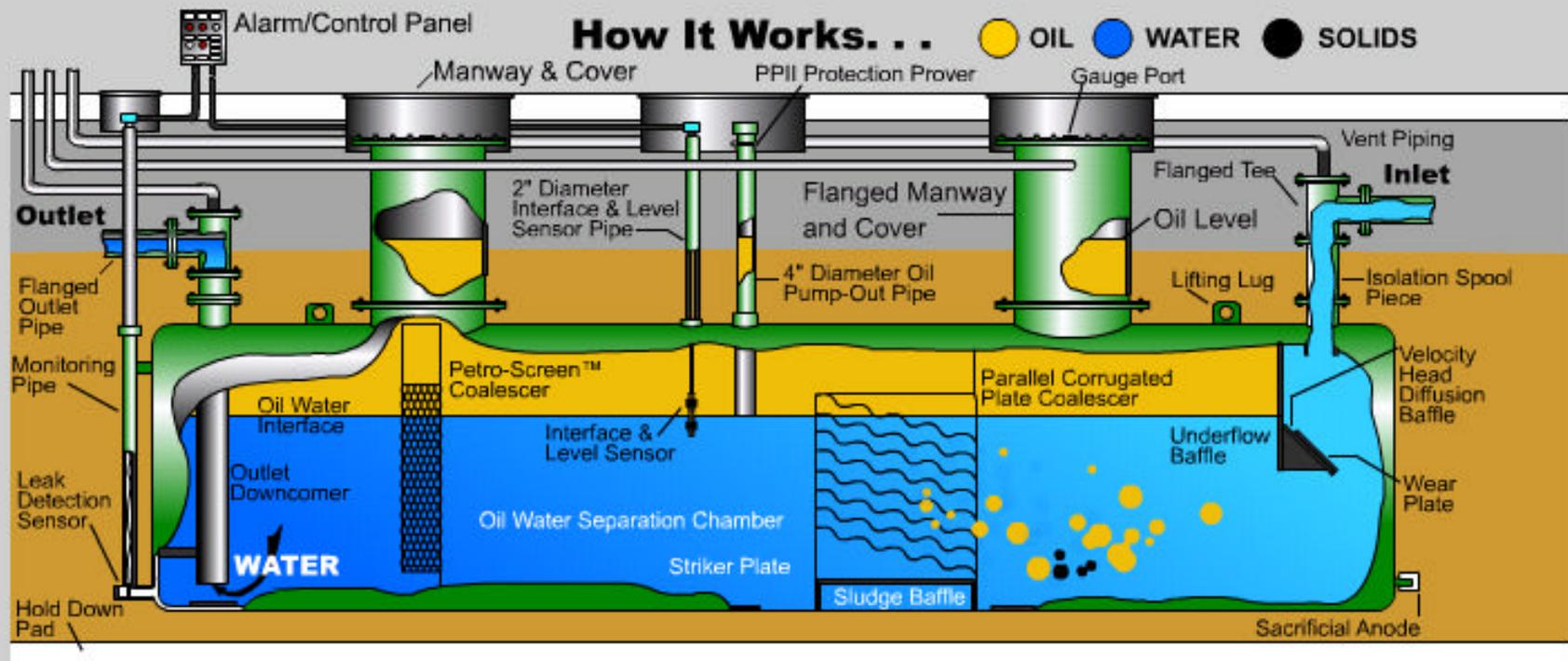


# Storm Water System

- **Surface Water Pollution Prevention Plans (SWPPP) are part of every construction project at MIA as required by the Environmental Protection Agency (EPA)**



# Oil-Water Separator



Contact Us

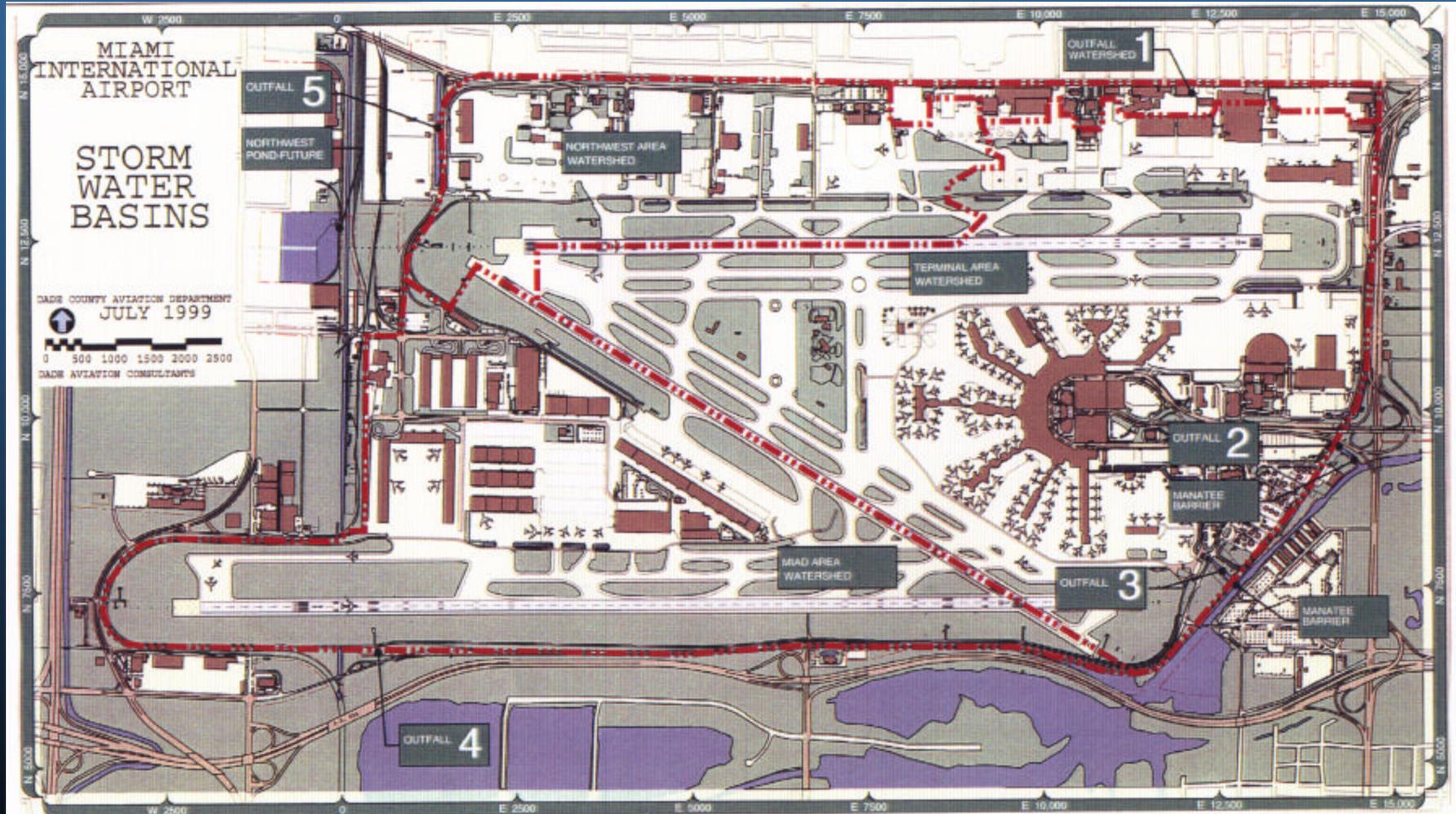
Highland Tank

# Storm Water System

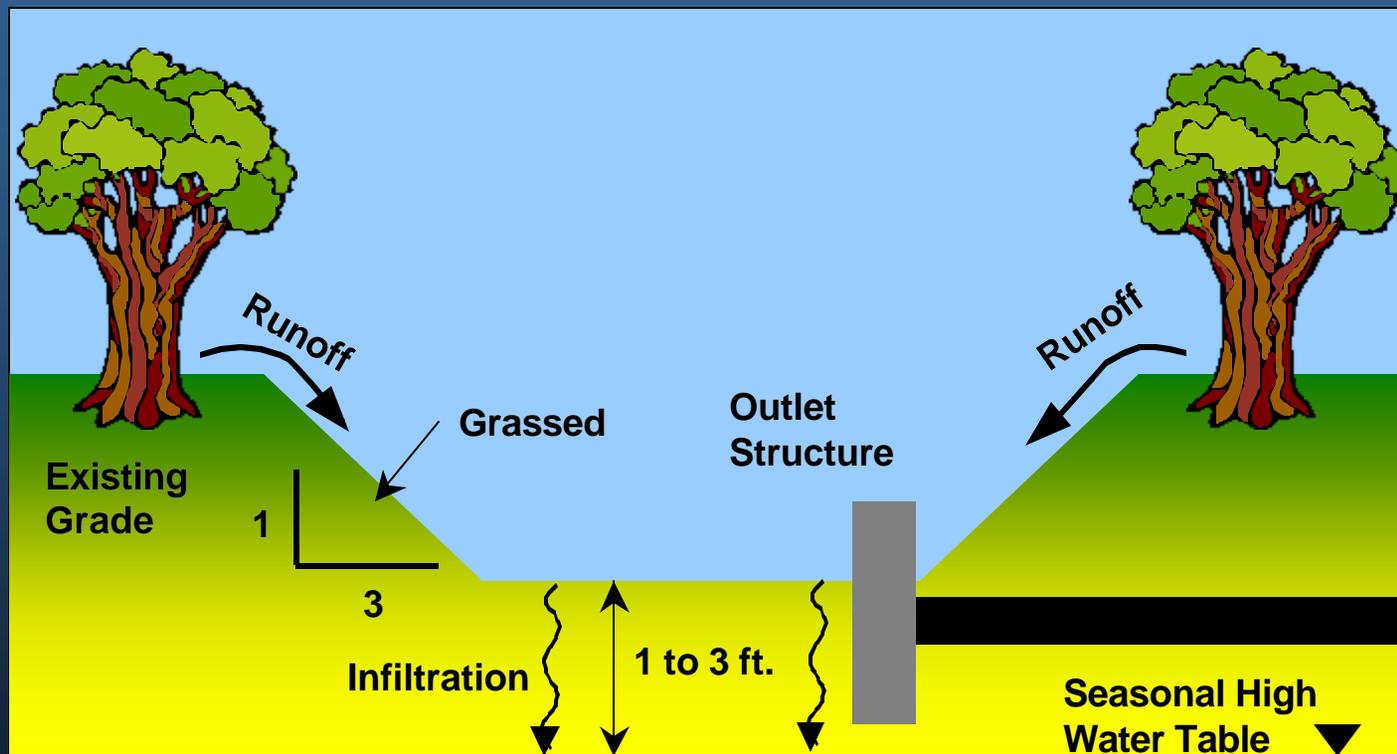
- A 20-Acre storm water management pond was completed to further enhance water quality and attenuate airport discharges through Miami Springs.



# MIA Storm Water Basins



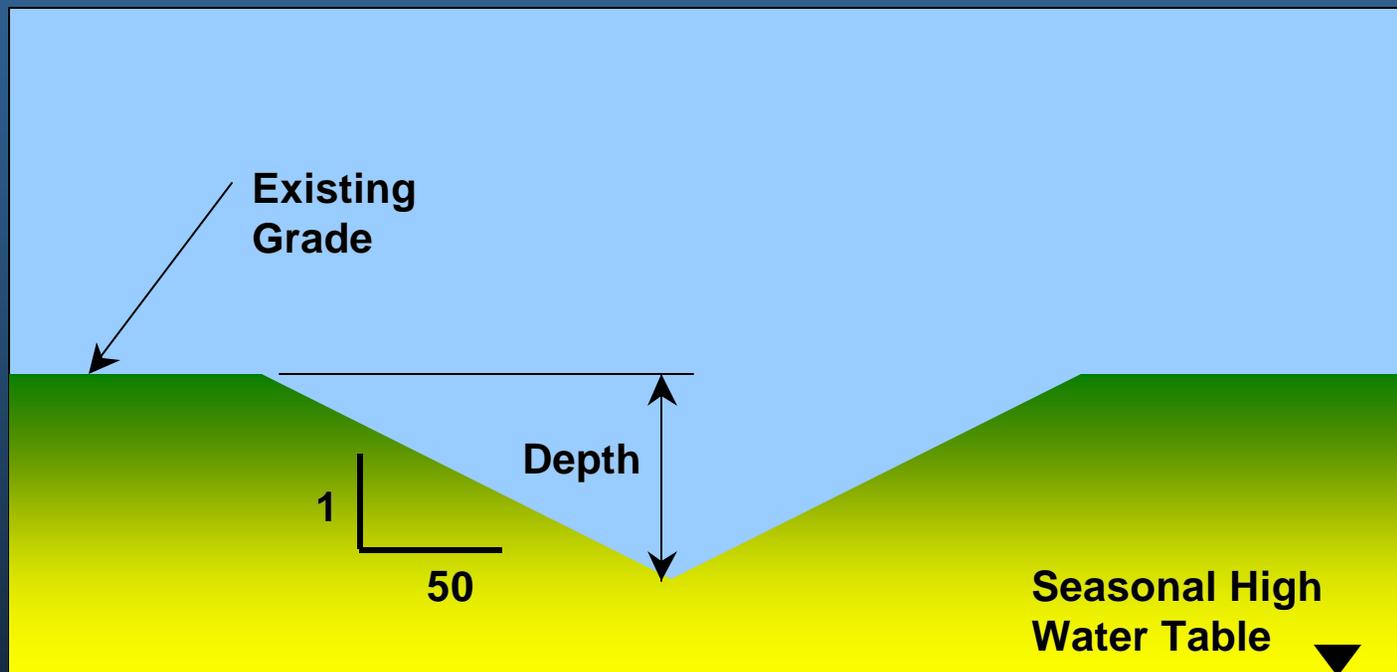
# Typical Dry Detention Basin



## Notes:

1. Runoff is directed to the pond and detained for 24 to 30 hours before discharge to offsite.
2. The first 1.0 to 2.5 in. of runoff is detained for treatment and attenuation.
3. Side slopes should be no steeper than 3 horizontal to 1 vertical.

# Shallow Grassed Swale



## Notes:

1. Slopes shall be no steeper than 50 Horizontal to 1 Vertical.
2. Swale invert shall be at least 2 to 3 ft. above the seasonal high water table.
3. Depths shall be no greater than 0.5 ft. and shall comply with FAA Circular for ponding.

# Storm Water System

- Storm water is sampled and tested at various locations throughout the system in accordance to permit requirements. No violations have been issued.



# Storm Water System

- Barriers are installed at outfalls to prevent manatees from entering the drainage system.



# MIAMI-DADE AVIATION DEPARTMENT

---

## Taking Necessary Steps to Meet



## The Challenges of the Future

