

# Building a Better Cape Coral ...



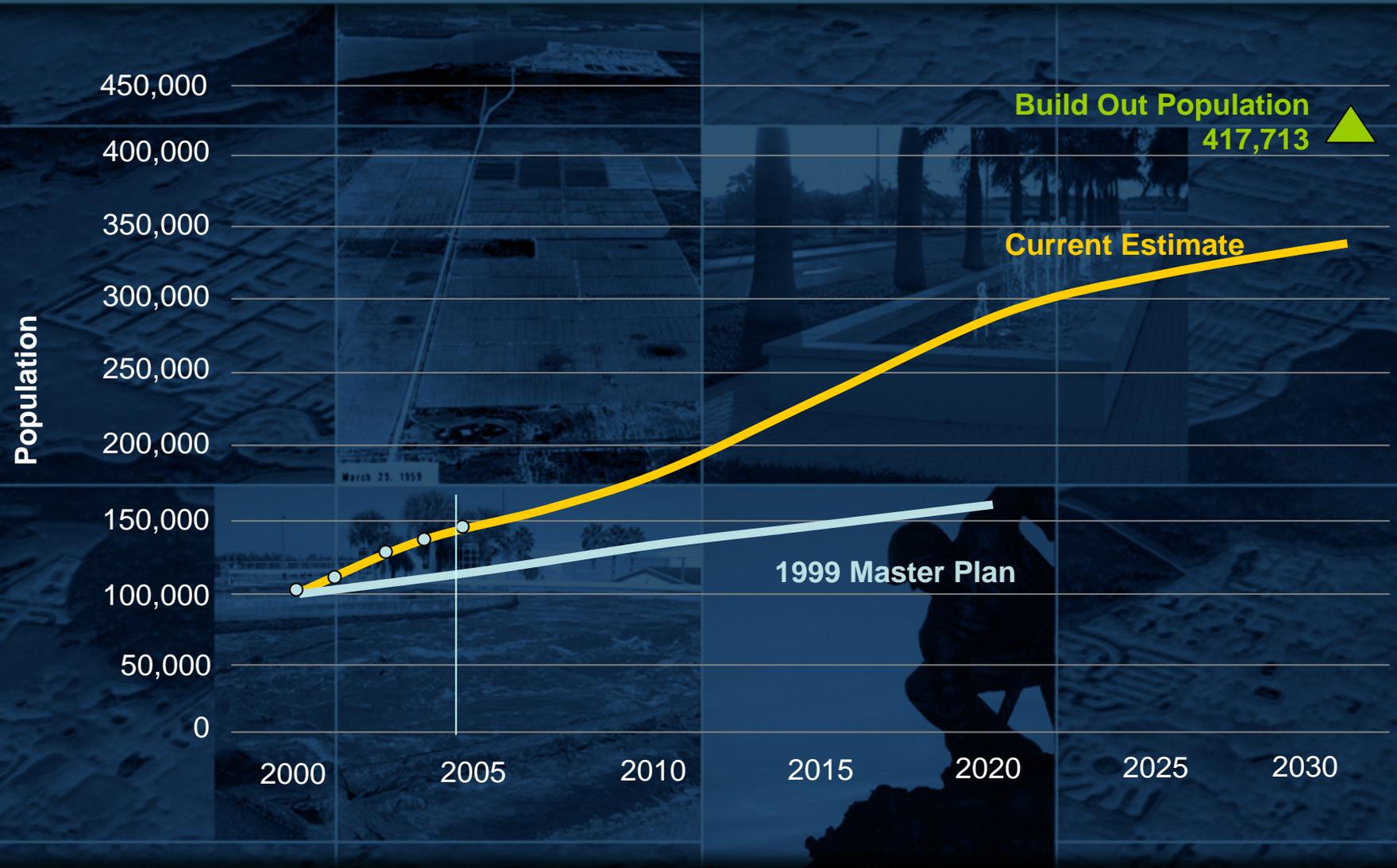
# Central Utilities, Why We Need Them

## HISTORY OF CAPE CORAL

- Developed in late 1950's
- 400 miles of Canals Dredged for Fill Material
- Marketed Worldwide as a "Waterfront Wonderland"
- 350,000 pre-platted lots
- Minimal Infrastructure
  - Roads
  - Utilities
  - Stormwater



# Population has grown at a faster rate than anticipated

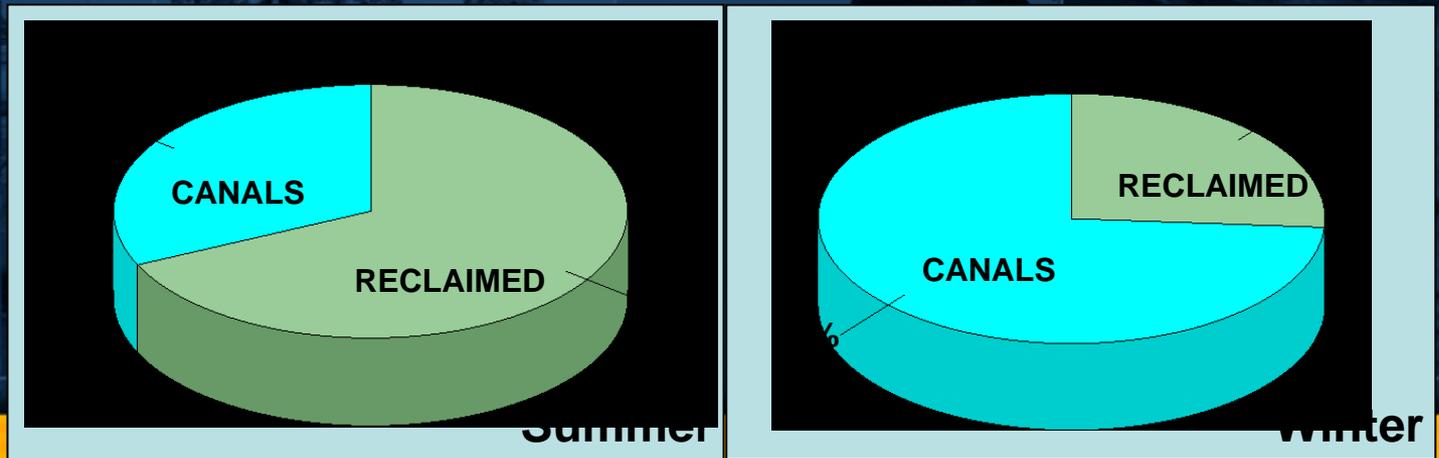


# Facilities Expansion Program (FEP)



# Water Supply Sources

- Potable water supply from Lower Hawthorn aquifer (Upper Floridan)
- Potable supply 30 MGD after UEP
- Irrigation supply from Reclaimed and Canal sources
- Shortfall in Irrigation Supply using current sources only



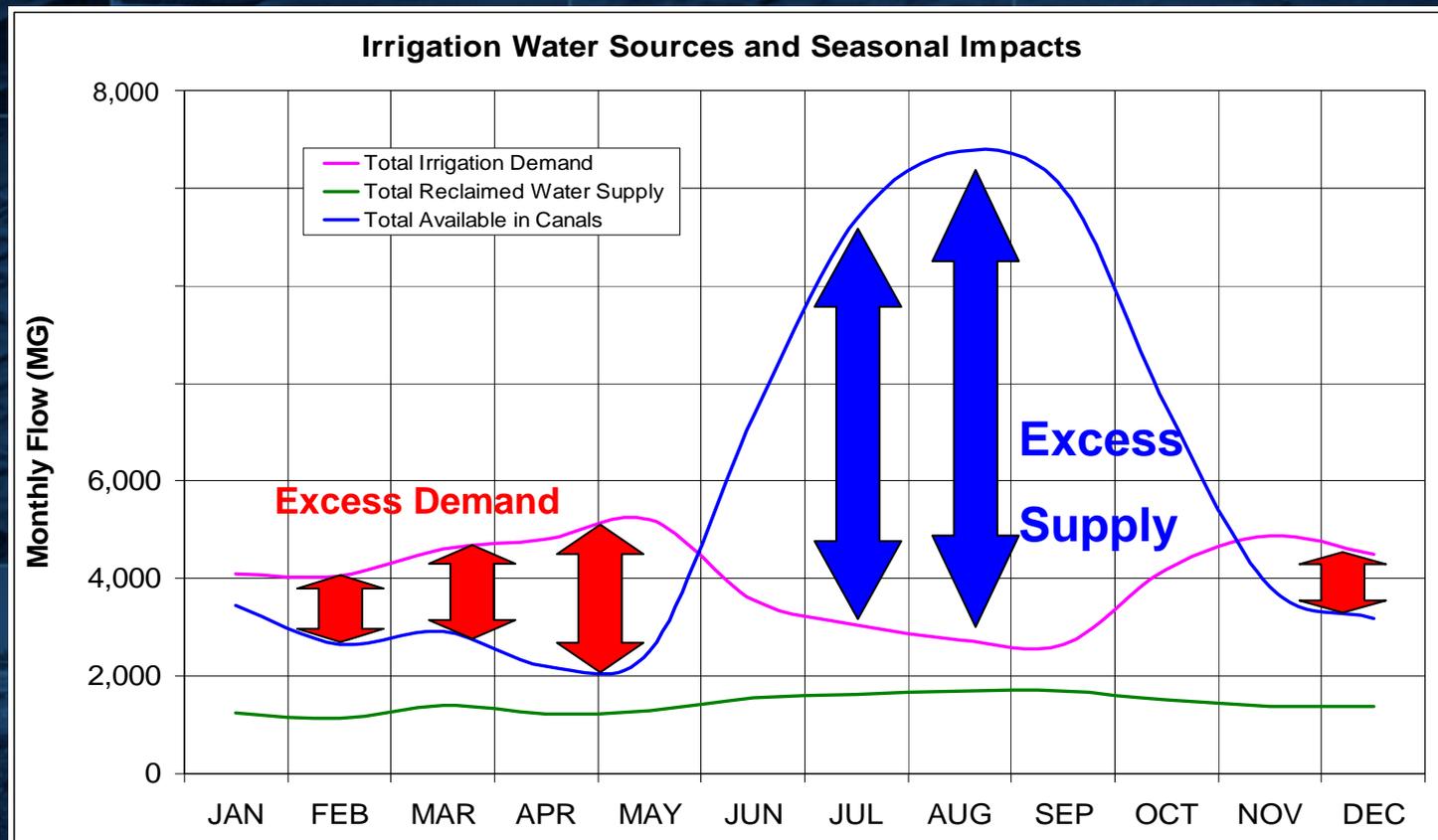




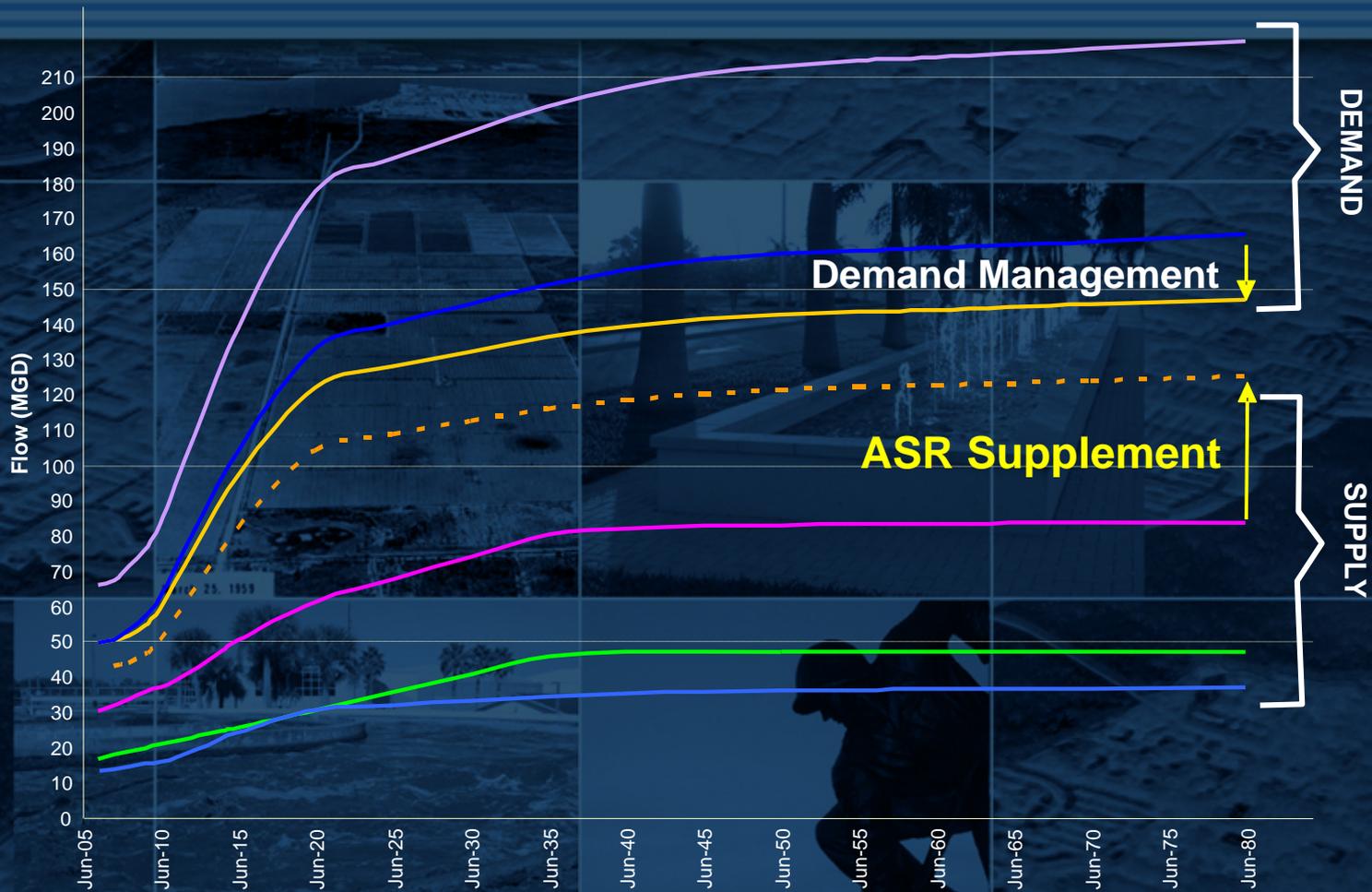
# ■ Surface Water Resources

- Freshwater canal system consists of ~ 250 miles of canals
- Freshwater canals drain area of 40,000 acres
- Canal inflow from watershed
- Canal discharge during wet season in excess of 200 MGD

# Irrigation Water Sources and Seasonal Impacts



# Projected Irrigation Demand vs. Supply



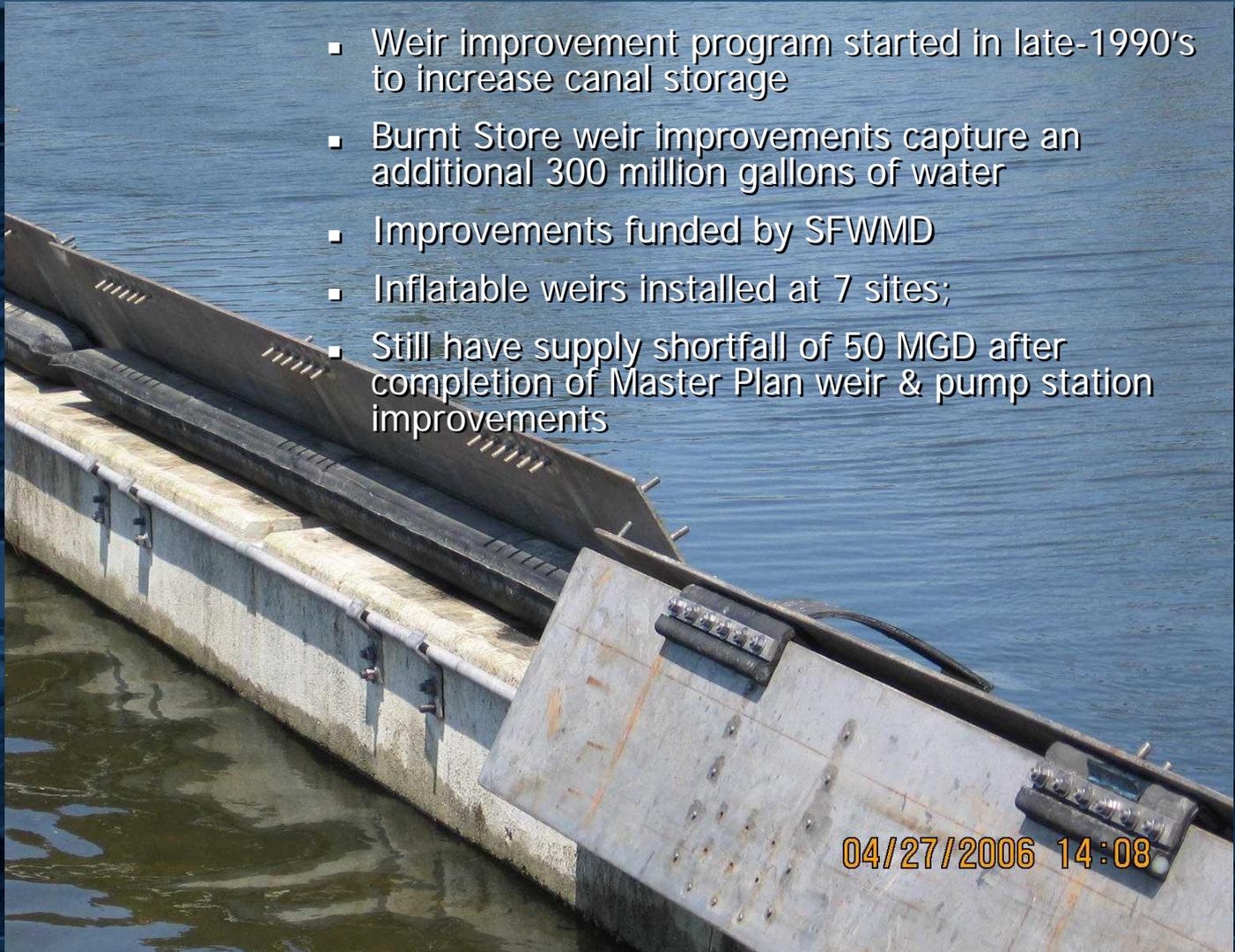
- Average CPS Flow Projections to Irrigation System
- AADF Effluent Flow projections to Irrigation System
- Irrigation Demand Projections - Max Month
- Demand based on Historical use (3 day watering)
- CPS + WRF
- Range of demand projections
- Demand based on Historical use (2 day watering)

# ■ Potential Solutions

- Large volume of surface waster discharged to estuaries during wet season
- Weir improvement program to increase surface water storage
- Several feasibility studies recommend large scale use of ASR
- City plans to co-locate ASR wells at Canal Pump Stations
- Canal water quality acceptable for storage with treatment and exemptions
- Surface water withdrawals for ASR use approved by SFWMD in 20-year permit
- Local hydrogeology favorable for storage

# ■ Weir Improvement Program

- Weir improvement program started in late-1990's to increase canal storage
- Burnt Store weir improvements capture an additional 300 million gallons of water
- Improvements funded by SFWMD
- Inflatable weirs installed at 7 sites;
- Still have supply shortfall of 50 MGD after completion of Master Plan weir & pump station improvements



# Storage to Meet Short and Long Term Irrigation Needs

## ASR Development

(permitting, construction, cycle test, development)

## Other Storage

(canal improvements)

2 years

4 years

Time

# ASR is a Long-Term Storage Strategy



# Water Summary

- Demand Management Efforts Critical
- 27 New Raw Water Wells Near Production
- New RO Plant Under Construction
- Irrigation System Improvements Underway
- ASR Wells to provide long term relief
- All 3 Major Plant Expansions Underway
- Raw Water Capacity will soon double
- Irrigation System Improvements Underway
  - ASR, Weirs, CPS

# Year Round Watering

- The City currently has 40,000 irrigation customers.
- The dedicated irrigation system has approximately 700 miles of transmission/distribution pipelines.
- The system has 250 miles of freshwater canals and five canal pump stations.
- The City is considered a 100% reuse system with almost 4.0 billion gallons of reuse water from its two WRF's used annually.
- The City is currently using 35 to 37 MGD for irrigation on a residential watering day.
- The City has requested a variance from the South Florida Water Management District from the proposed watering rules.
- The proposed rules simply will not work for the City causing low pressure problems and discharge of up to 30 million gallons of water per week into the Caloosahatchee River.
- Please approve the City's proposed watering schedule which actually allows 20 hours less watering per week than the proposed rule.

# THANK YOU

- The City of Cape Coral thanks The South Florida Water Management District.

