



# FPL/Card Sound Road and Florida Cities Canal Water Control Structures

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# Location of Card Sound Road Canal

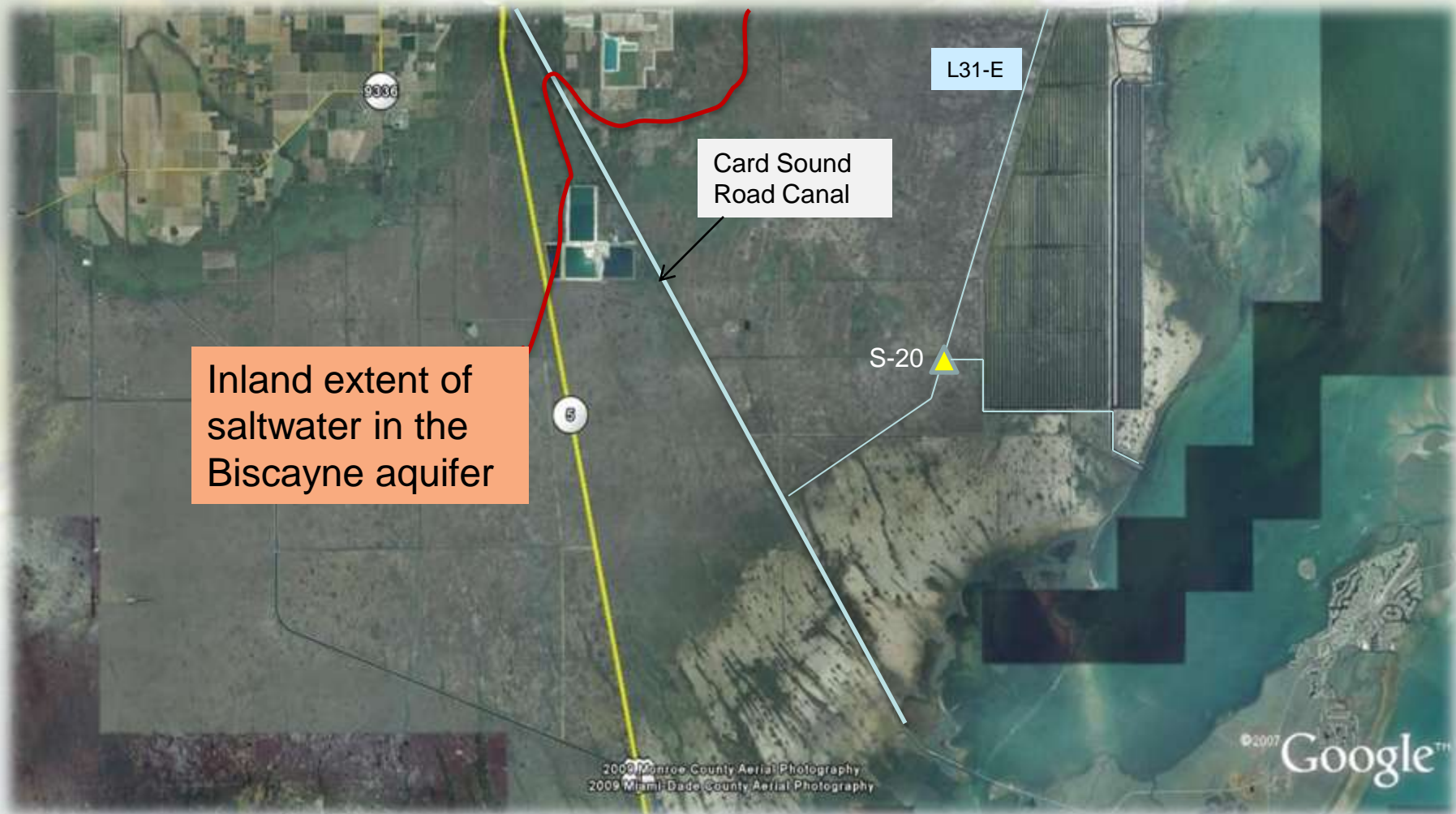


# Card Sound Road Canal

- Constructed to provide spoil for Card Sound Road
- Unrestricted canal from south Homestead to the Bay
- Unintended consequences
  - Drained wetlands in the Model Lands
  - Conveyance for inland migration of seawater
  - Saline intrusion into the Biscayne aquifer



# Location of the Card Sound Road Structures

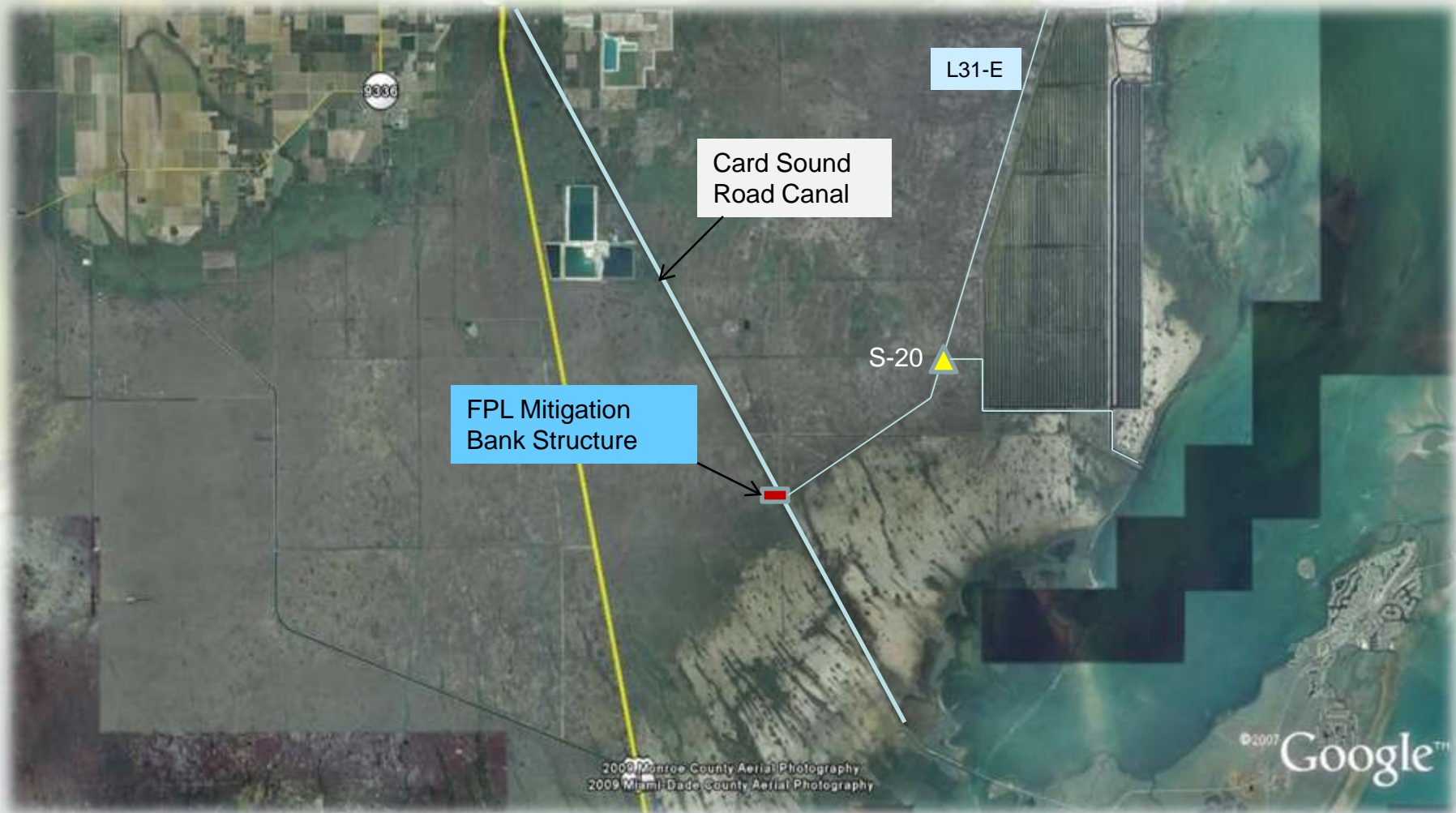


# FPL Everglades Mitigation Bank

- 9,026 acres of degraded Everglades wetlands
- Florida Power and Light (FPL) mitigation bank permit to enhance hydrology and water quality
- Condition 10. c. i. authorized the construction of a gated structure on the Card Sound Road Canal
  - Hydrologic enhancement by preventing freshwater loss to tide
  - Reduced seawater encroachment



# Location of the Card Sound Road Structure



# Construction Overview

- Structure consists of
  - Sheet pile cement capped weir
  - Two CMP culverts with operable gates
- Operation to follow S-20 structure operations
- Construction began January 2010
- Completion May 2010



# Card Sound Road Structure





# Card Sound Road Structure



# Florida Cities Canal Structure Plan





# Florida Cities Canal Current Condition

- Florida Cities Canal drains portions of Homestead and upper portions of the Model Lands through S-20F
  - Florida Cities Canal under control of Miami-Dade County
  - Hydraulically connected to the C-103 Canal
- Both Florida Cities Canal and C-103 are influenced by operations of the S-20F structure during agricultural drawdown
  - C-103 Canal and S-20F under SFWMD control



# Current Drainage Patterns of the C-103 and Florida Cities Basins



# Florida Cities Canal Structure Conceptual Plan

- Place an operable structure on FCC to limit drainage when C-20F is operating for the Agricultural drawdown
- Open gates to allow drainage during flood control operations
- Pilot project on 110 street culverts
  - DERM and SFWMD joint project
  - Outfall opportunities into upper Model Lands



# Location of Planned Pilot Project

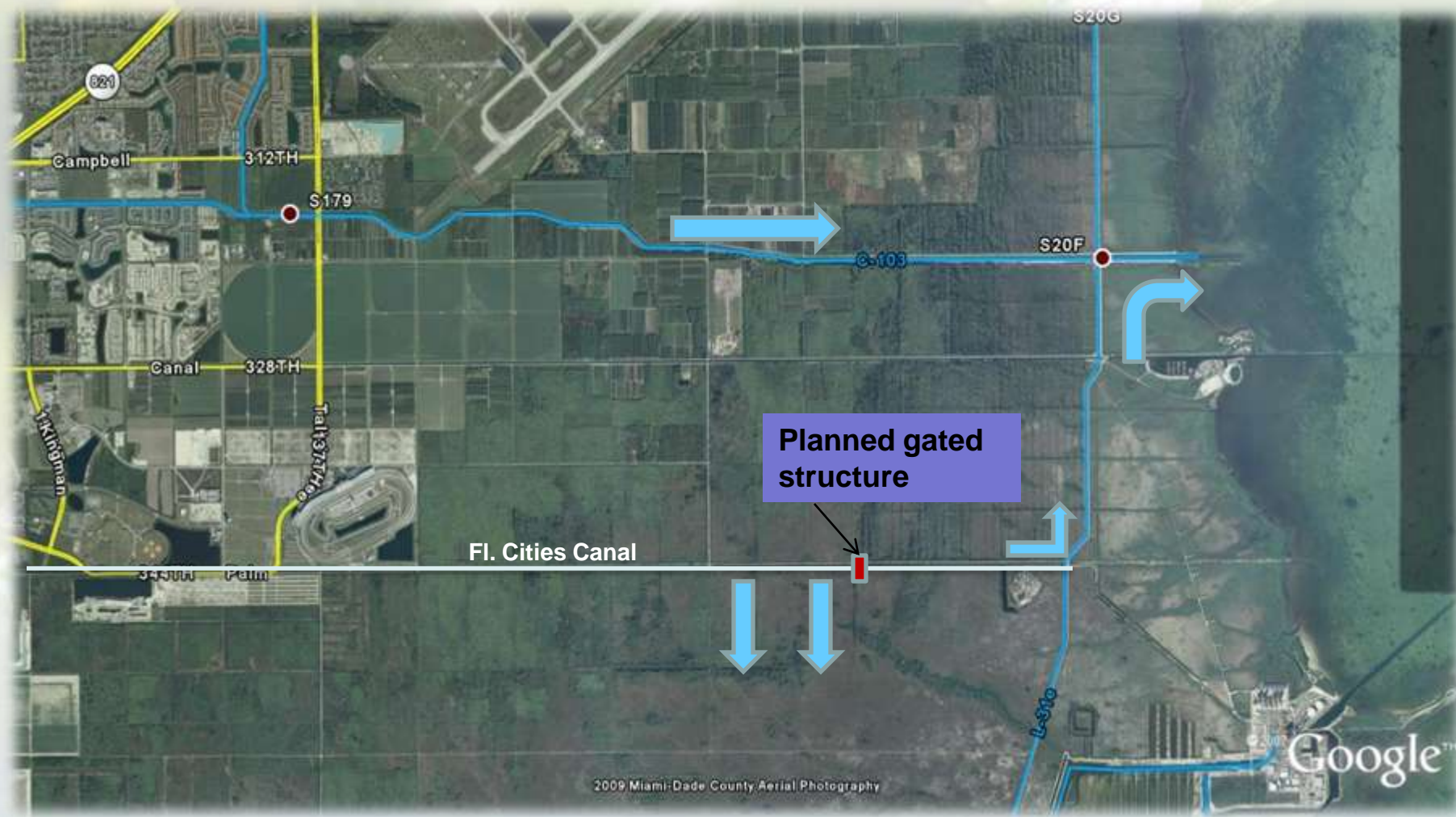




# Project Benefits

- Hold higher groundwater stages during the dry season by isolating the FCC from the Agricultural drawdown
  - Possible improvements to hydrology of upper Model Lands wetlands
  - Increased groundwater storage
  - Possible improvement to limiting saltwater intrusion
- Increased surface water inflows into upper Model Lands wetlands

# Revised Drainage Patterns with the Florida Cities Structure (dry season)



# What's Next?

- SFWMD to meet with DERM
  - Formalize project plans
  - Divide project responsibilities between both agencies
    - Funding
    - Permitting
    - Construction contracting
  - Target date for construction – 2011