

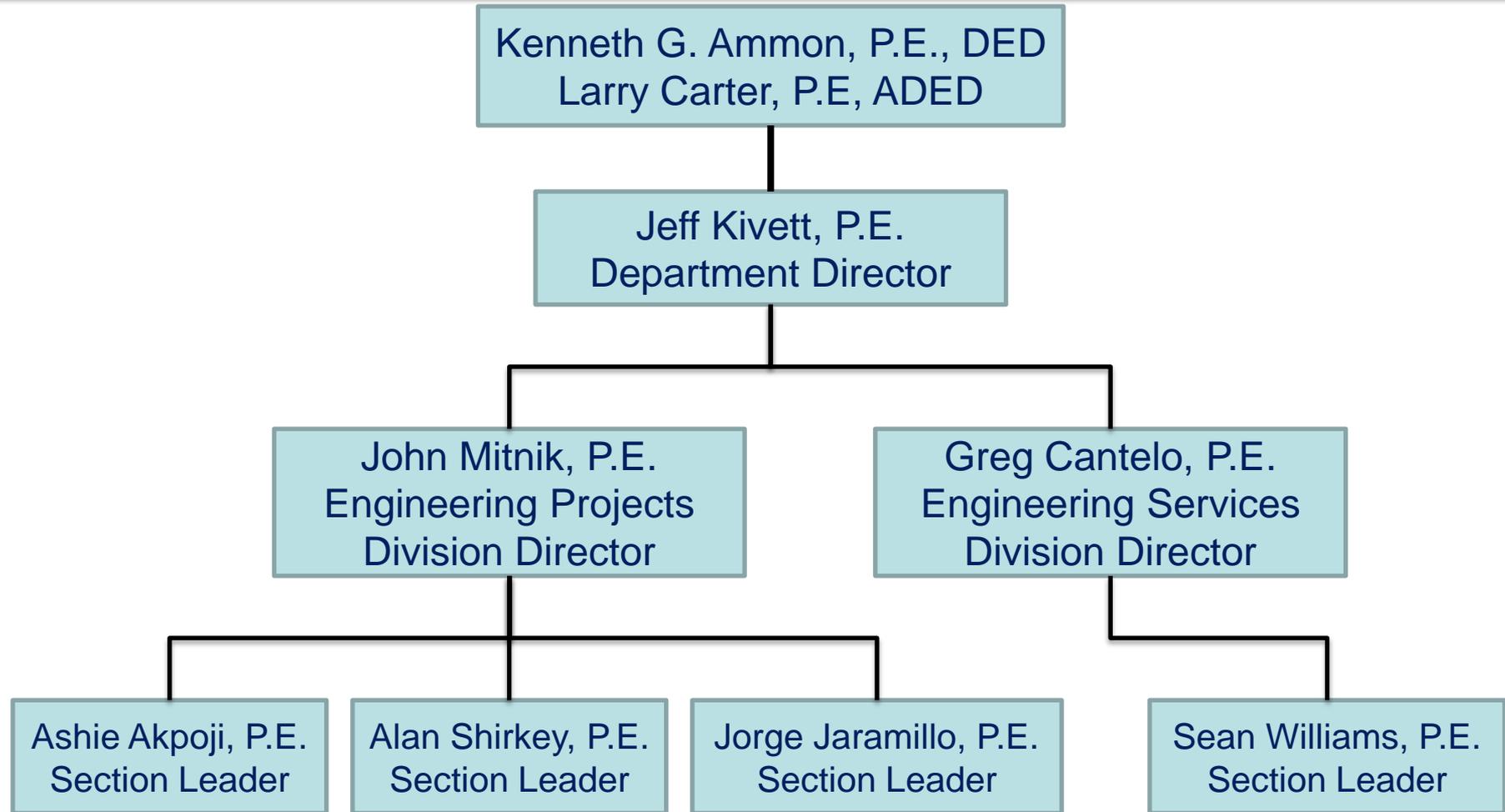


Capital Project Design Update

**Project & Lands Committee Meeting
April 13, 2011**

Jeff Kivett, P.E.
Director, Engineering Department
Everglades Restoration & Capital Projects

ERCP Engineering Department Organization



ERCP Engineering Department Services Provided

- Project Management
- Coordinate External Design Services
- Development of Water Quality Regional Solutions
- Value Engineering
- Internal Engineering Design
- Technical and Quality Control Review
- Engineering During Construction
- AutoCad Drafting
- Project Specific Modeling
- Investigative Forensics
- Engineering Support for Office of Counsel
- Standards and Guidelines
- Engineering Analysis for Planning efforts
- Commissioning of Projects
- Coordination of District requirements with USACE
- Training on Engineering Services
- Sponsor Senior Projects with MIT Students

ERCP Engineering Department Division Employees

- Engineering Projects Division:
 - 20 Full-Time Employees (FTEs)
 - 10 Contract Support

- Engineering Services Division:
 - 15 Full-Time Employees
 - 8 Contract Support

(Total 35 FTEs and 18 Contract Support)

ERCP Engineering Department Construction and Design Projects

- Construction recently completed on 24 projects totaling \$16M
- 27 projects totaling \$67M started construction in FY10
- Currently providing Project Management oversight for \$502M of construction efforts
 - \$282M in District-led projects
 - \$220M in USACE-led projects
- Design Section
 - 14 projects currently being designed internally

ERCP Engineering Department Project Schedule

- In FY10, generated backlog of projects that could be bid in advance, if funds became available
- During FY10 and FY11, a majority of construction bids came in under budget, and the District was able to pull forward projects slated for future year construction
- Currently have two projects still on backlog and ready for solicitation

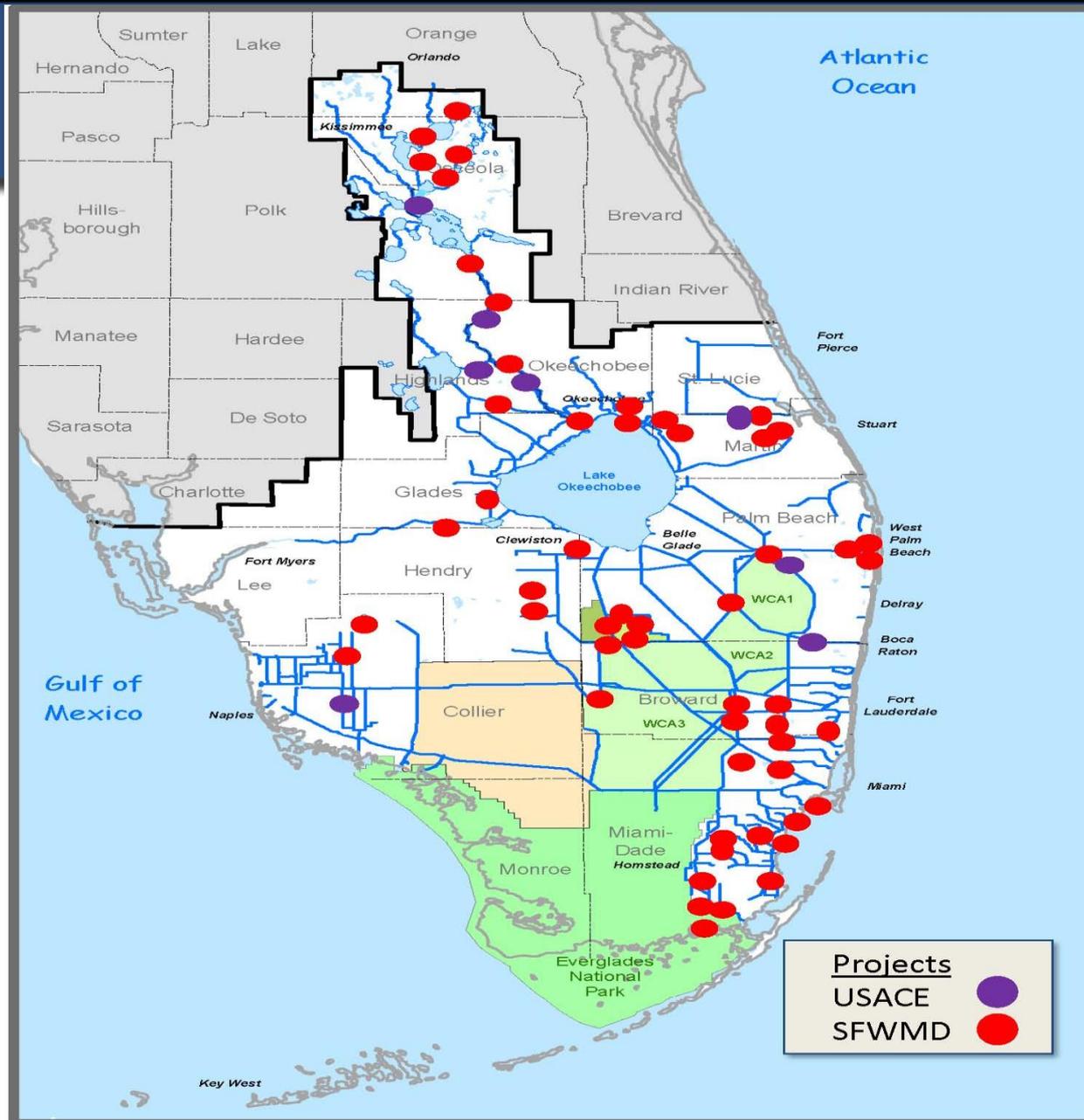
ERCP Engineering Department Restoration Projects

- Restoration Projects
 - C-111 Spreader Canal – Phase 1
 - Biscayne Bay Coastal Wetlands
 - Compartment B and Compartment C Buildouts
 - C-44 Storage Reservoir, Troup Indiantown Relocations
 - Everglades Agricultural Area Flow Equalization Basin
 - Loxahatchee River Watershed Restoration Reservoir Pump Station

ERCP Engineering Department Capital Projects

- Environmental Services Laboratory Relocation
- O&M Capital Projects
 - Canal Bank Stabilization
 - Communication Projects
 - Land Stewardship Projects
 - Concrete Repair Projects
 - Corrosion Protection
 - Navigational Lock Repairs

SOUTH FLORIDA WATER MANAGEMENT DISTRICT



ERCP Engineering Department Review Process

- Technical Review Process
 - Maintains SFWMD engineering details and design guidelines
 - Provides technical guidance and procedures for each phase of design
 - Coordinates technical aspects between the SFWMD and USACE for projects designed jointly
 - Provides comprehensive technical reviews of all design plans, technical specifications and reports

ERCP Engineering Department Design Review Team

- Design Review Team consists of representatives from:
 - Engineering
 - O&M Infrastructure
 - Operations
 - Land Stewardship
 - IT & SCADA
 - Construction
 - Field Stations
 - Dam Safety
 - Permitting
 - Policy and Planning
 - External Consultants
 - Other Stakeholders

ERCP Engineering Department Review Purpose

- Purpose of Technical Reviews
 - The engineering concepts are valid
 - The recommended plan is feasible and will be safe and functional
 - A reasonable opinion of probable construction cost estimate has been developed
 - The approach to the engineering analysis is correct

ERCP Engineering Department Review Purpose (Cont.)

- Purpose of Technical Reviews (cont.)
 - The submittal complies with engineering policy requirements, and
 - The submittal complies with accepted engineering practice within the South Florida Water Management District and applicable Design Criteria Memoranda (DCM) and CERP Guidance Memoranda (CGM)

ERCP Engineering Department Reviews Per Year

- Technical Reviews by year:
 - 2006 – 2008 (Acceler8) – 80 reviews
 - 2009 – 140 reviews
 - 2010 – 370 reviews
 - 2011 – 174 reviews (to date)
- External dollars spent on reviews - \$1.6M over three years

ERCP Engineering Department Change Orders

- Construction Change Orders
 - Industry average is 7% of construction contract
 - Since 2008, projects that did not utilize current technical review process had \$6.9M worth of change orders on \$109M construction (6.3%)
 - Projects that went through Technical Review had \$1.5M worth of change orders on \$291M construction (0.5%)
 - Net estimated savings of \$16.8M to SFWMD



Questions