

## MEMORANDUM

**TO:** Governing Board Members  
**FROM:** Deena Reppen, Deputy Executive Director, Government and Public Affairs  
**DATE:** April 9, 2008  
**SUBJECT:** Collier County Topographic Survey LiDAR Project

### **Background**

In years past, orthophotography and topographic mapping in Florida was a patchwork collection of data with many areas having little topographic data available. This was especially prevalent in South Florida, due to the minimal relief prevalent in the area. The existing 5 foot interval contours available from the United States Geological Survey for the area are of limited use for floodplain mapping, stormwater management planning, conducting hydrological studies, monitoring coastline changes and more.

Rapid growth within the region and the emphasis now on regional planning coupled with the advancements in computer modeling identified the need for highly accurate topographic maps for the region.

Recognizing the importance of this data and need for consistency, in 2006 a coalition of State and Federal Agencies, including the Florida Division of Emergency Management, Florida Water Management Districts, Florida Fish and Wildlife Conservation Commission, Florida Department of Environmental Protection, Army Corp of Engineers Jacksonville District, and other state and federal agencies, met to develop baseline specifications for orthophotography and LiDAR data collection under the Florida Coastal LiDAR Mapping Initiative (FCLMI).

Under the Florida Coastal LiDAR Mapping Initiative, Local, State and Federal Agencies may expand the existing FCLMI boundaries/limits to collect additional data for areas identified as necessary to meet local or regional orthophotogrammetric or topographic mapping needs. Collier County, recognizing the need for this additional data, elected to use this available option to expand the FCLMI boundary for this region, with concurrence from the Big Cypress Basin of the South Florida Water Management District.

### **How this helps meet the District's 10-year Strategic Plan:**

As a major priority of the District is the management and protection of water resources, this project will provide data and information necessary to local and regional planning efforts for enhancing existing water resources and watershed management activities within the following District 10 year Strategic Plan components: (1) Comprehensive Everglades Restoration Plan (CERP), (2) Coastal Watersheds, (3) Land Management, (4) Operation and Maintenance, (5) Modeling and Scientific Support, (6) Government and Public Affairs – Intergovernmental Planning.

### **Funding Source:**

This is a cost shared project with Collier County. The total project cost is \$1,052,259.00 of which Collier County is funding the amount of \$555,853.50 with the District funding in the amount of \$496,405.50. District funds for this project are derived from Big Cypress Basin ad valorem taxes, of which \$1,000,000 has been identified and dedicated for this work.

### **This Board item impacts what areas of the District, both resource areas and geography:**

The primary location of this project is located in Collier County and includes very small portions of extreme Southern Lee County and Southwestern Hendry County. Resource areas are Water Resources, Everglades Restoration and Operations and Maintenance.

### **What concerns could this Board item raise?**

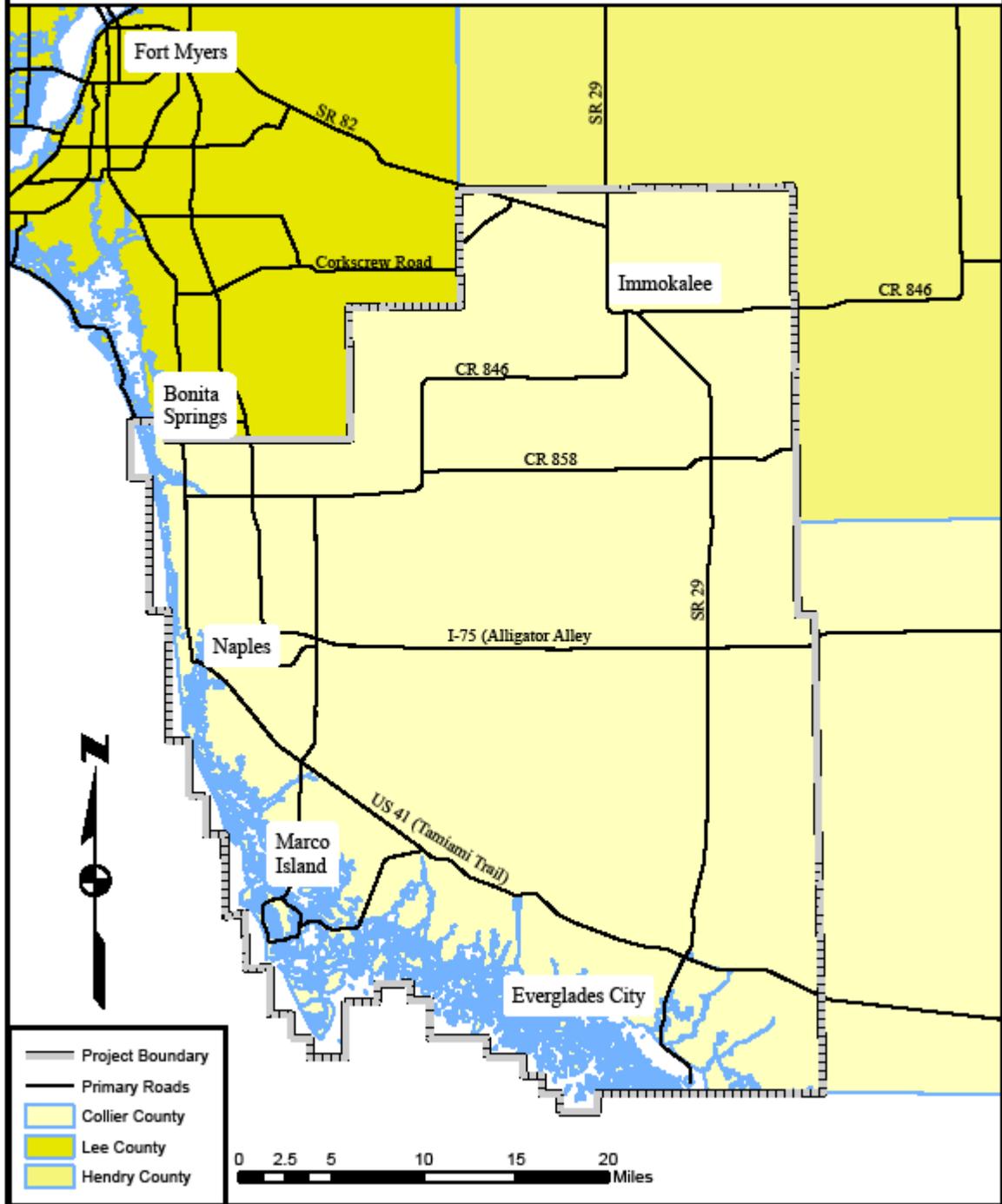
The District currently has topographic data for the majority the project area. This existing data set was created through combining several LiDAR data sets of questionable accuracy and topographic data sets obtained via traditional photogrammetric methods from 1989 to present date. With the problematic accuracy issues of the existing topographic data it cannot be used for watershed basin or sub-basin planning with certainty. Continuing use of the current topographic data set would result in the status quo annual expenditures to obtain topographic data of 1 foot contour accuracy necessary to meet watershed and project specific needs.

### **Why should the Governing Board approve this item?**

This project will provide the necessary information to enhance the District and its partner's abilities to improve water quality and flood protection while balancing the needs of the natural system in this region.

If you have any questions, please do not hesitate to call me at ext. 6232.

# COLLIER COUNTY LiDAR PROJECT



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