TO: The Board of County Commissioners  
    James L. Ley, County Administrator

THROUGH: Alan T. Wheeler, P.E., Executive Director, Public Works

FROM: Stephen M. Suau, P.E., General Manager, Watershed Management

SUBJECT: Board of County Commissioners Item  
         Whitaker Bayou Flood Study Update

DATE: December 17, 2003

RECOMMENDATIONS:

To approve the existing conditions 100-year floodplain for Whitaker Bayou Basin.

REPORT:

Basin Overview

The Whitaker Bayou drainage basin, consisting of approximately 4,955 acres (or 7.74 square miles), is located in the northwest portion of Sarasota County (see Exhibit 1.) The headwaters for the main channel of Whitaker Bayou originate in Manatee County and flow southwesterly entering Sarasota Bay in the vicinity of 26th Street. The Whitaker Bayou drainage basin is bordered on the north by Manatee County, on the east by the Phillippi Creek basin, and on the south by the Hudson Bayou and Business District basins. Roughly half of the Whitaker Bayou drainage basin is located within the limits of the City of Sarasota. A map of the Whitaker Bayou drainage basin is shown in Exhibit 2.

The Whitaker Bayou Flood Study Update (WBFSU) has (1) characterized the existing hydrologic/hydraulic network within the Whitaker Bayou drainage basin; (2) delineated the existing 100-year/24-hour floodplain; (3) identified existing Flood Protection Level of Service deficiencies; and (4) evaluated existing baseline pollutant loads and water quality conditions. A copy of the Whitaker Bayou Flood Study Update will be available in the Administration office for your review.

Existing Flood Protection Level of Service (FPLOS) Deficiencies

Exhibit 3 identifies the horizontal limits of the 100-year 24-hr. floodplain. The WBFSU has identified several separate locations where flooding can be expected to occur within
the basin. These locations correspond with observed and documented historical flooding of both structures and streets, most predominantly in 1992, 1997/98, 2001 (Tropical Storm Gabrielle) and 2003. Numerous structures in Tri-Par Estates Mobile Home Park (located west of U.S. 301 and south of DeSoto Road on Tributary “A”) and the Palm Grove Subdivision (located near Myrtle and Central Avenues in the vicinity of the confluence of the Main Channel and Tributary “A”) are particularly subject to flooding. In addition to the streets in those same areas being flood-prone, segments of an evacuation route (U.S. 301), arterial roadways (17th Street, Tuttle Avenue, and DeSoto Road), and a collector road (Dr. Martin Luther King, Jr. Way) are also shown to flood during extreme rain events. A preliminary comparison of the limits of the 100-year floodplain with the existing survey and topographical information indicates that as many as 200 homes may be susceptible to flooding.

The next step, as part of an existing contract with Boyle Engineering, will be to develop alternative solutions to the existing structure and street FPLOS deficiencies. This evaluation will include a detailed alternative analysis identifying cost effective projects to address the structure and public street FPLOS deficiencies and will recommend stormwater Capital Improvement Program (CIP).

Existing Water Quality Condition

The Sarasota Bay National Estuary Program (SBNEP) has established Pollutant Load Reduction Goals (PLRGs) for Sarasota Bay, an Outstanding Florida Water (OFW). These goals target specific reduction of pollutants of concern. For Sarasota Bay, the targets are to reduce nitrogen loads by 7% and to reduce metals by 27%. In 2005, the Florida Department of Environmental Protection (FDEP) is expected to establish Total Maximum Daily Loads (TMDLs) for impaired water bodies, including Whitaker Bayou and Sarasota Bay. These TMDLs will further identify particular pollutant reductions.

In the meantime, any new development within the Whitaker Bayou basin is required to include stormwater treatment facilities to mitigate potential increases in pollutant loads as required by the Southwest Florida Water Management District (SWFWMD), the Sarasota County Land Development Regulations or the City of Sarasota’s regulations. Additionally, the design of future capital improvement projects will also consider the incorporation of water quality enhancement features.

Water quality characteristics for Whitaker Bayou have been previously developed using the Watershed Management Model (WMM), developed by Camp Dresser & McKee (CDM) as part of the Sarasota County National Pollutant DischargeElimination System (NPDES) permit application and the Sarasota Bay Natural Estuary Program (SBNEP).

Future Development

As part of the WBFSU, the limits of the 100-year riverine floodplain have been identified and mapped as shown in Exhibit 3. Although most of the Whitaker Bayou drainage basin
is developed, adoption of the Whitaker Bayou existing conditions 100-year Floodplain
will assure that these floodplain areas will be recognized by new development, re-
development and proposed land use changes, and will be used to help establish finished
floor elevations for new construction.

Public Input

A public meeting was held on November 20, 2003 to present the floodplain findings for
the Whitaker Bayou basin to the public. Overall, the residents in attendance had
favorable comments on the information provided.

FUNDING:

There is no funding required for approval of this floodplain study update. At this time,
there are no Capital Improvement Program projects recommended. However, when
capital improvements within this basin are identified and recommended, staff will return
for further discussion. Note that a Capital Improvement Program assessment is
anticipated; at a minimum to fund the following already completed projects as identified
on Exhibit 4;

1. 15th – 19th Street Project
   This project addressed severe street flooding, and involved improvements
to the drainage conveyance along the Seaboard Coastline Railroad. This
project was completed in 1997 at a cost of $411,000.

2. Leon – Noble Project
   This project addressed structure flooding on Leon Avenue and included
improvements to the inlets and pipes of an enclosed drainage system and
increased the capacity of a downstream open channel between Leon and
Noble Avenues. This project was completed in 1998 at a cost of $270,000.

Attachments:  
EXHIBIT 1  Basin Location Map  
EXHIBIT 2  Whitaker Bayou Basin Map  
EXHIBIT 3  Whitaker Bayou 100 Year Floodplain  
EXHIBIT 4  Completed CIP Project Locations

cc:  David R. Bullock, Deputy County Administrator  
     Susan M. Scott, Deputy County Administrator
Whitaker Bayou Basin Location Map

THIS MAP IS NOT A SURVEY. THIS MAP IS FOR GRAPHICAL PURPOSES ONLY. MAP DELINEATIONS SUBJECT TO CHANGE.

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