

## BOARD OF COUNTY COMMISSIONERS

# MEMO

**To:** Lake Jackson Ecopassage Project Advisory Group  
**From:** Clay Carithers, Leon County Dept. of Community Development  
**Subject:** **Leon County Environmental Permitting Concerns & Related Issues**  
**Date:** February 11, 2003

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The attached document outlines some of the County permitting challenges and other issues regarding the proposed Lake Jackson Ecopassage Project. These comments were prepared to help clarify some points I raised at our first meeting and provide guidance to FDOT in the future design and permitting of the project. They are based on our current understanding of the project and general information at our disposal, hence they should be considered preliminary.

Leon County fully supports the proposed project and greatly appreciates the efforts of FDOT in making this project a reality. Its potential benefits to reptiles, amphibians, and other wildlife threatened by US27 traffic are undeniable. Although project design and construction faces several challenges, we trust that most of these can be overcome. As previously stated, staff of the Environmental Compliance Department of the County's Community Development Division will be happy to assist FDOT and its agents in all stages of project planning, design, and permitting.

Should you have questions concerning the attached document or need further information, please contact me or Mr. John Kraynak (Director of Environmental Compliance) by phoning 488-9300.

cc: John Kraynak  
Commissioner Dan Winchester

## LAKE JACKSON ECOPASSAGE PROJECT PRELIMINARY COUNTY PERMITTING CONCERNS AND ISSUES

### **NORTHERN CROSSING**

The northern crossing would entail a hydraulic connection between the Lake Jackson watershed and the Little Lake Jackson watershed (see Figure 1). Since there is an existing culvert under US27 connecting these two watersheds, the proposed crossing culvert would not establish a new hydraulic connection where none exists today. Given this, we do not foresee any significant permitting challenges as regards the northern crossing, nor did we express any concerns about this crossing in the advisory group meeting of 11/21/02.

### **CENTRAL CROSSING**

The central crossing would create a new hydraulic connection between the Lake Jackson watershed and the Lakeside Closed Basin watershed (see Figure 1).

The Lakeside Subdivision's design subdivides the Lakeside Closed Basin into two sub-basins, Basins A and C (see Figure 2). These basins serve as the stormwater management facilities for portions of the subdivision based on a full retention, zero discharge design. It does appear that Basins A and C may be considered as two separate closed basins rather than the single Lakeside Closed Basin, *but this would need to be demonstrated through stormwater modeling*. Reference environmental management permit LEM 93-454 and stormwater operating permit LSW 99-0031 for permitted plans on the Lakeside Subdivision.

#### **Challenges if Crossing Goes to Basin A**

Basin A serves numerous residences plus two vacant commercial lots on each side of Cool View Drive. Installation of crossing could short-circuit stormwater treatment plus would impose new stormwater treatment standards. For the residential portions of the basin, treatment volume would need to be 1.125" and full recovery of this treatment volume would need to be achieved in 72 hours (see 10-191(b)(3)). For the two commercial lots, the system would need to provide retention for the 50-year, 24-hour storm. Half the pond volume allocated for this area would need to be recovered in 7 days and full volume recovered in 30 days (see 10-192(b)(3)b). This raises questions as to there being sufficient treatment volume and adequate recovery. To achieve the applicable stormwater standards, the amount of impervious surface on the commercial lots might have to be reduced which could be considered a taking.

Connection of Basin A with Lake Jackson would impose the Lake Jackson Special Development Zone (SDZ) standards on development in Basin A. Both the standards for Zone A (elev. 89 to 100) and Zone B (elev. 100 to 110) would limit allowed development on residential lots and totally prohibit certain uses on the commercial lots (see 10-192(b)(1), 10-192(b)(2), 10-975(c)). Such restriction could be viewed as a taking.

Although the 100-year floodplain elevation for Lake Jackson and the Lakeside Closed Basin (basins A and B) are the same, the new connection could adversely affect the frequency and/or duration of such flooding. This is prohibited per 10-186(d) and 10-188(c) and would be of obvious concern to residents whose property is within or adjacent to the floodplain.

The new connection could affect the hydroperiod of wetlands within Basin A.. Although adverse impacts are doubtful, this would need to be examined since adverse impacts are prohibited (see 10-187(c)).

#### **Challenges if Crossing Goes to Basin C.**

Basin C serves a much smaller area that only includes two residential lots (no commercial).

The same new stormwater treatment standards would apply here except the Lake Jackson stormwater retention requirements applicable to non-single-family residential uses (e.g. 10-192(b)(3)b. not applicable). There would still

be concerns as to whether there is sufficient treatment volume and recovery in this sub-basin.

The new connection would impose the same SDZ restrictions to land use as were applicable to Basin A except these would only affect two residential lots.

The new connection could adversely affect the frequency and/or duration of flooding within Basin C, but only two residences are in this basin. Note also that lot 62 was theoretically filled to elevation 97.

The new connection could affect the hydroperiod of the wetland within Basin C. Although adverse impacts are not anticipated, this would need to be examined.

### **Potential Solutions to Challenges**

Design crossing culvert to have as high an invert elevation as possible (reduce typical minimum cover over culvert).

Avoid connecting culvert to Basin A. Locate culvert in Basin C if possible.

Regardless of culvert location, if modeling indicates applicable stormwater treatment standards cannot be achieved then it is feasible that a variance from these standards could be granted by the Board of County Commissioners (BCC). The absolute minimum standard would be that specified by the State (in this case, 0.75" since Lake Jackson is an OFW). It is our opinion that the BCC could not grant a variance to this standard since it is referenced in the Comprehensive Plan (see Policy 2.1.1 in the Conservation Element; also see 10-190 of the LDC). It is also possible that DEP would not waive this standard.

As a worst-case scenario re problems with flooding duration/frequency or water quality treatment, the crossing culvert could be equipped with "doors" or ends could be provided with flashboard riser type design allowing the culvert to be "closed" once water levels reached a certain elevation. If this design were employed, the operation entity would need to be identified. It is likely that FDOT would want the County to take on the operations responsibility. This would need to be coordinated with the County's Public Works Department.

To avoid imposing Lake Jackson SDZ standards on the Lakeview subdivision, the County might be able to issue a Memorandum of Understanding or similar document that would exempt the subdivision from these standards (e.g. grant vested rights). This would need to be coordinated through the County Attorney and might also require BCC approval.

### **SOUTHERN CROSSING**

The central crossing would create a new hydraulic connection between the Lake Jackson watershed and the Kane Closed Basin watershed (see Figure 1) situated on property owned by Mary Sellers. The property is essentially undeveloped at this time but may be developed in the future.

### **Challenges for Southern Crossing**

A limited 100-year floodplain probably exists on the Sellers property although this has not been determined (no floodplain is indicated by FEMA). There is no doubt that addition of the new crossing culvert would greatly expand this floodplain. Figure 3 illustrates the approximate extent of the resultant floodplain based on the Lake Jackson observed 100-year floodplain elevation of 96.5. Generation of such this new floodplain is prohibited (see 10-186(d) and 10-188(c)). Even if allowed, creation of the floodplain would place numerous development/land use constraints upon the Sellers property and would likely be considered a taking (see LDC standards and restrictions pertaining to floodplains).

Connection of the Kane Closed Basin with Lake Jackson would impose the Lake Jackson Special Development Zone (SDZ) standards on development on much of the Sellers property (and possibly adjacent lands). Both the standards for Zone A (elev. 89 to 100) and Zone B (elev. 100 to 110) would limit allowable development and land uses on the

affected property (see 10-192(b)(1), 10-192(b)(2), 10-975(c)). The connection would also impose the unique Lake Jackson stormwater treatment standards upon the affected property. Such restrictions to land uses and land development could be viewed as a taking.

The Sellers property is essentially undeveloped at this time, allowing unimpeded migration of turtles across the site to Little Lake Jackson. If the property owner seeks to develop this site in the future, there would be no mechanism whereby the County could require an undeveloped corridor be provided leading from the proposed crossing culvert to Little Lake Jackson. The Sellers property is zoned Lake Protection (LP). Several land uses are allowed under this zoning category including single-family residential, multi-family residential, and even retail and minor commercial (ex., office buildings, banks, restaurants, etc.). It is feared that future development could so impede turtle migration pathways as to render the proposed crossing useless or adversely affect its intended benefits.

### **Potential Solutions to Challenges**

Building a berm around the area at the southern end of the proposed crossing culvert would limit the newly generated 100-year floodplain to the confines of the bermed area and would avoid imposing Lake Jackson SDZ and stormwater standards upon the Sellers property. To be conservative, it is recommended that the crest of this berm be set at approximately elevation 99 to 100 (minimum 1 foot above Lake Jackson's 100-year floodplain and at least as high as the US 27 road crown at crossing location). Berm side slopes should be gradual enough to not impede turtle movement. An open area should be left between the culvert entry and the beginning (toe-of-slope) of the berm such that the berm does not overly block light to the culvert.

It is anticipated that the berm design described above would require construction outside the existing US27 right-of-way. It is our understanding that FDOT does not wish to purchase additional right-of-way for this project. Given this, the County would need to either purchase the required land or obtain a perpetual easement over this land. Either of these options would need to be coordinated through Public Works and the BCC and potential funding mechanisms explored.

Preservation of a wildlife corridor (turtle corridor) through the Sellers property would require purchasing the needed land or acquiring a conservation easement over this land. We assume land/easement acquisition would be up to the County and thus would need to be approved by the BCC. Various funding mechanisms might be available to help offset the costs. Note that the land or easements needed for either the wildlife corridor or the culvert berm would likely be contingent on having a willing property owner. It is doubtful that the County would wish to seek acquisition of these areas via condemnation.

## **GENERAL ISSUES**

### **Maintenance of Gravity Walls and Crossing Culverts**

Who will be responsible for maintenance, including trimming vegetation at the base of gravity walls? If maintenance will be the County's task, need to coordinate with Public Works to ensure sufficient budgeting.

### **Maintenance of Berm Area at Southern Crossing and Maintenance of Sellers Property Wildlife Corridor**

If berm design is used and/or if a wildlife corridor is established, long-term costs should include provisions for proper maintenance of these areas. It is assumed these would be borne by the County. Coordinate with Public Works. If a wildlife corridor is acquired, plans for this corridor might want to include limited habitat restoration within the corridor (another expense) although this is not a necessity.

### **Closing of Dirt Road North of Central Crossing**

Since this dirt road is located within an existing conservation easement, it seems a gravity wall could be constructed along the south side of US27 that would block access to the dirt road. Should coordinate with Public Works to ensure this treatment would not block their access to stormwater facility in Basin A of the Lakeside subdivision

(county maintains). Blocking of this road might require approval of by the subdivision's homeowners association. This is a legal (and public relations) matter that would need to be investigated.

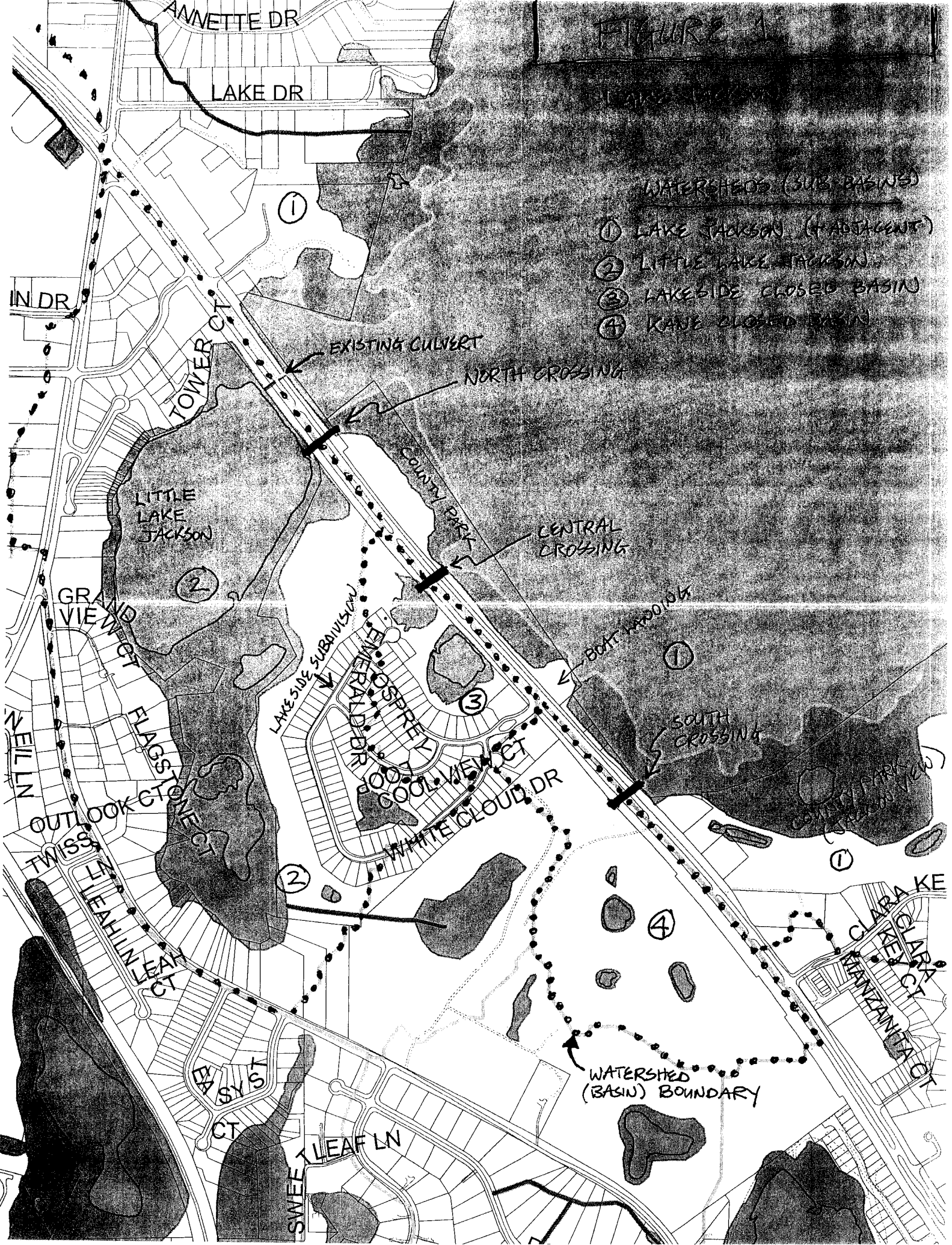
### **Diversion Walls Outside US27 Right-of-Way**

For the project to achieve the maximum benefits, would it be necessary to build diversion walls (gravity walls) outside the existing US27 right-of-way? If so, this could entail purchasing land or acquiring easements for these walls. We assume the County would be responsible for land/easement acquisition as well as for the design, permitting, and construction of such walls. This raises the question of funding (including maintenance), willingness of property owner to convey the land, and possibly sovereign lands permitting/easement issues if the walls were needed on State lands.

### **Project Design at Existing County Boat Launch**

Project plans will likely need to account for keeping access to the boat launch open and yet deter turtles from using this access as a means of crossing US27. This may mean the County would need to construct features to enhance help achieve the goal of the ecopassage project. Coordinate design with Public Works. The County's long range plans for the County property containing the boat launch should also be considered. Coordinate with Public Works concerning these plans to help ensure they do not conflict with objectives of the ecopassage project.

FIGURE 1



- WATERSHEDS (SUB BASINS)
- ① LAKE JACKSON (ADJACENT)
  - ② LITTLE LAKE JACKSON
  - ③ LAKESIDE CLOSED BASIN
  - ④ LAKE CLOSED BASIN

ANNETTE DR

LAKE DR

IN DR

TOWER CT

EXISTING CULVERT

NORTH CROSSING

LITTLE LAKE JACKSON

COUNTY PARK

CENTRAL CROSSING

GRANDVIEW CT

LAKESIDE SUBDIVISION

BOAT WOODS

NEILL LN

FLAGSTONE CT

EMERALD DR

OSPEE LN

COOLIDGE CT

COOLIDGE CT

WHITECLOUD DR

SOUTH CROSSING

OUTLOOK CT

SWISS LN

LEAH LN

LEAH CT

LEAH CT

LEAF LN

LEAF LN

LEAF LN

FA SYST CT

SWEET LEAF LN

CLARA KE

CLARA CT

CLARA CT

MANZANITA CT

MANZANITA CT

WATERSHED (BASIN) BOUNDARY



LAKE JACKSON

FIGURE 3



POTENTIAL FOR NEW 100-YEAR FLOODPLAIN ON THE SELLER'S PROPERTY

PROPOSED CULVERT



4/16/95

ADDITIONAL TPO SITING  
AS-BUILT BLOCKOUT ELEVATION

SURVEY BY THULMA BODDEN-BELM, PLS

BREAKOUT ELEV. 96.5

NORTH MONROE STREET

U.S. HWY 27

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CLIENT NAME: _____ CAPITAL FIRST, INC. 7116 BEECH RIDGE TRAIL TALLAHASSEE, FLORIDA 32312 904/698-8500		SHEET TITLE: _____ REVISIONS BREAKOUT ELEVATIONS	

FIGURE 2

