



CDM



Astor Flood Study Lake County Public Works

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CDM

May 2, 2007

Meeting Agenda

- ◆ Project status
- ◆ Overview of stormwater drainage system
- ◆ Causes of flooding and alternatives
- ◆ Water quality issues
- ◆ Recommended areas for improvements

Objective of the Project

Study to identify system improvements to address flooding and water quality issues



Project Schedule

- ◆ Phase I (current phase) to be completed by June 2007
- ◆ First Public Meeting – held on November 15, 2007
- ◆ **Second Public Meeting – May 2, 2007**



Project Status

- ◆ Completed data collection and evaluation
- ◆ Completed stormwater system inventory and mapping
- ◆ Identified problem areas with your participation
- ◆ Reviewed floodplain boundaries using 1-foot topographic contour data
- ◆ Evaluated conceptual system improvements to alleviate flooding and improve public safety

Overview of Drainage System (cont.)

- ◆ 983 Culverts in Astor
- ◆ 707 culverts within County's maintenance jurisdiction

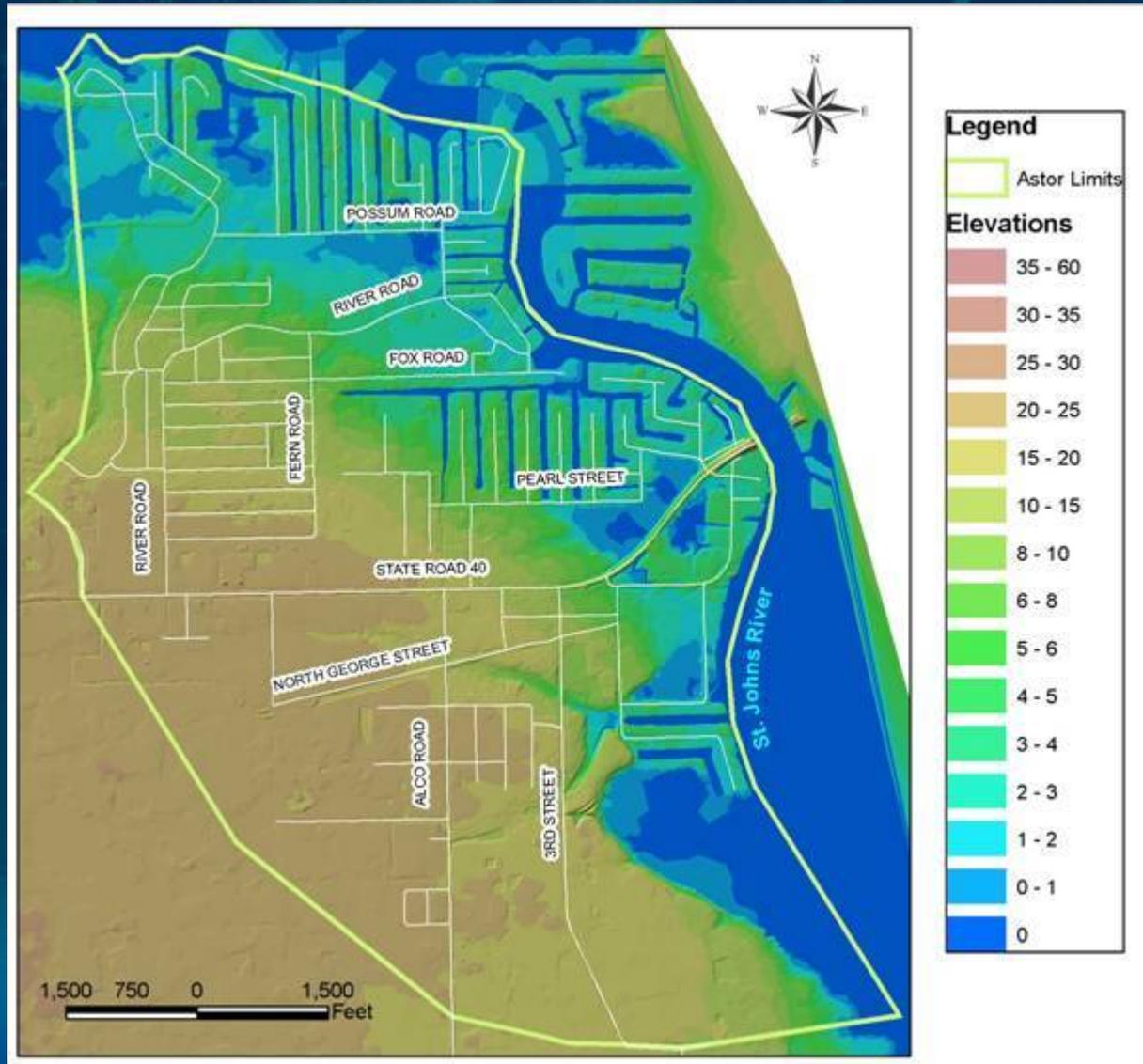


Overview of Drainage System (cont.)

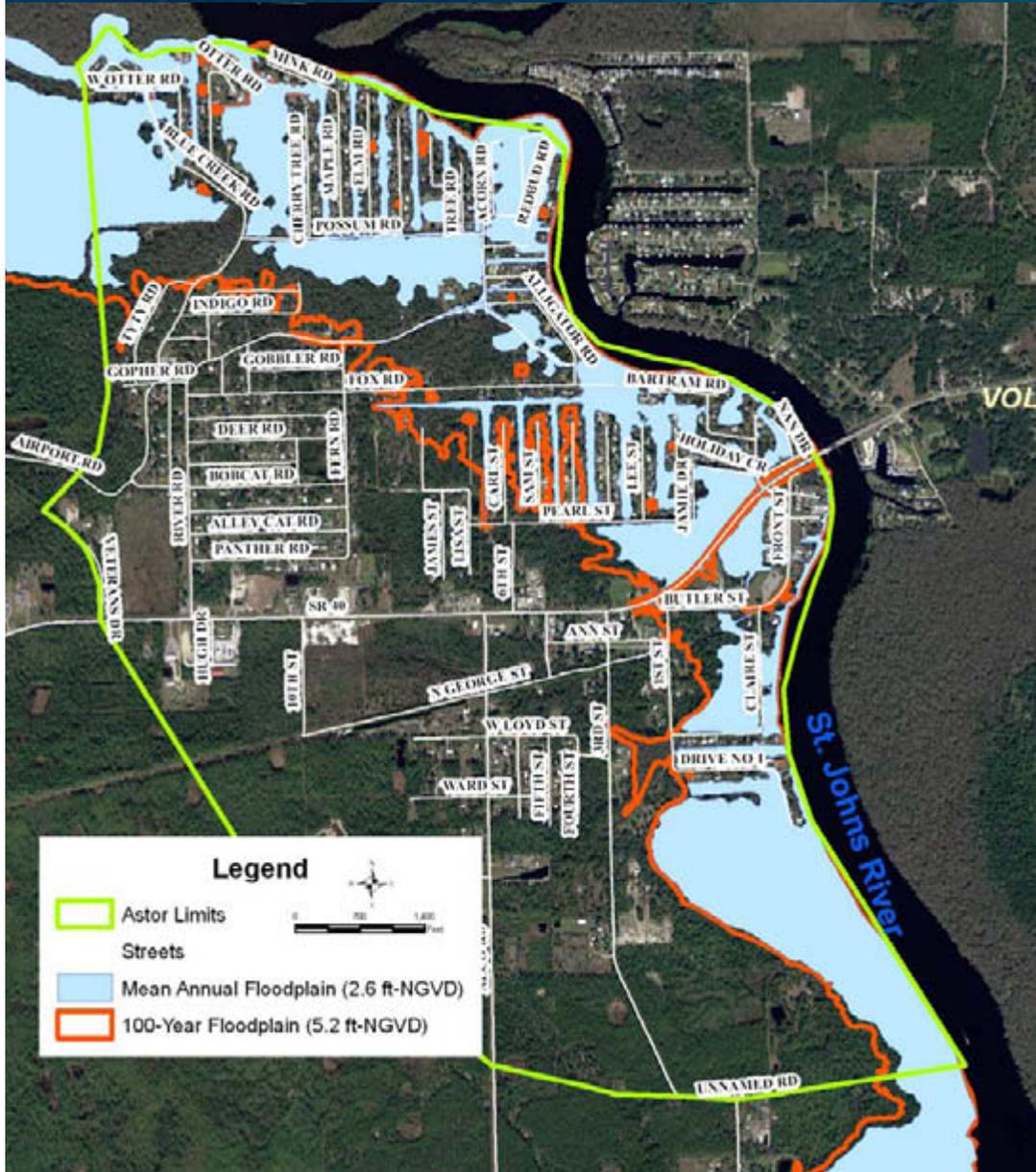
Roads within
County's
maintenance
jurisdiction



Overview of Drainage System (cont.)



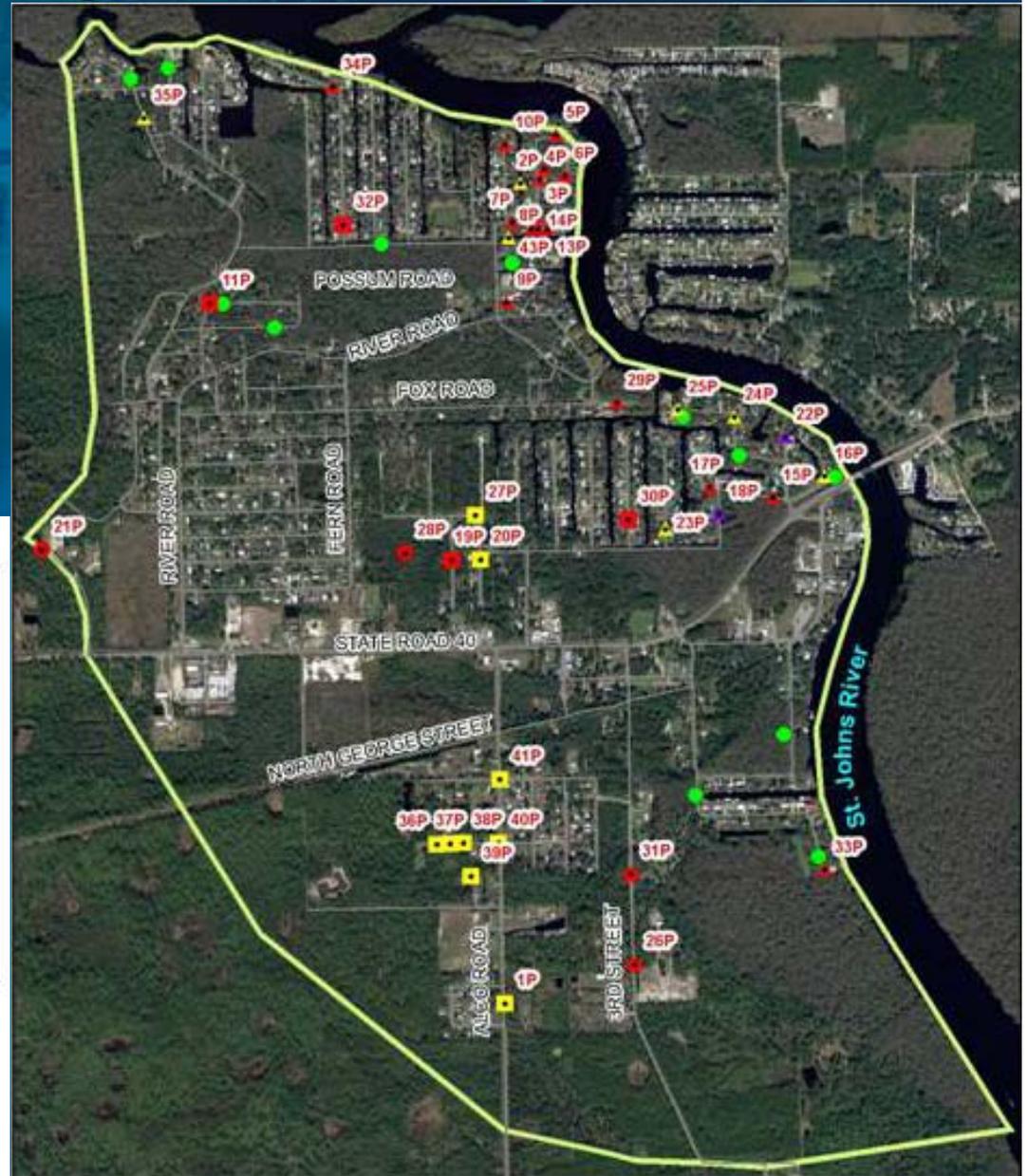
Overview of Drainage System (cont.)



A large part of Astor lies within the natural floodplain of the St. Johns River

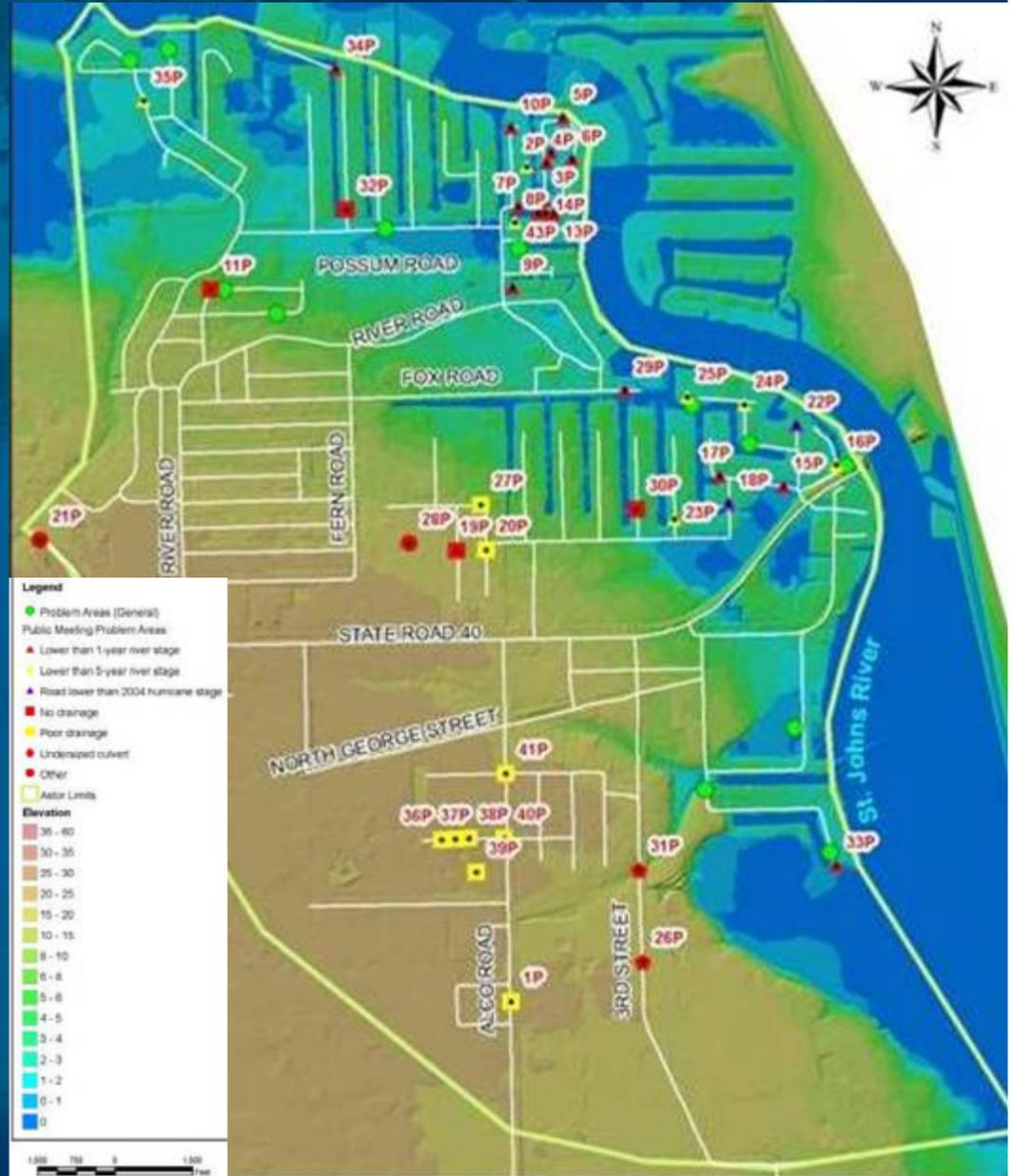
Causes of Flooding

Inventoried and categorized known problems identified by public at first meeting



Causes of Flooding (cont.)

- ◆ Low-lying areas in flood zone
- ◆ Localized Problems
 - ◆ Downstream culverts and channels not functioning well or undersized
 - ◆ Inadequate or lack of drainage system
- ◆ Lack of maintenance



Causes of Flooding (cont.)

- ◆ Damaged Infrastructure
 - ◆ Soil subsidence
 - ◆ Blockage at inlet or outlet
 - ◆ Erosion at inlet due to unprotected entrance
 - ◆ Poor design and construction
 - ◆ Inadequate maintenance

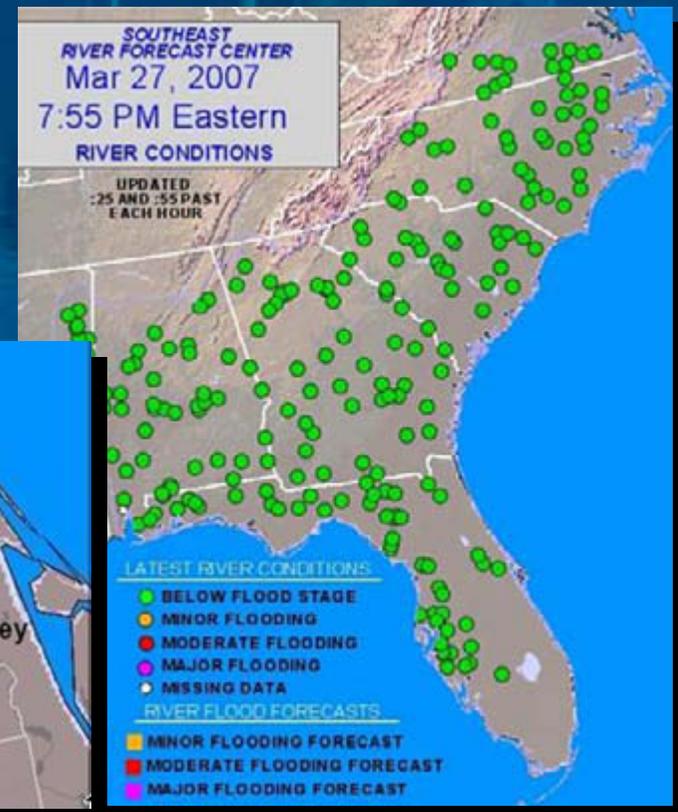


Alternatives to Alleviate Flooding

- ◆ **Improve, provide drainage system**
 - ◆ Clean, repair, reconstruct or upsize culverts
 - ◆ Clean, repair or widen channels and swales
- ◆ **Construct storage facilities**
- ◆ **Routine maintenance of culverts and channels**
- ◆ **Erosion control**
 - ◆ Protect pipe inlets and outlets using wingwall, headwall or riprap, realigning culverts and/or energy dissipation
 - ◆ Bank stabilization

Solutions to Flooding (cont.)

- ◆ Public Safety Concerns
 - ◆ For low lying areas subject to impacts from the St. Johns River
 - ◆ Develop and implement a flood early warning system



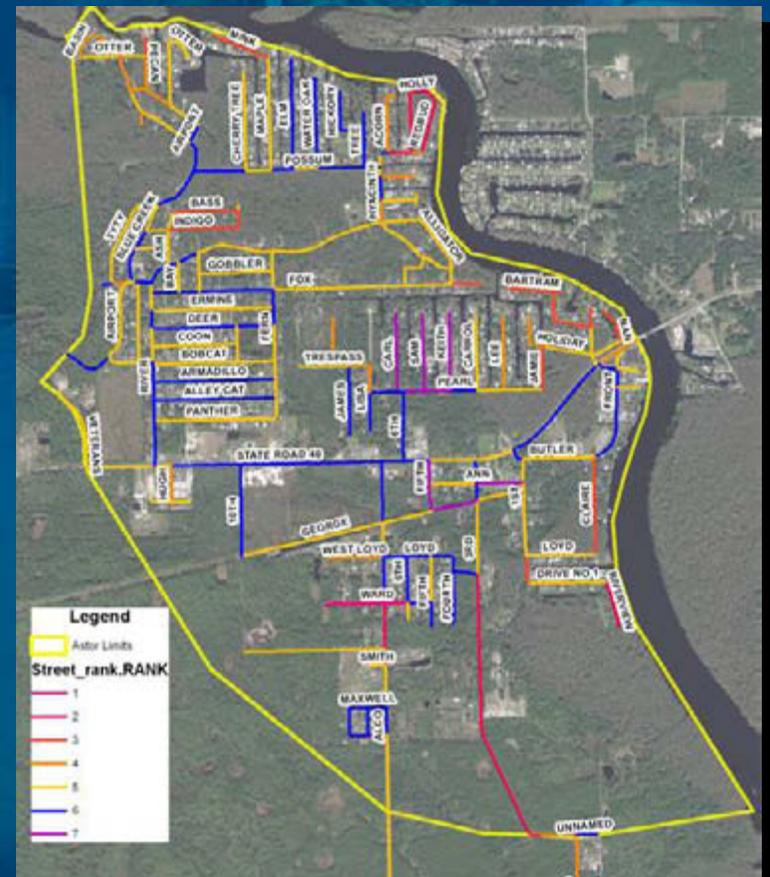
Water Quality Improvement Options

- ◆ Source control
- ◆ Detention
- ◆ End-of-pipe treatment: conventional baffle boxes and vortex type units
- ◆ Constructing, improving and/or repairing swales



Prioritization of Stormwater Management Needs

- ◆ Assigned a score to each street segment for following categories:
 - ◆ Public Safety (30%)
 - ◆ Flood Severity (25%)
 - ◆ Swale Condition (15%)
 - ◆ Location within Floodplain (15%)
 - ◆ Structural Maintenance (15%)



Public Participation Program

- ◆ Public Meetings & Public Information Brochure
- ◆ Project Website
- ◆ Lake County Board of County Commissioner (BOCC) Meetings



[http:// www.co.lake.fl.us/departments/public_works/engineering/astor_flood_study/](http://www.co.lake.fl.us/departments/public_works/engineering/astor_flood_study/)

Your Feedback is Most Important!

- ◆ Please sign in on the sign-in sheet
- ◆ Please fill out comment forms provided
- ◆ Please be as specific as possible (i.e., nature of the problem location)
- ◆ Representatives from the County and CDM are available to answer your questions
- ◆ More information is provided at the workshop stations

Lake County
Water Flood Study
Public Meeting
November 11, 2004
Comment Form

Name _____
Address _____
Telephone No./E-mail Address: _____

Please assign a number to each issue below from 1 to 3 with 1 representing the most important and 3 representing the least important (use only number only issue)

Property Flooding _____ Storm Drainage Flooding _____
Flooded Roads/Drainage _____ Water Quality _____
Erosion _____

Comments (please provide detailed information such as location, frequency, severity of problem, etc.)

Table No. _____


LAKE COUNTY
FLORIDA
Public Works
407 Andrew Avenue
Beeville, FL 32828
(941) 463-4600

Workshop Stations

- ◆ **Station 1 - Existing system information**
- ◆ **Station 2 - Problem Areas/Causes of Flooding (localized flooding vs. floodplain flooding/low areas)**
- ◆ **Station 3 - Structural Improvements (activities that can be undertaken to help alleviate flooding for localized problems)**
- ◆ **Station 4 - Flood Early Warning System**

County Contact Information



**Lake County Public Works
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Eustis, FL 32726
(352) 483-9000**

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