Department of

Transportation and Stormwater Services

Stormwater Engineering

Project Descriptions for FY 16

Peninsula Flooding Relief PH II (Vasconia Construction)

Flooding Relief FY2016 - CAD

Estimated cost: $5M (City Share $2.5M)

Proposed Project Map

City of Tampa Stormwater Engineering
Upper Peninsula Phase 1: Vasconia Project Area

- **JUSTIFICATION:**

  Upper Peninsula Regional Stormwater Improvements is a multi-year flood relief project covering approximately 3400 acres of South Tampa from Kennedy Boulevard southward to Euclid Avenue. Stormwater Engineering Division has developed a stormwater model and comprehensive study of the project area, with the goal providing incremental improvements to the stormwater infrastructure. The main benefit of the project is to provide targeted relief in flood prone areas to address public safety.

- **PROJECT DESCRIPTION:**

  This is the initial phase of a regional stormwater project to provide flooding relief for The Upper Peninsula of Tampa bay. The scope of services are to provide survey, utility locate, and design of a stormwater system in congested rights of way serving the neighborhoods of Belmar Gardens and Virginia Park. Qualifications submittal shall include as-built drawings prepared by current staff that demonstrate the ability to design large diameter stormwater pipes and structures within rights of ways that are congested with other utilities including utility offsets.

- **Related Issues:**

  SWFWMD cooperative funding project.

43rd Street Outfall PH III

Regional Drainage Improvement

Flooding Relief FY2016

Estimated cost: $5M (City Share $2.5M)

- **JUSTIFICATION:**

  The project provides a new secondary outfall to convey runoff from the Phase I regional pond to the 43rd Street Outfall. Phase II improvements provide additional flood relief for properties and roadways that are severely impacted.

- **PROJECT DESCRIPTION:**

  The project consists of the construction of a 48-inch RCP pipe from the Phase I regional stormwater pond to the 43rd Street Outfall just upstream of McKay Bay. Additionally, a culvert upgrade will be constructed at the terminus of the 43rd Street ditch to reduce flooding on adjacent properties.

- **Related Issues:**

  It is anticipated that the project will be constructed in phases through FY 2017.

Proposed Project Map

Lower Peninsula Watershed Management Plan

Flooding Relief FY2016

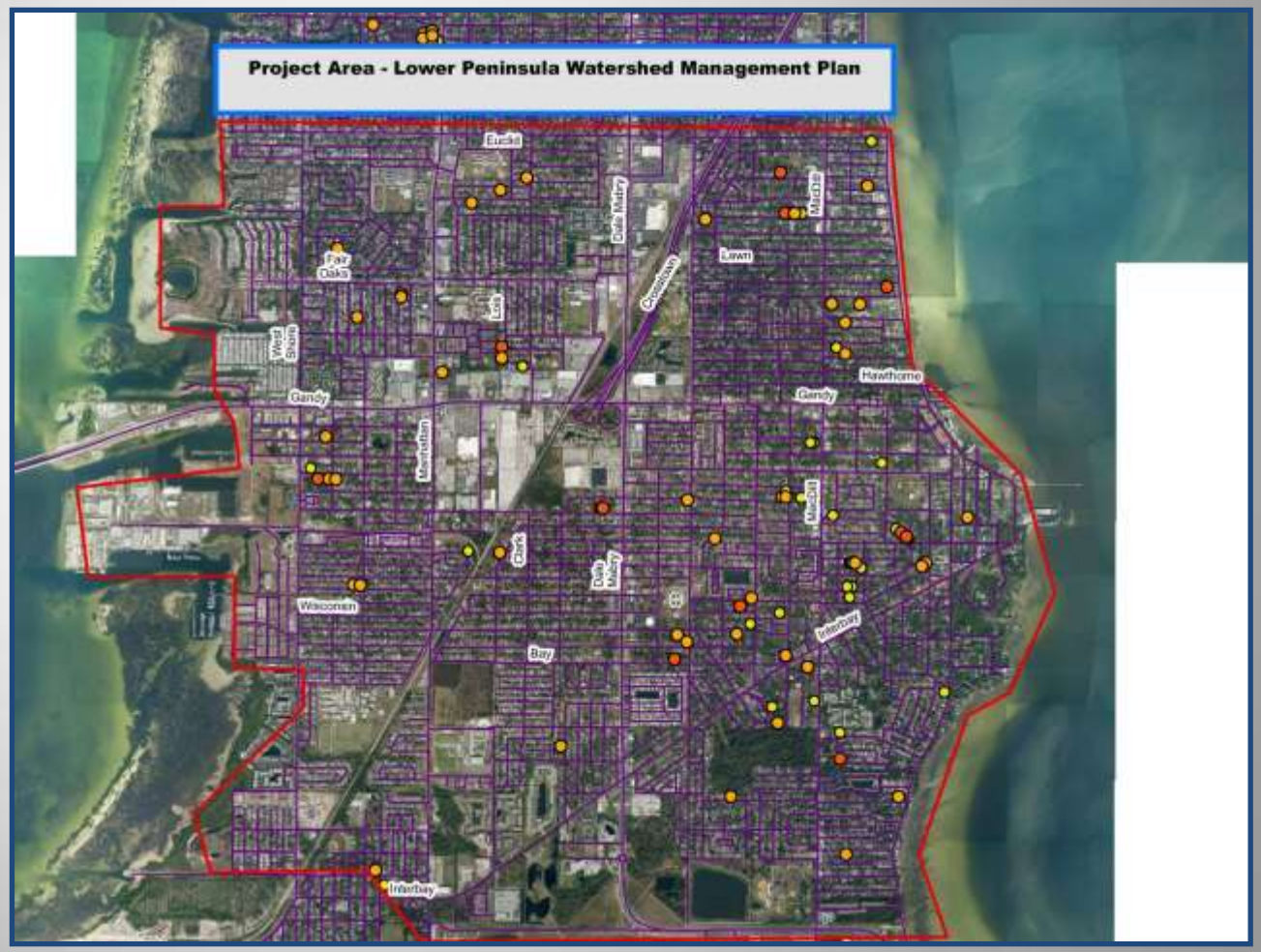
Estimated cost: $650K (City Share $325K)

- **JUSTIFICATION:**
  A regional watershed model is needed to provide a baseline for capital project improvement planning and design. The area has numerous flooding locations, failing and undersized conveyance systems throughout the 6000 acre watershed.

- **PROJECT DESCRIPTION:**
  Hydraulic/hydrologic modeling of the lower peninsula using XP-SWMM flood routing software. The goal of the project is to establish existing flooding conditions and to utilize the model for improved drainage systems.

- **Related Issues:**
  SWFWMD Cooperative Funding of 50%.

Proposed Project Map



East River Hills Flooding Relief

Flooding Relief FY2016

Estimated cost: $1M

- **JUSTIFICATION:**

  Inadequate pipe sizes, pipe blockages due to tree roots, and negative flow inverts, etc., all contribute to continuous drainage problems along E. River Hills Drive before outfall into the Hillsborough River.

- **PROJECT DESCRIPTION:**

  New survey is to be ordered and computer modeling is prepared to analyze and to recommend optimal system design from River Highlands intersection to existing outfall pipe into Hillsborough River.

- **Related Issues:**

  River Highlands flooding improvement project is upstream of this project. Real Estate Dept. has been requested to explore potential easement acquisition from adjacent parcel, due to grand oak tree on top of existing outfall pipe within existing outfall pipe easement.

Proposed Project Map

Ditch Rehabilitation

Rehab FY2016 - CAD

Estimated cost: $1M

- **JUSTIFICATION:**

  Rehab needed for ditches that have diminished capacity that cannot be improved by maintenance.
- **PROJECT DESCRIPTION:**

  Create a annual contract to address ditch improvements and associated upgrades to improve conveyance capacity.
- **RELATED ISSUES:** City-wide

Howard from Morrison to Swann – Flooding Relief PH II

Flooding Relief FY2016 - CAD

Estimated cost: $300K

- **JUSTIFICATION:**
  Ponding occurs in the travel lanes due to poor grading associated with pavement overlay. The project is needed to convey runoff and relieve the ponding.

- **PROJECT DESCRIPTION:**

  Roadway re-grading from Morrison to Swann and potential construction of a surface water management system in coordination with roadway surfacing.

RELATED ISSUES:

Design and construction will be accomplished in coordination with the Transportation paving project.

Proposed Project Map

FY 2016 Annual C.I.P.P. Rehabilitation

Rehab FY2016 - CAD

Estimated cost: $400K

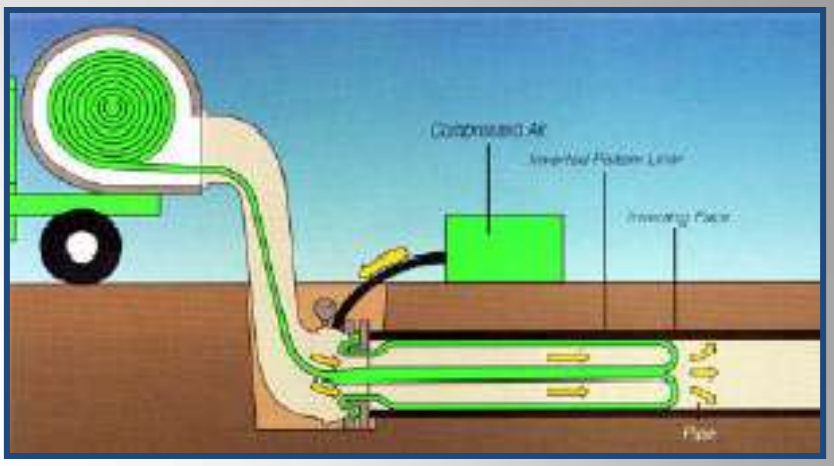
- **JUSTIFICATION:**

  The project provides rehabilitation of deteriorated stormwater pipe systems.

- **PROJECT DESCRIPTION:**

  The scope of work includes labor, materials, and equipment to rehabilitate gravity stormwater pipes from 12-inch to 48-inch diameter by installation of cured-in-place pipe liner.

- **RELATED ISSUES:**



Project Photos

Box Culvert Misc. Rehabilitation

Rehab FY2016 - CAD

Estimated cost: $650K

- **JUSTIFICATION:**

  The City has numerous box culverts that are over 20 years old. These structures need remedial work to repair spalled concrete and joint leaks.

- **PROJECT DESCRIPTION:**

  Create a annual contract to address the repairs in a timely fashion as they become evident.

- **RELATED ISSUES:**

  Repair major culverts within roadways prior to resurfacing or rebuilding the roads.

Project Photos

Seneca Pump Station Demolition

Flooding Relief FY2016 - CCC

Estimated cost: $100K

- **JUSTIFICATION:**
  Pump Station is no longer necessary since the construction of the Curiosity Creek Pump Station. This is an aging structure with ongoing maintenance concerns.

- **PROJECT DESCRIPTION:**
  Demolition of existing pump station.

- **Related Issues:**
  Within the North Tampa Closed Basin watershed.

Proposed Project Map

Anita Subdivision PH II Drainage Improvements

Flooding Relief FY2016 - CCC

Estimated cost: $200K

- **JUSTIFICATION:**

  This neighborhood was developed with ditches draining to a collection system that discharged the stormwater to a system on Westshore Blvd. Over the years the ditches have been filled and driveway culverts have been installed improperly.

- **PROJECT DESCRIPTION:**

  Consultant will evaluate the current drainage patterns and identify areas where ponding occurs. City crews will reestablish the relic ditches and correct the driveway culverts.

Proposed Project Map

2nd Street: Interbay to Bay

Flooding Relief FY2016 - CCC

Estimated cost: $200K

- **JUSTIFICATION:**

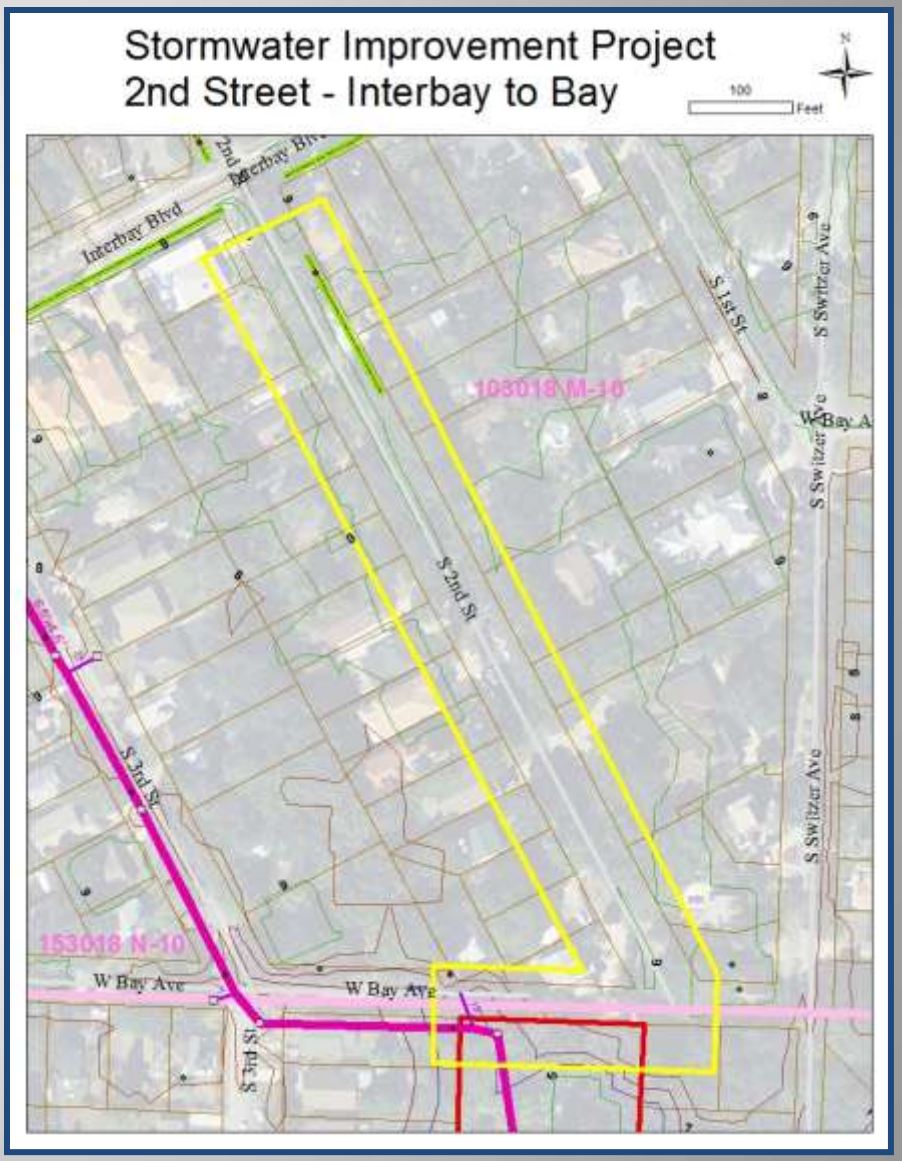
  Severe street flooding along S 2nd Street between Interbay Blvd to W Bay Ave.

- **PROJECT DESCRIPTION:**

  New Drainage system to be proposed along 2nd Street to connect to box culvert along W. Bay Ave.

- **Related Issues:**

  S. 2nd Street dead ends before W. Bay Ave. Easement may be required to connect to existing box culvert along W Bay Ave.



Proposed Project Map & Photo

Bradley Flooding Relief

Flooding Relief FY2016 - CCC

Estimated cost: $100K

- **JUSTIFICATION:**

  The pipes crossing Mascotte St. at Bradley St. convey stormwater runoff from approximately 30 acres. The existing pipe are undersized due to conflicts with the wastewater system. This has caused water to stand in ditches and roadway for days.

- **PROJECT DESCRIPTION:**

  This project will either redesign the wastewater system or install a conflict structure to enable the proper sized pipes to be installed.

- **RELATED ISSUES:**

  The existing ditches along Bradley and Mascotte will be regraded to provide positive slope to the new pipe crossing. This area will be included in the Lower Peninsula Watershed Model in future years.

PROPOSED PROJECT MAP

N River Highlands Flooding Relief

Flooding Relief FY2016 - CCC

Estimated cost: $100K

Proposed Project Map

Project Photo

- **JUSTIFICATION:**

  The intersection of N River Highlands Place and N River Hills Drive has been experiencing flooding during rain events due to lower elevations compared to surrounding roadways and inadequate system capacity downstream.

- **PROJECT DESCRIPTION:**

  Modeling and engineering re-design is underway to improve system capacity and to provide flooding relief to this area.

- **Related Issues:**

  This system discharges to Hillsborough River via the N River Hills outfall, which is also being redesigned to improve system capacity.

New Orleans /11th Street Pond Drainage Improvements

Flooding Relief FY2016 - CCC

Estimated cost: $100K

- **JUSTIFICATION:**

  Due to historical flooding issues caused by low elevations and inadequate system capacity, new pond is proposed to relieve flooding problem.

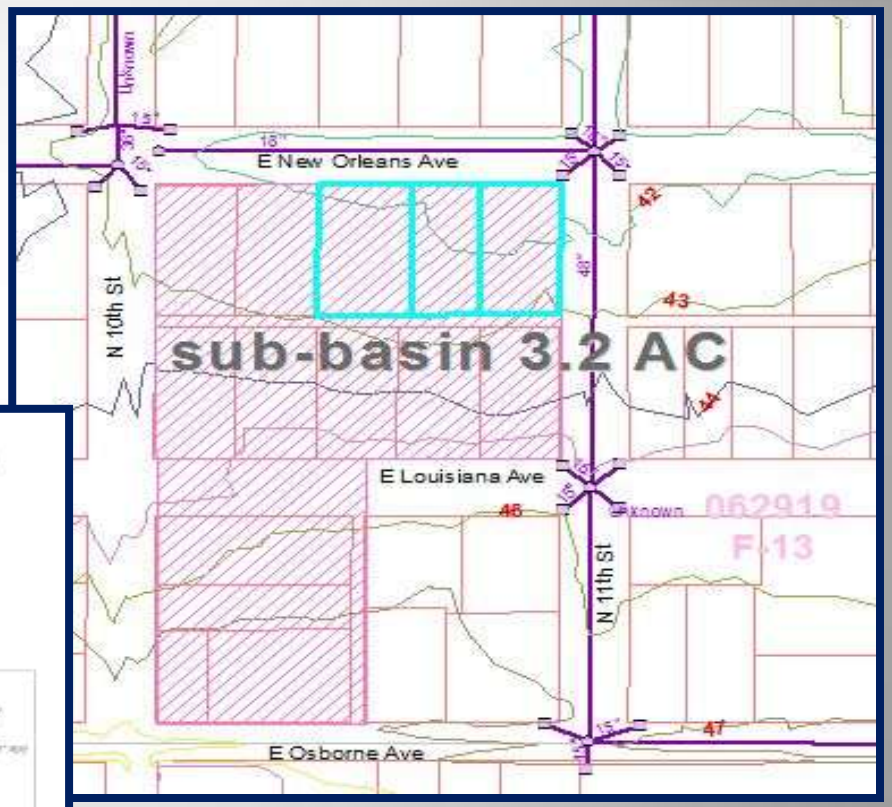
- **PROJECT DESCRIPTION:**

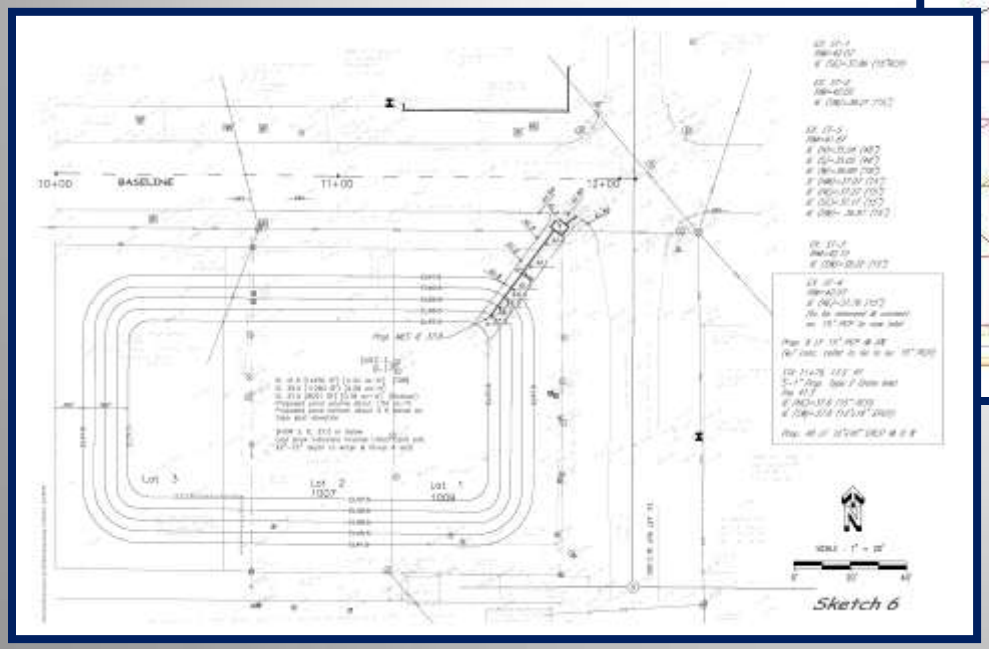
  3 residential parcels had been purchased to construct a proposed drainage pond to increase system capacity and to also function as an equalization pond.

- **Related Issues:**

  Proposed pond is located downstream of Chelsea flooding complaint, which appears to be caused by FDOT drainage connection during FDOT Nebraska roadway project.

PROPOSED PROJECT MAP





POND LAYOUT SKETCH

WyomingFlooding Relief Ph 2

Flooding Relief FY2016 - CCC

Estimated cost: $150K

- **JUSTIFICATION:**
  Development in the vicinity of Wyoming/Trilby/Thornton Avenue. utilizes a system of drainage ditches to collect runoff. The ditch system has been compromised by roots of large trees and improper installation of culverts.
- **PROJECT DESCRIPTION:**
  This project will evaluate the entire neighborhood and provide a solution to reduce flooding and convey water to existing system on Leila and Elkins Ave.

Proposed Project Map

Project photos

Related Issues:
This project will phased over two years.

North Street and Packwood Pond

Flooding Relief FY2016 - CCC

Estimated cost: $100K

- **JUSTIFICATION:**

  The property is in a low area and suffered repeated structural flooding. The parcel was subsequently acquired.

- **PROJECT DESCRIPTION:**

  Construction of a pond and pond embankment underdrain to provide attenuation storage and water quality treatment.

Forest Hills Flooding Relief

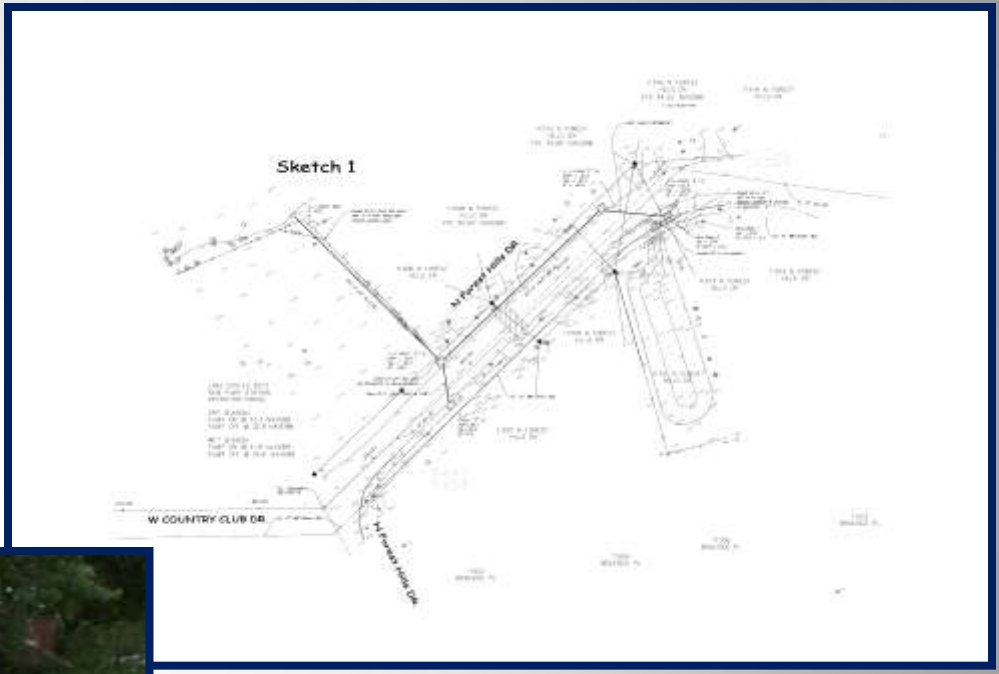
Flooding Relief FY2016 - CCC

Estimated cost: $50K

- **JUSTIFICATION:**
  The surrounding street and the resident at 11513 N Forest Hills Drive has been experiencing flooding during rain events.

- **PROJECT DESCRIPTION:**
  Proposing drainage system in the ROW to bring provide conveyance of flooding water to Lake Eckle.

- **Related Issues:**
  The existing stormwater pump station has been completely rebuilt recently, which is the discharge mechanism for Lake Eckles.



Proposed Project Design & Photo

Himes Ave Paxton to Tyson Ditch

Flooding Relief FY2016 - CCC

Estimated cost: $150K

- **JUSTIFICATION:**

  Existing 30" CMP culvert is undersized and in poor condition. The invert on the pipe is higher than the toe of slope of the ditch. There is also a concern for traffic safety due to a headwall.

- **PROJECT DESCRIPTION:**

  Remove existing culvert under Himes Avenue and replace with a larger capacity culvert, matching inverts on the Tyson Ditch. Replace the existing headwall and close the open area behind it. Construct new system from Himes and connect to Tyson ditch.

- **Related Issues:**

  The project will relieve flooding along the ditch and provide a new system to take flows from Paxton, which also experiences flooding.

PROPOSED PROJECT MAP

Alley behind Hills and Richardson

Flooding Relief FY2016 - CCC

Estimated cost: $50K

- **JUSTIFICATION:**
  Flooding experienced by residents along a 10-ft wide alley driveway; potentially caused by inverted crown driveway and low finished floor elevation of existing buildings relative to alley topo.

- **PROJECT DESCRIPTION:**
  Upon analysis of topographic survey data, alley will be designed and re-constructed to convey drainage away from existing building doors to Hills Ave ROW and/or Richardson Ave ROW via overland grading.

Micro-Projects

Flooding Relief FY2016 - CCC

Estimated cost: $200K

- **JUSTIFICATION:**
  Micro-projects are an efficient utilization of City resources as they are constructed in-between larger projects.

- **PROJECT DESCRIPTION:**
  Smaller projects that are designed in coordination with City crews and are generally constructed in 2-4 weeks. These include minor drainage improvements such as additional inlets to improve conveyance in flood prone areas and extensions of stormwater systems.

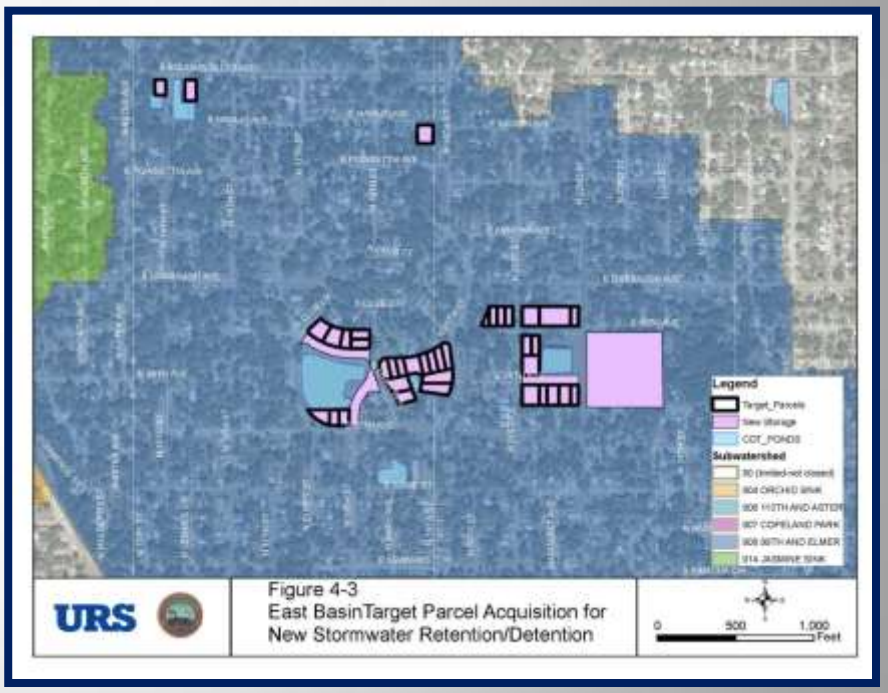
North Tampa Closed Basins Property Acquisition

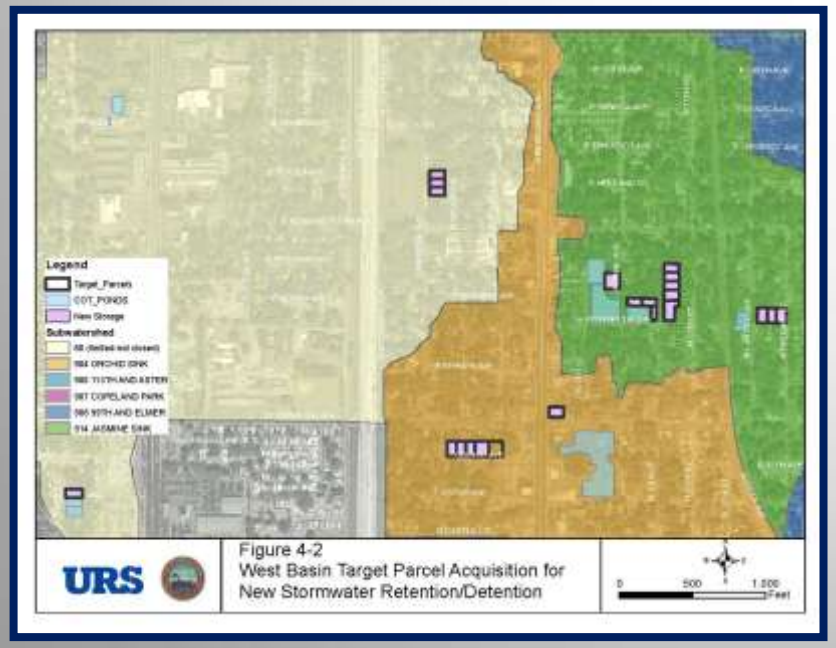
Flooding Relief FY2016

Estimated cost: $1M

- **JUSTIFICATION:**
  Properties in this area experience frequent, severe flooding because it is in a closed basin with sinks as the only receiving system to take runoff. Based on a model and study of the closed basin area, properties are targeted for acquisition and will serve as future storwmater ponds.
- **PROJECT DESCRIPTION:**
  The project consists of property acquisition in the area experiencing the most server flooding. Approximately 40 properties have been identified.
- **RELATED ISSUES:**

PROPOSED PROJECT MAP





POND LAOUT SKETCH