

Amerigo Avenue Drainage Improvements



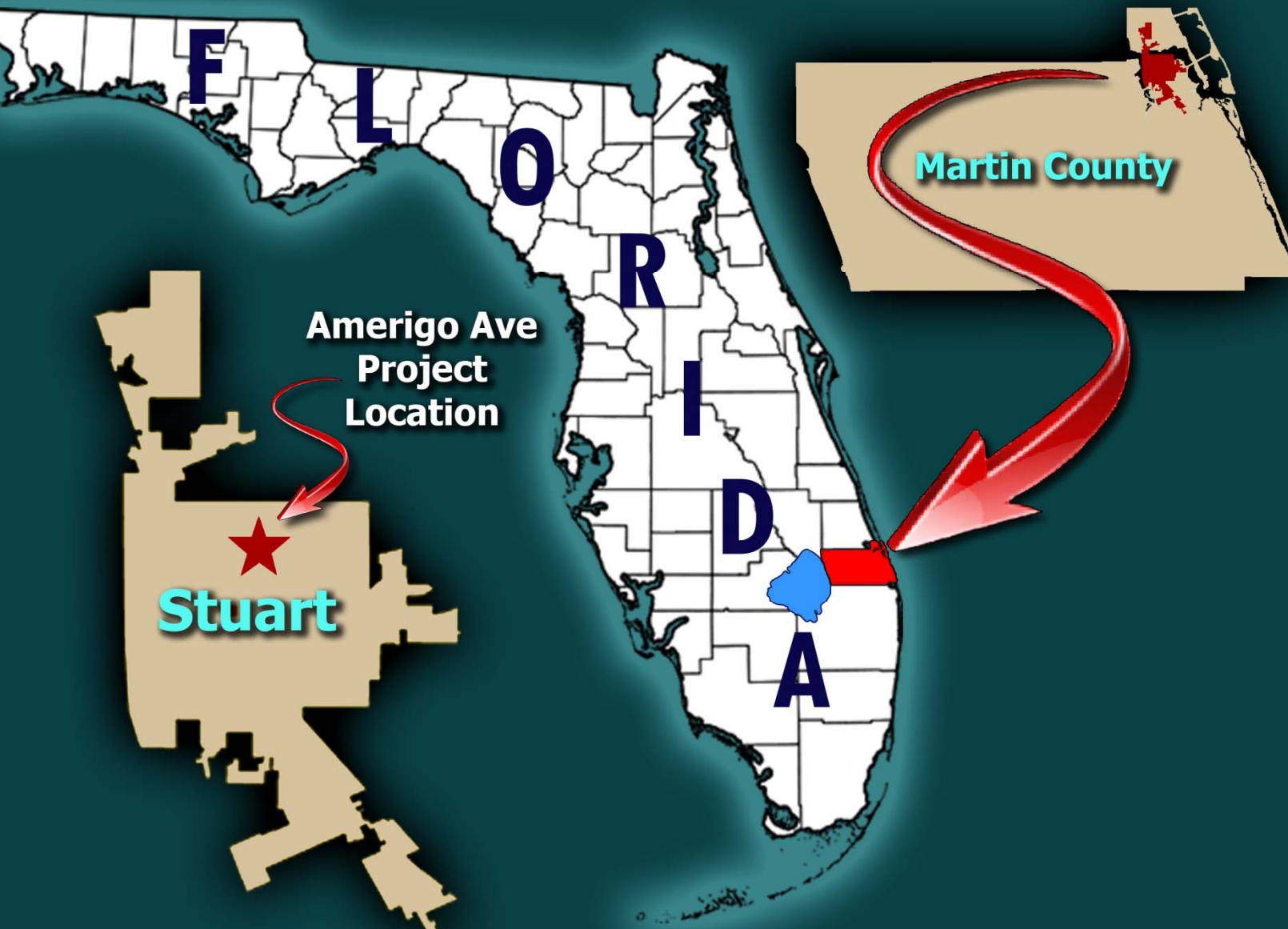
*Project Completion Date:
March, 2014*



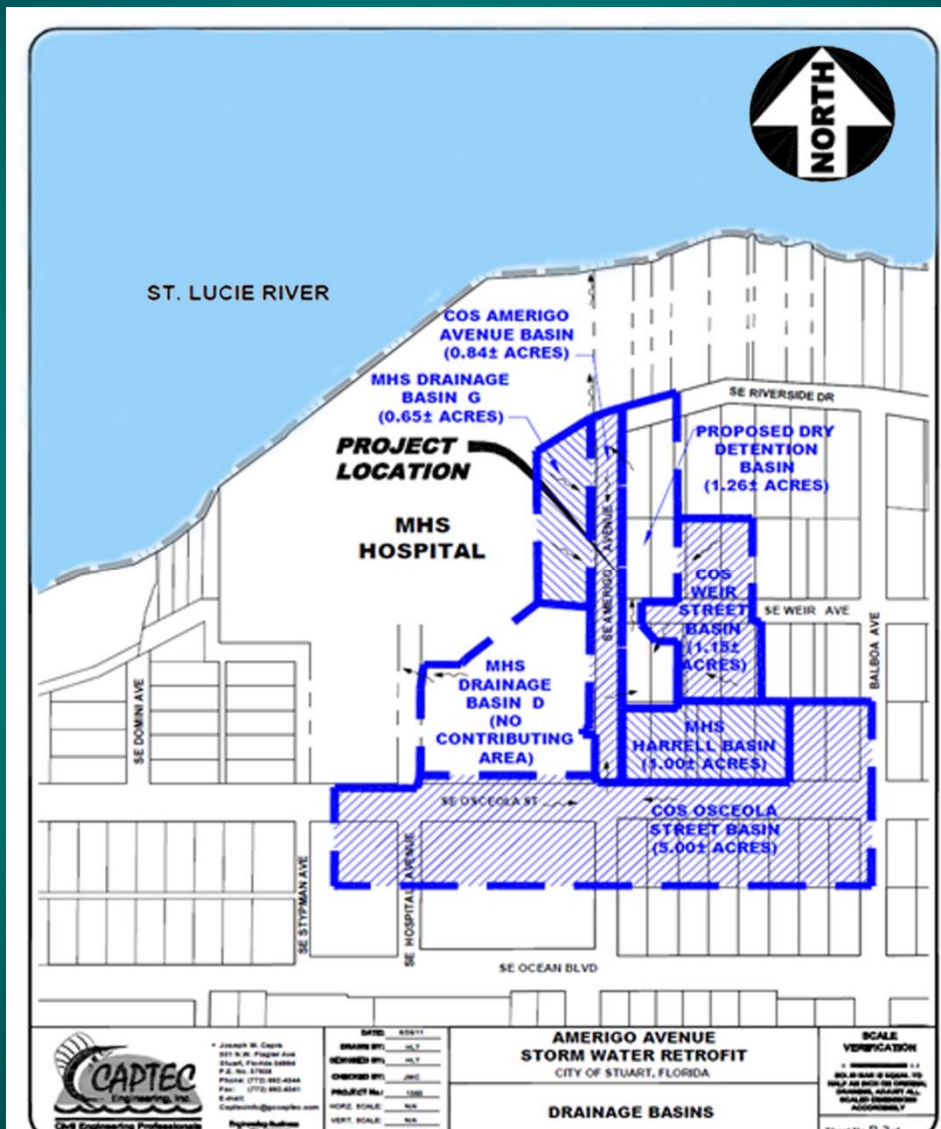
Stuart, Florida



Project Location – Stuart, Florida



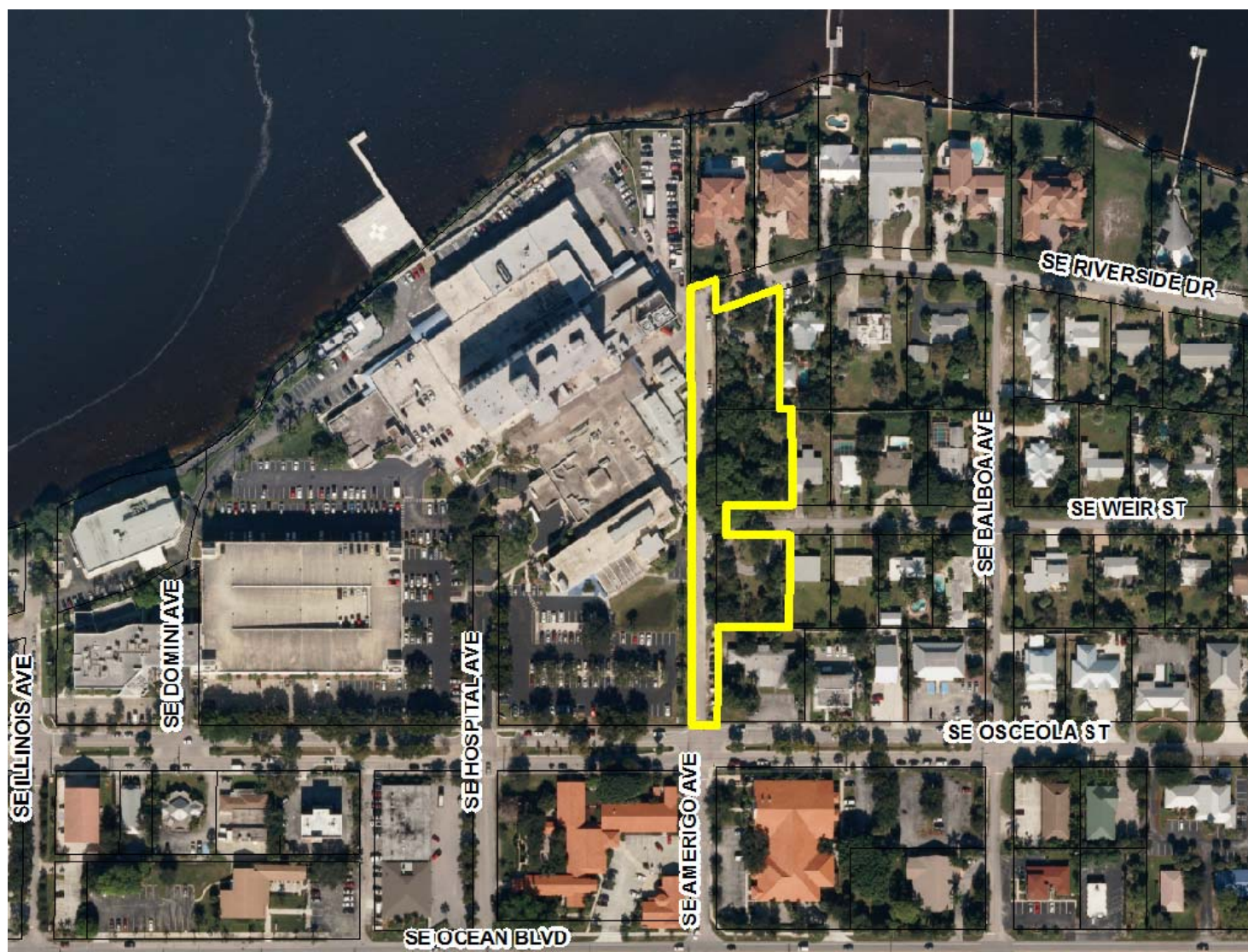
Drainage Basin Area 9.9 Acres



Land Use

Land Uses within the Watershed	Acres	%
Single Family Residential	2.4	24%
Hospital	1.5	15%
Office	6.0	61%
Land Use Totals (Acreage and %)	9.9	100%

Aerial View of Site



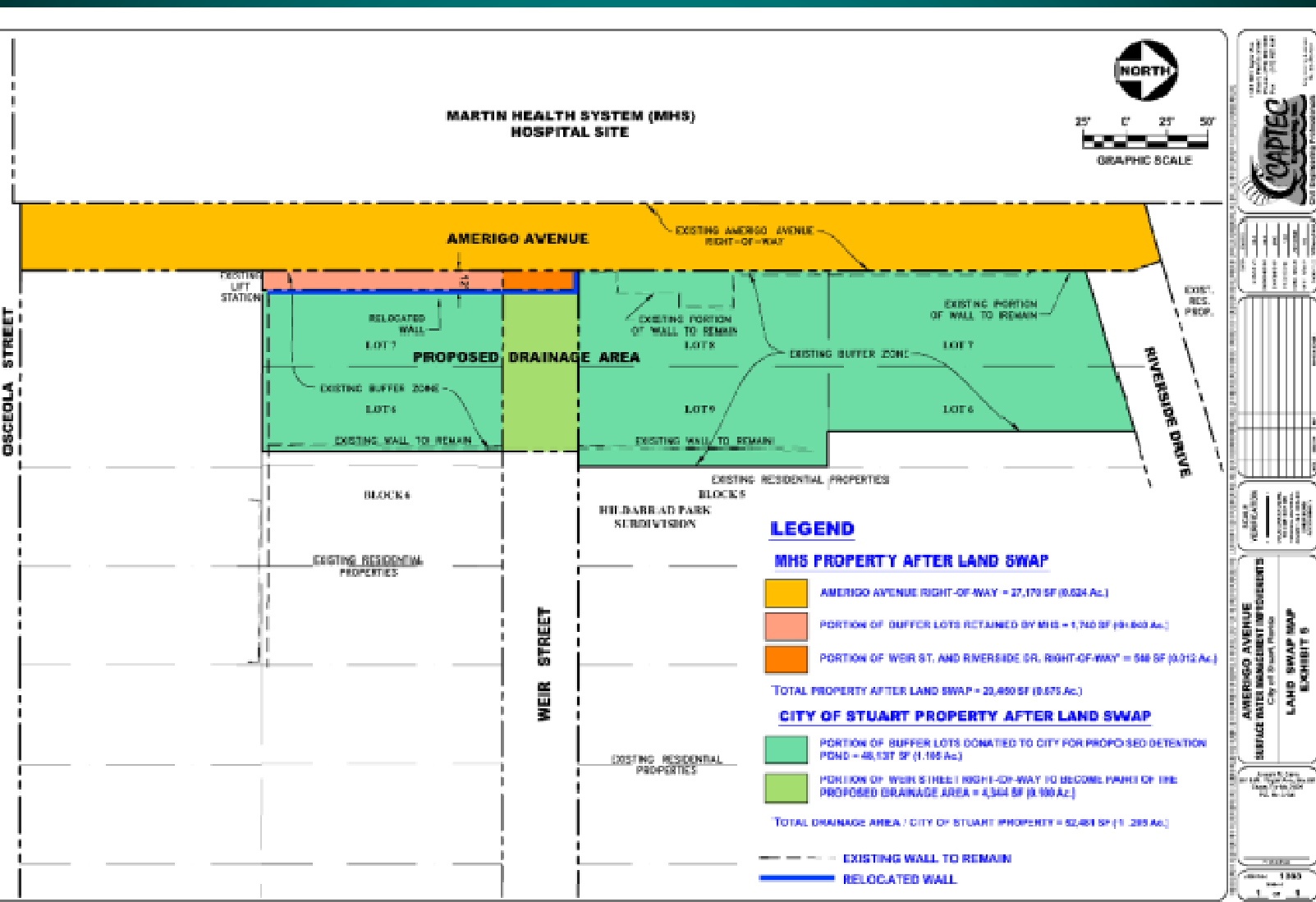
Landscape Plan



MARTIN HEALTH SYSTEM

TREE PROTECTION & RELOCATION PLAN

Land Swap Map



Cost Share Analysis

Run-off Volume Analysis

Basin	Responsibility	25 Yr-3 dy Volume (CF)	25 Yr-3 dy Volume (Ac-Ft)
Amerigo	COS	27,000	0.62
Osceola Street	COS	150,308	3.45
Weir Street	COS	26,240	0.60
TOTAL:		203,548	4.67

Amerigo	MMHS	2,333	0.05
Harrell	MMHS	35,393	0.81
MMHS Basin G	MMHS	23,048	0.53
TOTAL:		60,774	1.40

Total Runoff 264,322 6.07

COS portion: 77.0%  75%
MMHS portion: 23.0%  25%

Area Analysis

Basin	Responsibility	Impervious Area
Amerigo	COS	0.77 Ac.
Osceola Street	COS	5.00 Ac.
Weir Street	COS	1.15 Ac.
TOTAL:		6.92 Ac.

Amerigo	MMHS	0.07 Ac.
Harrell	MMHS	1.00 Ac.
MMHS Basin G	MMHS	0.66 Ac.
TOTAL:		1.73 Ac.

Total Area 8.65 Ac.

COS portion: 80.0%  80%
MMHS portion: 20.0%  20%

Impervious Area Analysis

	Basin	Responsibility	Impervious Area
COS	Amerigo	COS	0.59 Ac.
	Osceola Street	COS	3.56 Ac.
	Weir Street	COS	0.42 Ac.
	TOTAL:		4.57 Ac.

MMHS	Amerigo	MMHS	0.07 Ac.
	Harrell	MMHS	0.80 Ac.
	MMHS Basin G	MMHS	0.65 Ac.
	TOTAL:		1.52 Ac.

Total Impervious 6.09 Ac.

COS portion: 75.1%  75%
MMHS portion: 24.9%  25%

Estimated Project Cost

		Estimate
Design, Survey, Planning, Permitting, CEI (Public Meetings)		\$170,000
Construction		\$600,000
TOTAL		\$770,000

Estimated Pollutant Load Reduction

		Total Acres:	9.9 Acres				
ESTIMATED POLLUTANT LOAD REDUCTION:							
BMPs Installed		TSS lbs/yr	TP lbs/yr	TN lbs/yr	BOD lbs/yr	Other lbs/yr	Other lbs/yr
Dry Detention						Lead	Zinc
Pollutant Loads	Pre-Project	1,660.96	9.15	62.28	281.18	0.026	3.66
	Post-Project	705.91	6.77	43.60	205.26	0.013	2.92
	Load Reduction	955.05	2.38	18.68	75.92	0.013	0.73
	% Reduction	57.5%	26.0%	30.0%	27.0%	50.0%	20.0%
BMPs Installed		TSS lbs/yr	TP lbs/yr	TN lbs/yr	BOD lbs/yr	Other lbs/yr	Other lbs/yr
Exfiltration						Lead	Zinc
Pollutant Loads	Pre-Project	705.91	6.77	43.60	205.26	0.013	2.92
	Post-Project	176.48	2.71	19.62	205.26	0.005	1.02
	Load Reduction	529.43	4.06	23.98	0.00	0.008	1.90
	% Reduction	75.0%	60.0%	55.0%	0.0%	0.0%	0.0%
TOTAL		TSS lbs/yr	TP lbs/yr	TN lbs/yr	BOD lbs/yr	Other lbs/yr	Other lbs/yr
						Lead	Zinc
Pollutant Loads	Pre-Project	1,660.96	9.15	62.28	281.18	0.026	3.66
	Post-Project	176.48	2.71	19.62	205.26	0.005	1.02
	Load Reduction	1,484.48	6.44	42.66	75.92	0.022	2.63
	% Reduction	89.4%	70.4%	68.5%	27.0%	82.5%	72.0%
Model used: Spreadsheet Tool for Estimating Pollutant Load (STEPL, 2007)							

Amerigo/Osceola Pre-Project



Amerigo Pump Station



City of Stuart
ainfall Data from
Water Treatment
Plant

December, 2011	Rainfall Inches
1	0
2	0
2	0
4	0
5	0
6	0
7	0
8	0
9	0.1
10	6.48
11	0.3
12	0.13
13	0.11
14	0.11
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0.04
27	0.11
28	0
29	0
30	0
31	0
Avg	0.24
Max	6.48
Min	0

December 10, 2011
± 6 Inches Rainfall in 6 Hours



2 Feet of Debris at Pump Station after Water Receded



12.10.2011 11:19

After Debris Cleanup



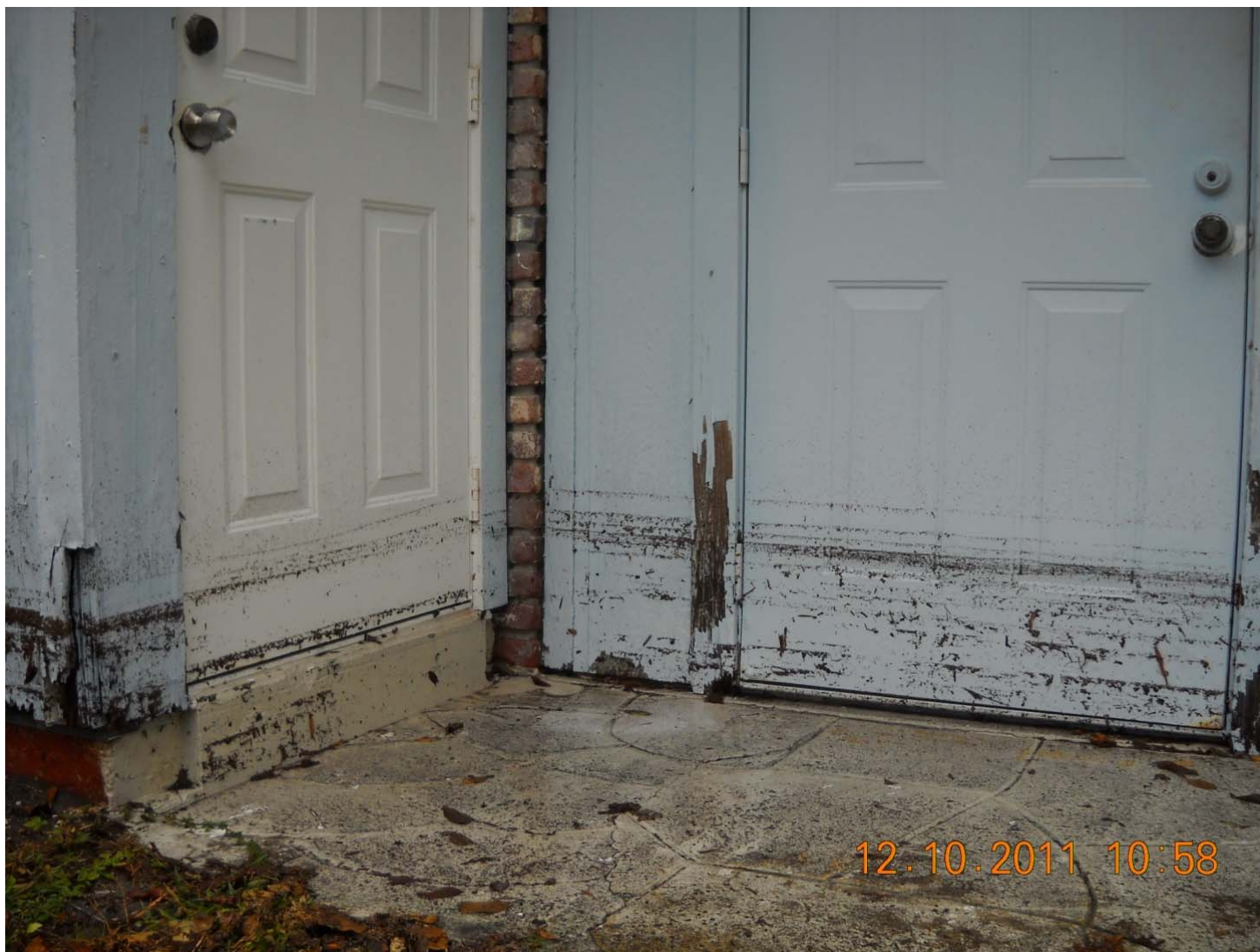
707 Building (Pre-Project)



Back Yard of 707 Building



Watermark at 707 Building



707 Building Site Post Project



Amerigo Ave Preconstruction



Retention Pond Construction



Retention Pond Looking South



Construction



Today



Control Structure Elevations

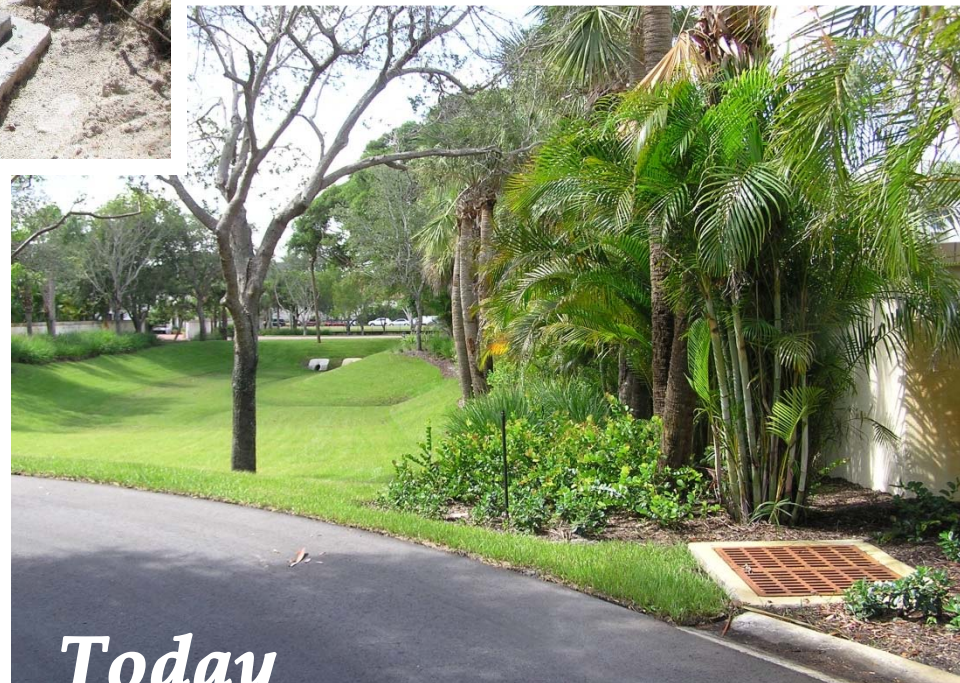
Grate: 13.60

Weir: 9.55

Weir Notch: 7.50

Pond Bottom: 5.00

Construction



Today

Exfiltration Trench Construction



Exfiltration Pipes

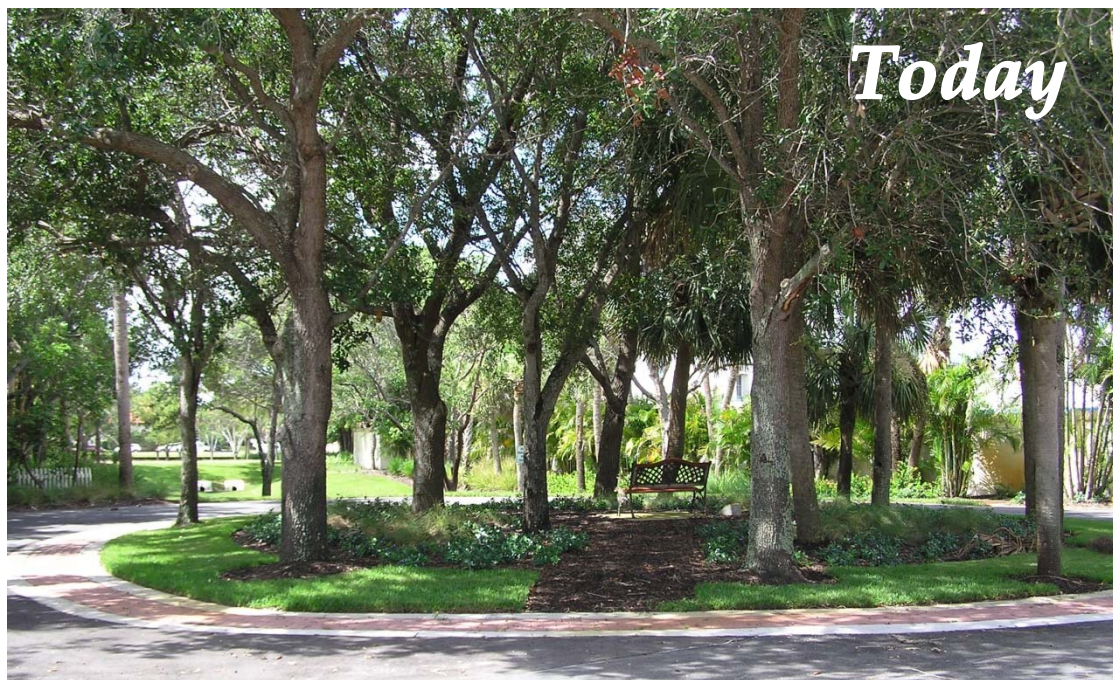


CONSTRUCTION OF EXFILTRATION PIPES

Riverside Drive Circle



Construction



Today

Over Installation at Weir St Intersection





*Pavers
Completed*



Retention Pond - South View



Retention Pond - North View
1.26 Acre Pond
1.0 ac-ft Storage



SE Amerigo Avenue South View - Today



Amerigo/Osceola – North View Today

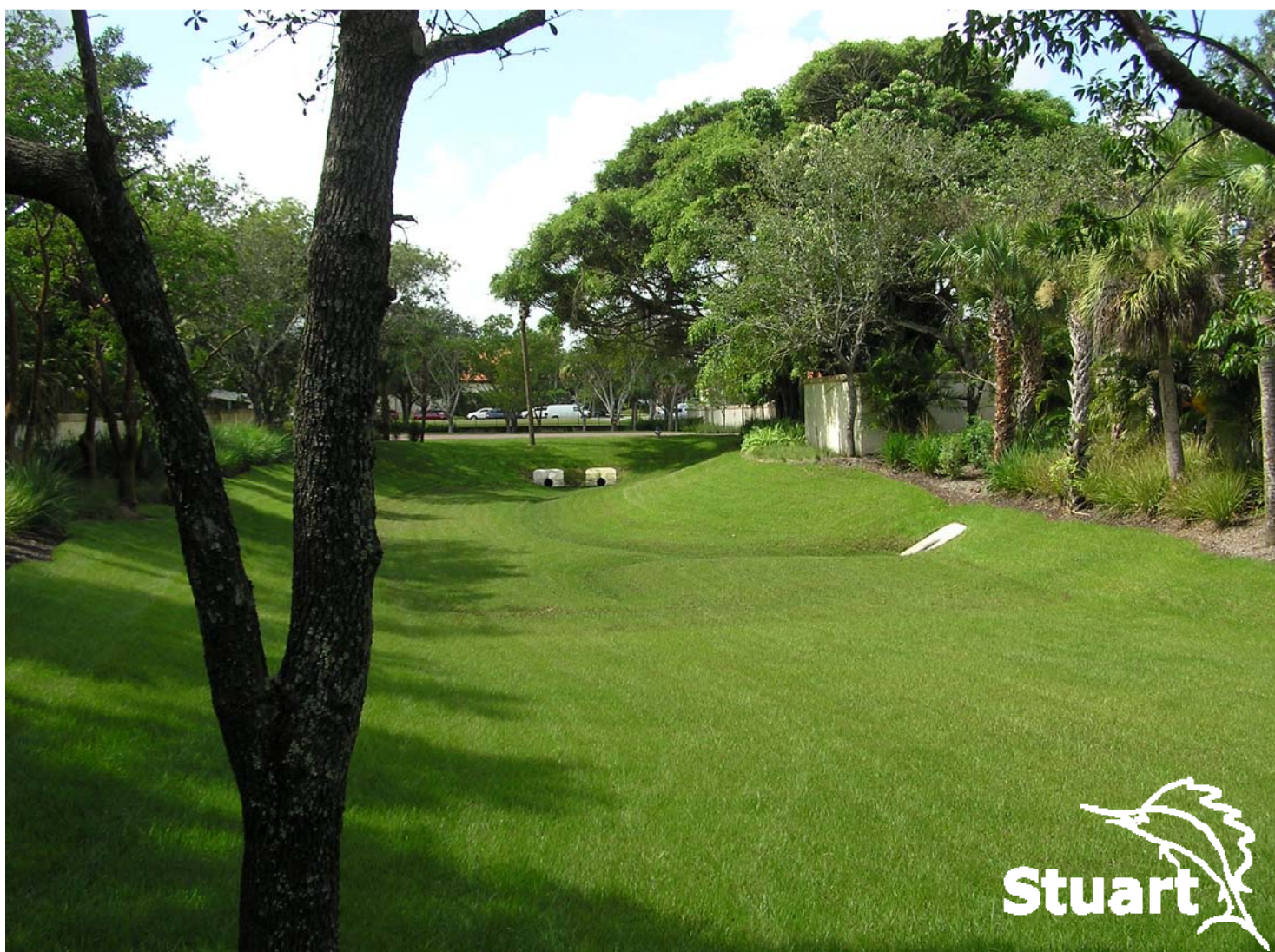


Final Cost Allocation & Funding Sources

FUNDING SOURCE	COST
City - Infrastructure Tax*	\$75,000
City - Stormwater Utility*	\$225,000
MMHS	\$434,931
SFWMD - Statewide Surface Restoration	\$56,750
FINAL COST	\$791,681

* NOTE: City Cost Not To Exceed \$300,000

*Amerigo Avenue Drainage Improvement Project
Completed March, 2014*



Stuart 