

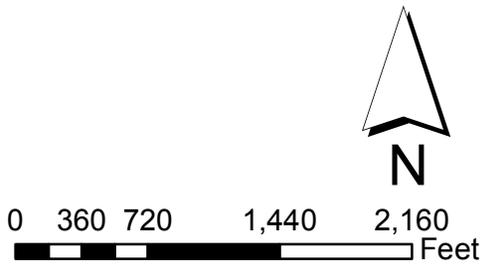
Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



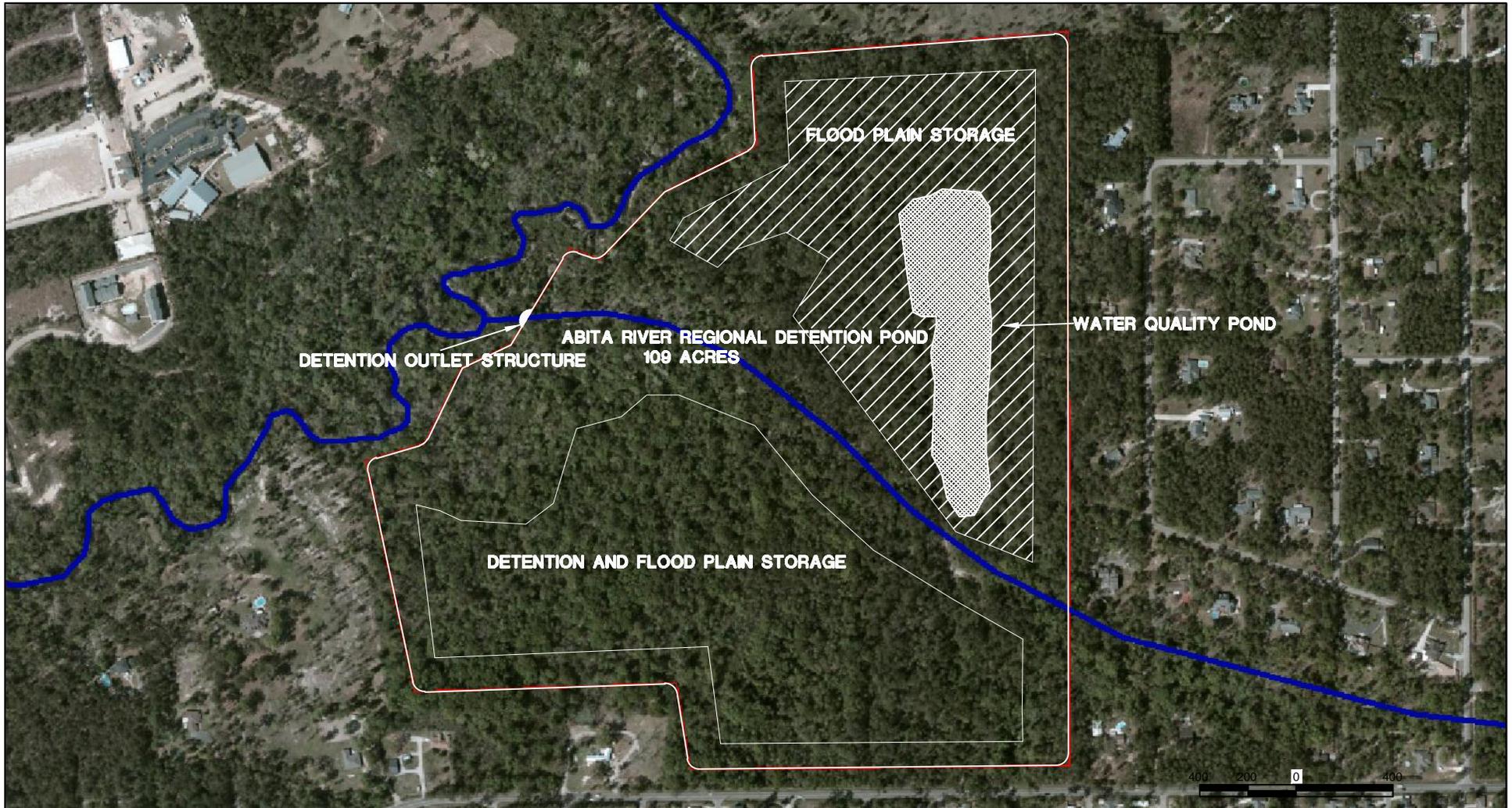
CONSTRUCT A POND
TO DETAIN STORM
WATER IN ORDER TO
REDUCE PEAK DISCHARGES
ALONG THE WATERWAY

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



STORM WATER POND-ABITA RIVER

ST. TAMMANY PARISH
WATERSHED STUDY



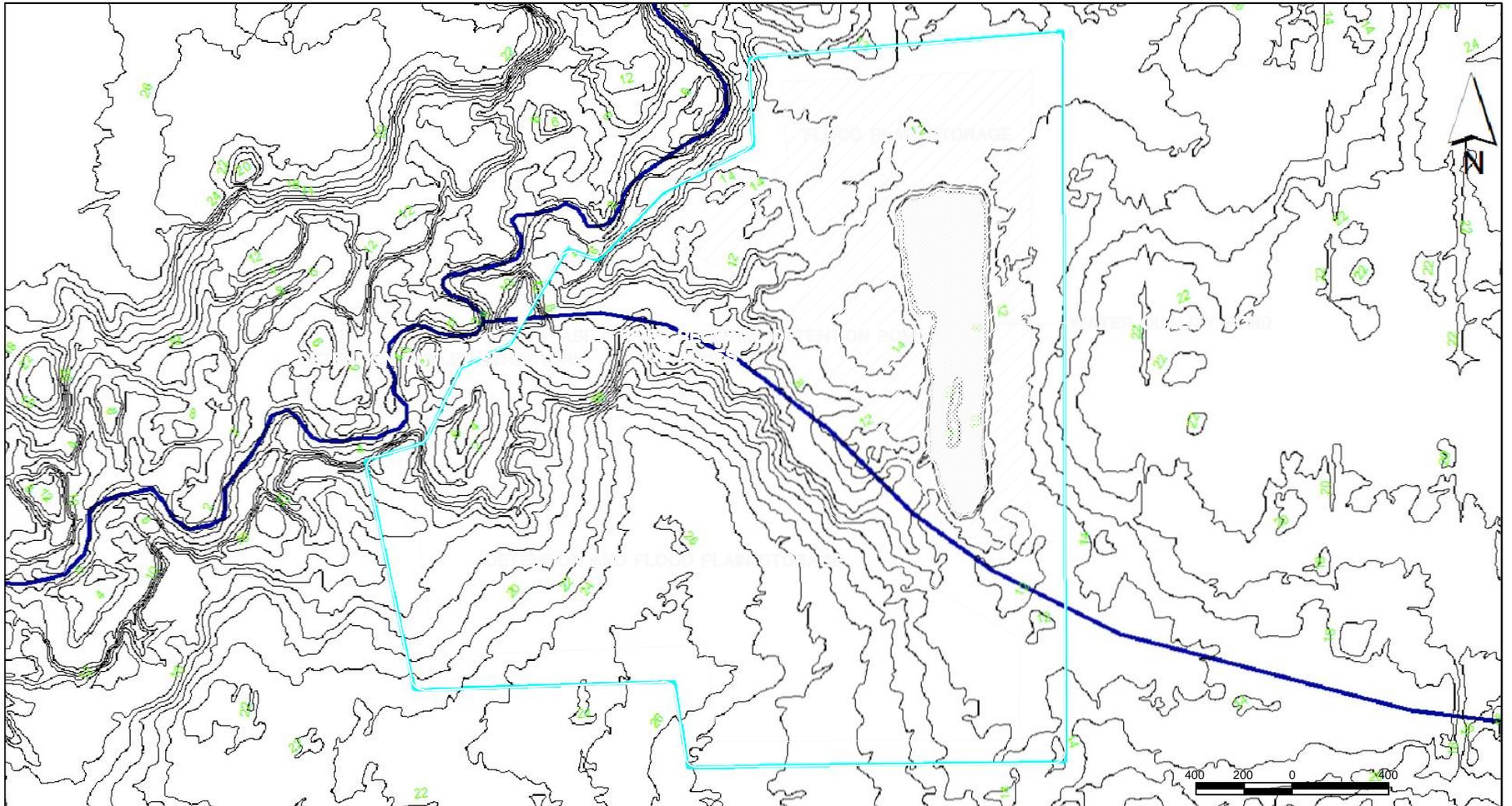
TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

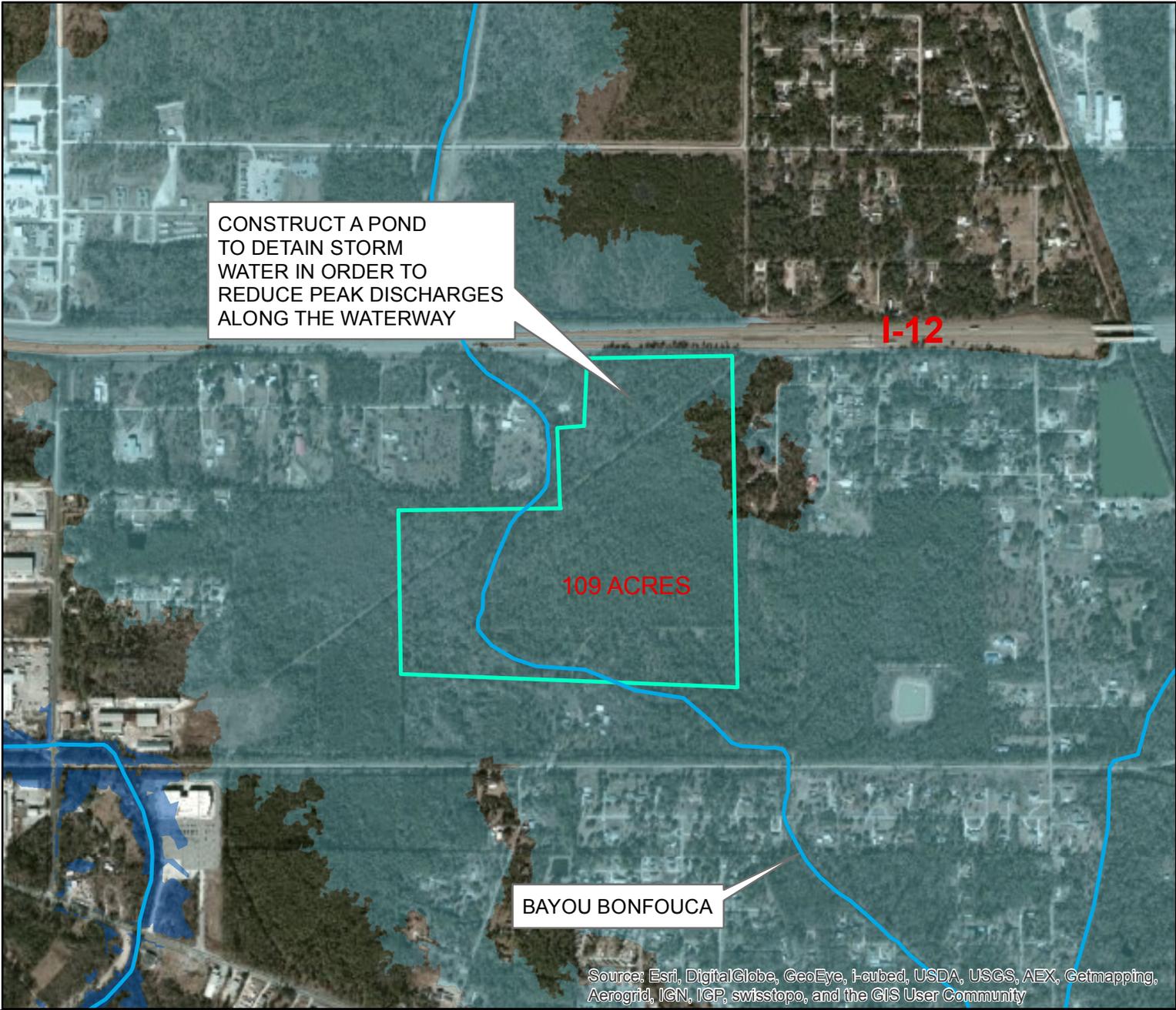
Project: Abita River Regional Detention Pond

Waterway: Abita River

Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$450,000	\$450,000	
Land Clearing	AC	109	\$5,000	\$545,000	
Excavation	CY	1,150,000	\$8	\$9,200,000	
Outlet Structure	EA	1	\$20,000	\$20,000	
Erosion Control	LS	1	\$50,000	\$50,000	
Sod Side Slopes	SF	302,851	\$0.75	\$227,138	
Piping	LF	150	\$300	\$45,000	
				Subtotal	\$10,537,138
				15% Contingency	\$1,580,571
				Subtotal	\$12,117,709

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$1,211,771	\$1,211,771	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$363,531	\$363,531	
Land Acquisition	AC	109	\$40,000	\$4,360,000	
Mitigation	AC	75	\$35,000	\$2,625,000	
				Subtotal	\$8,740,302
				Grand Total	\$20,858,011



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



BAYOU BONFOUCA REGIONAL DETENTION POND

**ST. TAMMANY PARISH
WATERSHED STUDY**



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA

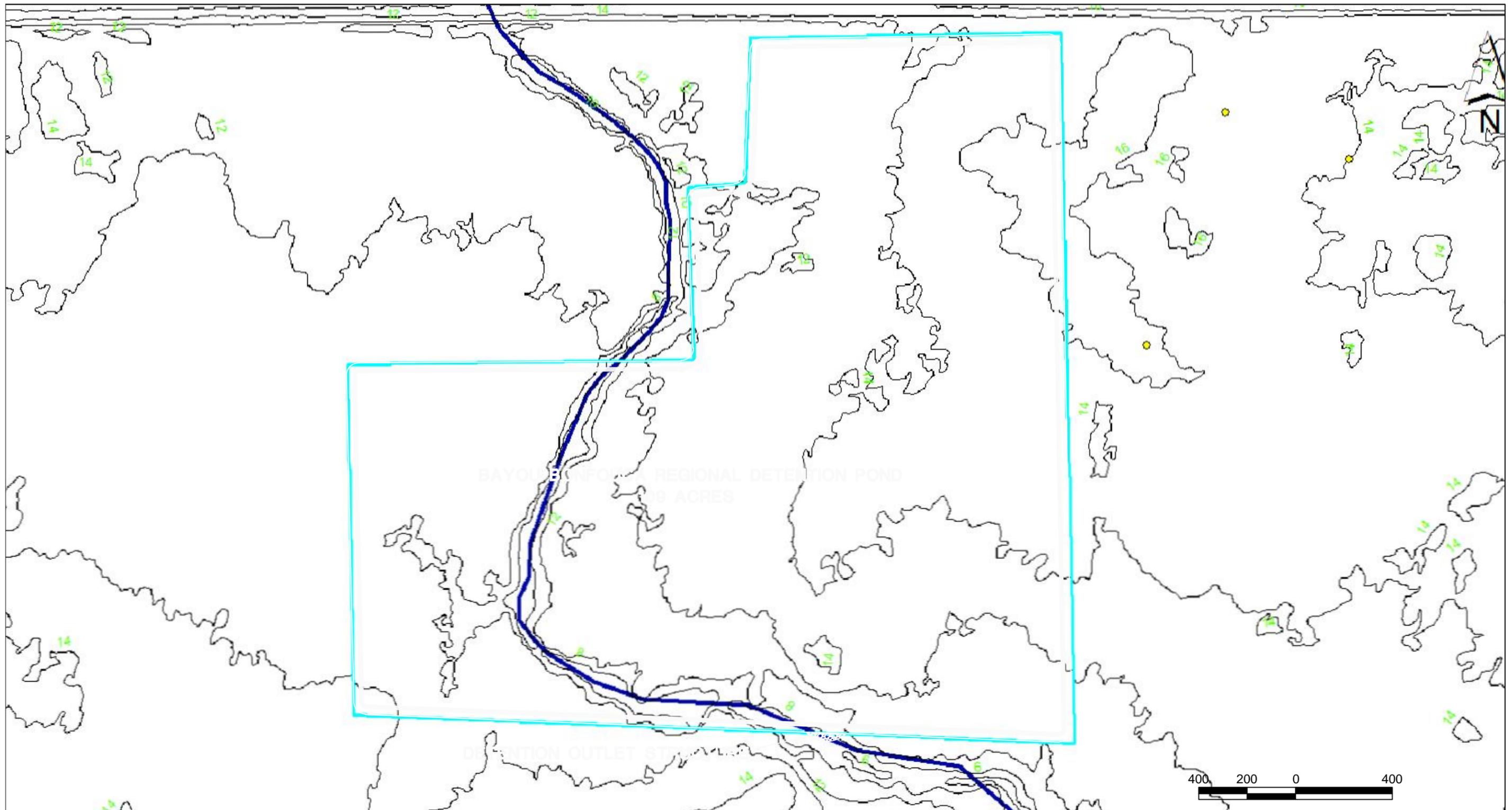


DATE:

12-1-2014

St. Tammany Parish Watershed
Study

FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



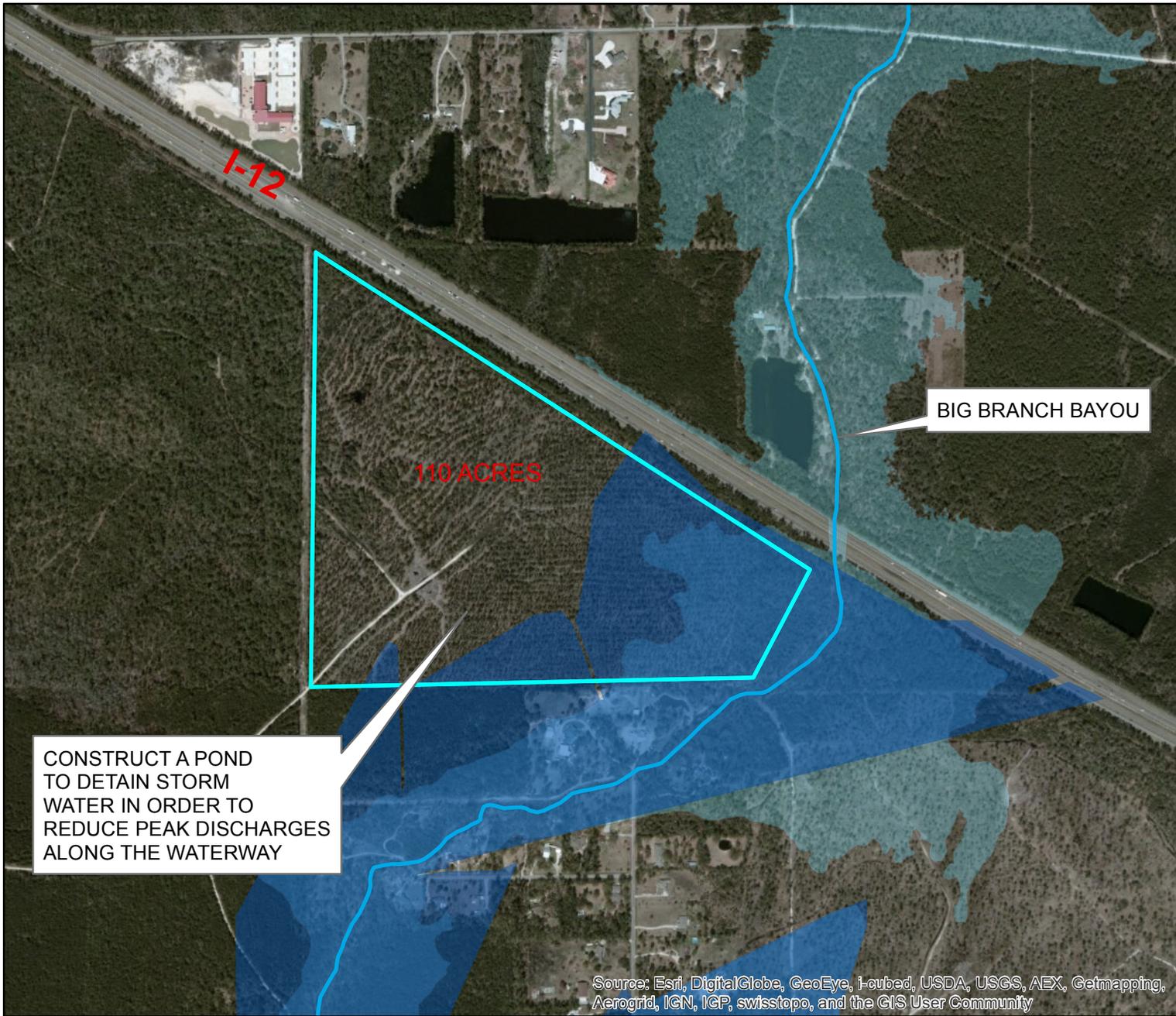
DATE:
12-1-2014
St. Tammany Parish Watershed
Study
FIGURE:

Project: Bayou Bonfouca Regional Detention Pond

Waterway: Bayou Bonfouca
 Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$650,000	\$650,000	
Land Clearing	AC	109	\$5,000	\$545,000	
Excavation	CY	1,230,973	\$10	\$12,309,733	
Outlet Structure	EA	1	\$20,000	\$20,000	
Erosion Control	LS	1	\$50,000	\$50,000	
Sod Side Slopes	SF	211,996	\$0.75	\$158,997	
Piping	LF	0	\$300	\$0	
				Subtotal	\$13,733,730
				15% Contingency	\$2,060,060
				Subtotal	\$15,793,790

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$1,579,379	\$1,579,379	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$473,814	\$473,814	
Land Acquisition	AC	109	\$40,000	\$4,360,000	
Mitigation	AC	80	\$35,000	\$2,800,000	
				Subtotal	\$9,393,193
				Grand Total	\$25,186,983



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



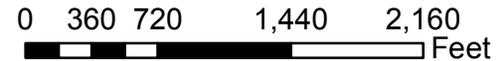
CONSTRUCT A POND TO DETAIN STORM WATER IN ORDER TO REDUCE PEAK DISCHARGES ALONG THE WATERWAY

110 ACRES

BIG BRANCH BAYOU

I-12

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



BAYOU LACOMBE REGIONAL DETENTION POND

ST. TAMMANY PARISH WATERSHED STUDY



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
COASTAL PROTECTION AND RESTORATION AUTHORITY

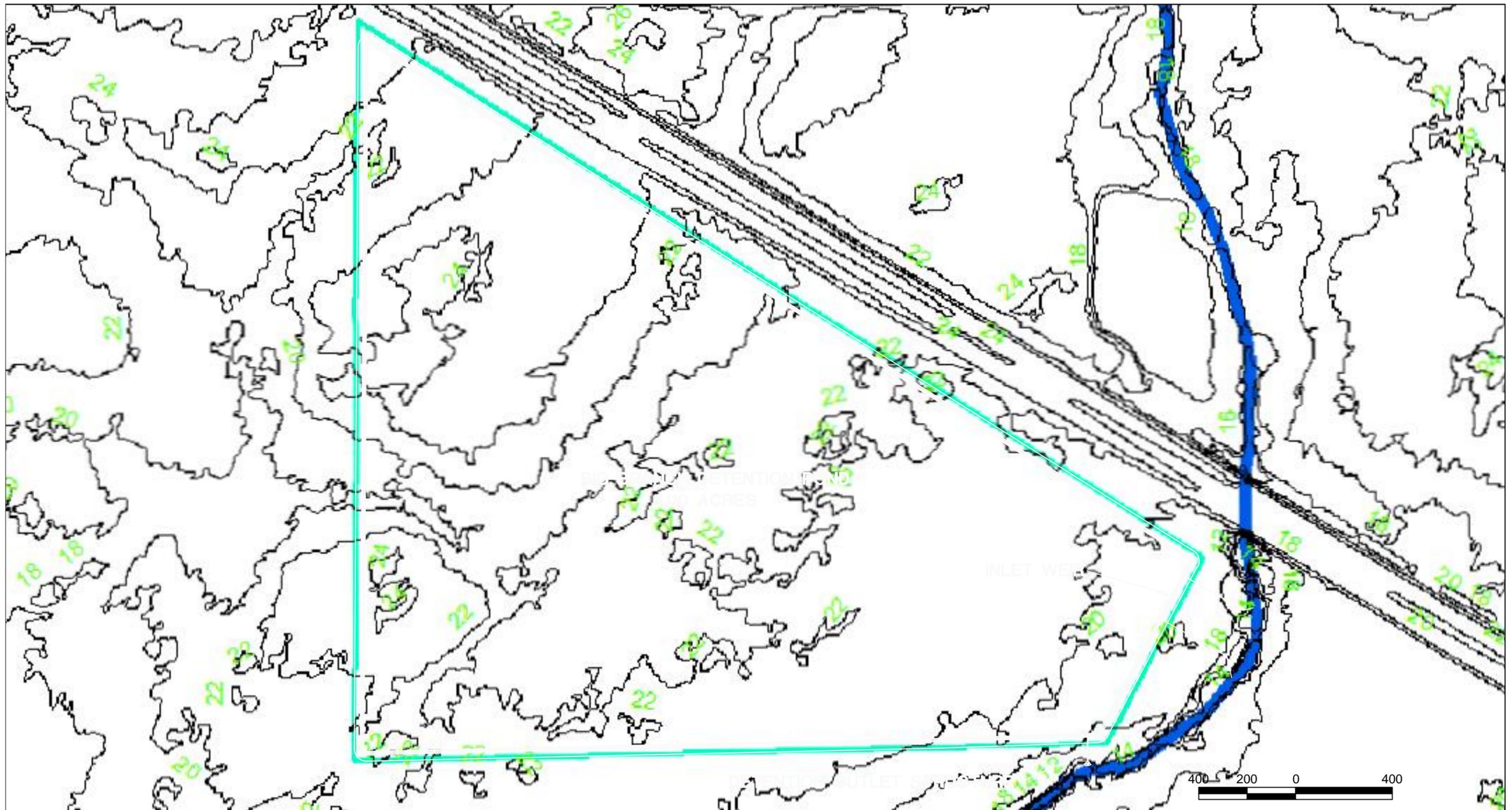
ST. TAMMANY PARISH, LOUISIANA



DATE:
12-1-2014

St. Tammany Parish Watershed
Study

FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



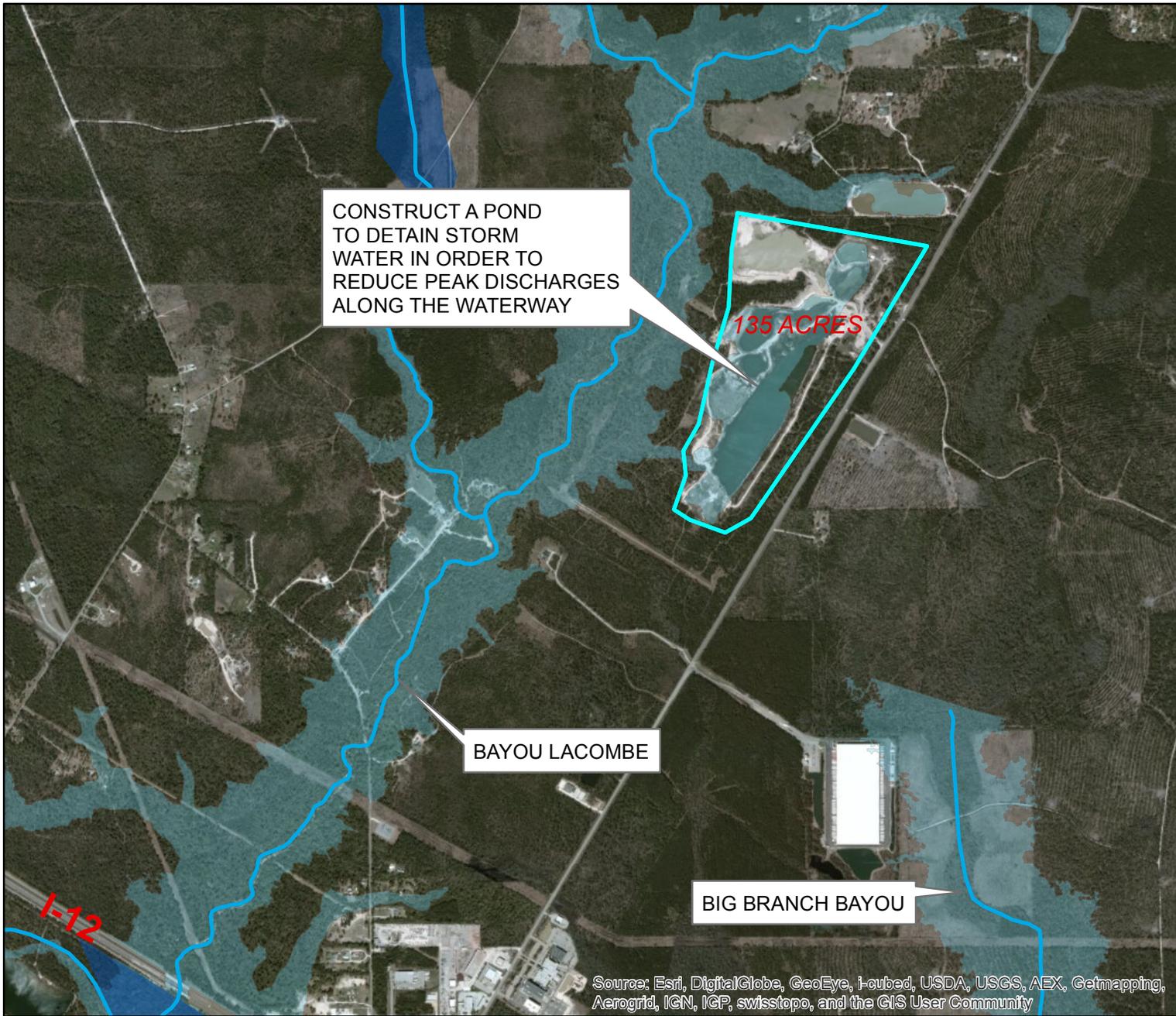
DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

Project: Big Branch Detention Pond

Waterway: Bayou Lacombe
 Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$575,000	\$575,000	
Land Clearing	AC	110	\$5,000	\$550,000	
Excavation	CY	1,419,733	\$8	\$11,357,867	
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000	
Erosion Control	LS	1	\$50,000	\$50,000	
Sod Side Slopes	SF	242,281	\$0.75	\$181,711	
Piping	LF	100	\$300	\$30,000	
				Subtotal	\$12,784,577
				15% Contingency	\$1,917,687
				Subtotal	\$14,702,264

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$1,470,226	\$1,470,226	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$441,068	\$441,068	
Land Acquisition	AC	110	\$40,000	\$4,400,000	
Mitigation	AC	70	\$35,000	\$2,450,000	
				Subtotal	\$8,941,294
				Grand Total	\$23,643,558



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



BAYOU LACOMBE_LA 434 DETENTION POND

ST. TAMMANY PARISH
WATERSHED STUDY

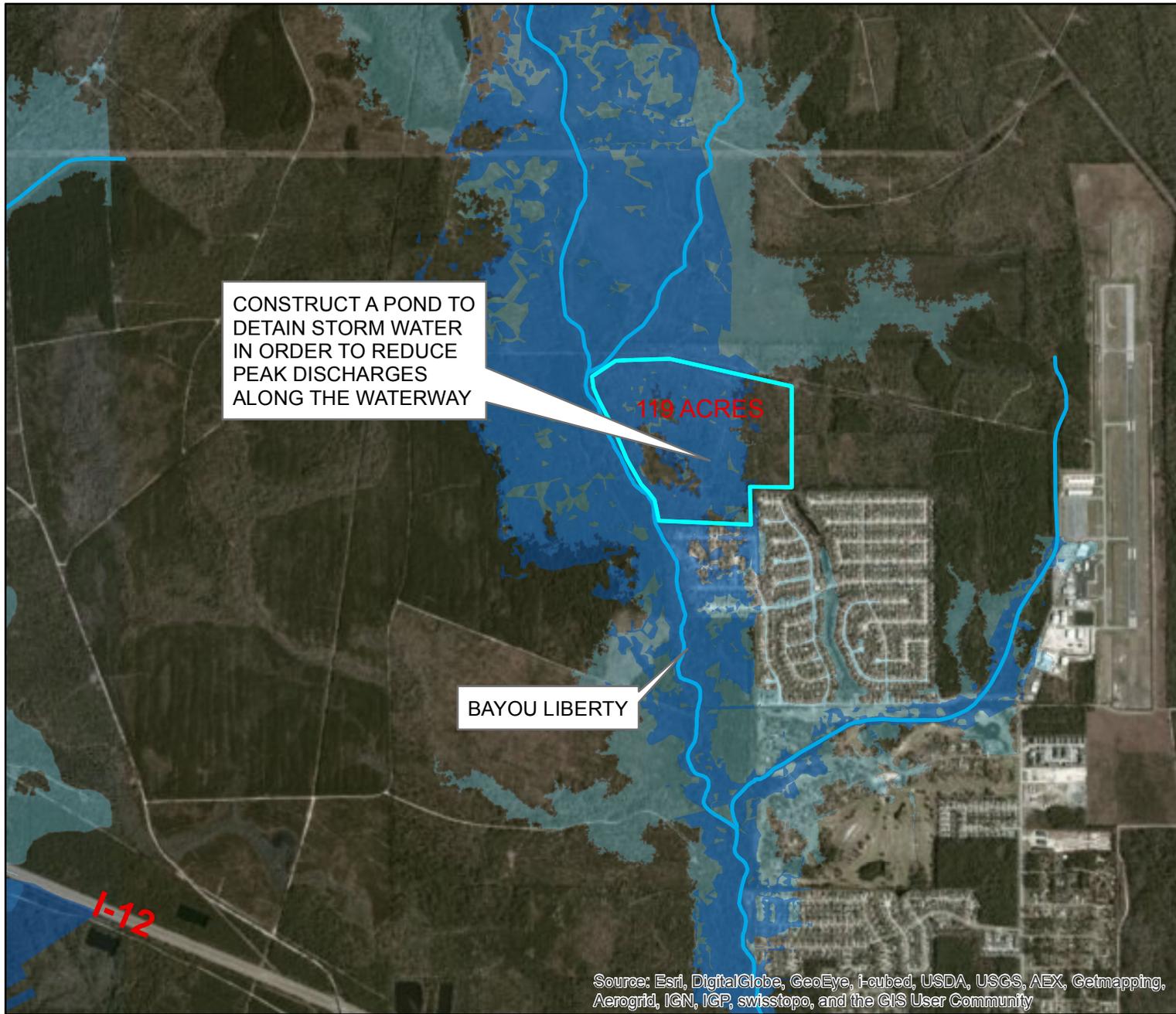
Project: Bayou Lacombe _LA 434 Detention Pond

Waterway: Bayou Lacombe
 Project Type: Storm Water Pond

Construction Funding				
Item	Unit	Quantity	Unit Cost	Total Cost
Clearing and Grubbing for Constructio & ESMTS	AC	14	\$5,000	\$70,000
Drainage Excavation	CY	800000	\$8	\$6,400,000
Riprap	SY	4,500	\$50	\$225,000
Geotextile Fabric	SY	11000	\$2.50	\$27,500
Pavement Removal & Replacement	SY	500	\$65	\$32,500
Remove Existing 36"x24" ERCP	LF	50	\$17.55	\$878
Reinforced Concrete Box Culverts (3 8x4 @ 60 L.F.)	LF	320	\$560	\$179,200
Stone Backfill	SY	400	\$7.30	\$2,920
Temporary Silt Fence	LF	15000	\$1.95	\$29,250
Seed & Mulch Disturbed Areas	AC	10	\$1,000	\$10,000
Surveying	LS	1	\$5,000	\$5,000
Geotechnical Testing/Lab	LS	1	\$1,000	\$1,000
Mobilization	LS	1	\$46,418	\$46,418
			Subtotal	\$7,029,666
			10% Contingency	\$702,967
			Subtotal	\$7,732,632

Soft Cost				
Item	Unit	Quantity	Unit Cost	Total Cost
Engineering & Permittingn (15%)	LS	1	\$84,249	\$84,249
Wetland Impacts	AC	0.5	\$25,000	\$12,500
			Subtotal	\$96,749
			Grand Total	\$7,829,381

*Prices were taken from the St. Tammany Parish South Central Study Area Drainage Master Plan from August 2010 done by Neel Schaffer, Inc.



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE

CONSTRUCT A POND TO
DETAIN STORM WATER
IN ORDER TO REDUCE
PEAK DISCHARGES
ALONG THE WATERWAY

119 ACRES

BAYOU LIBERTY

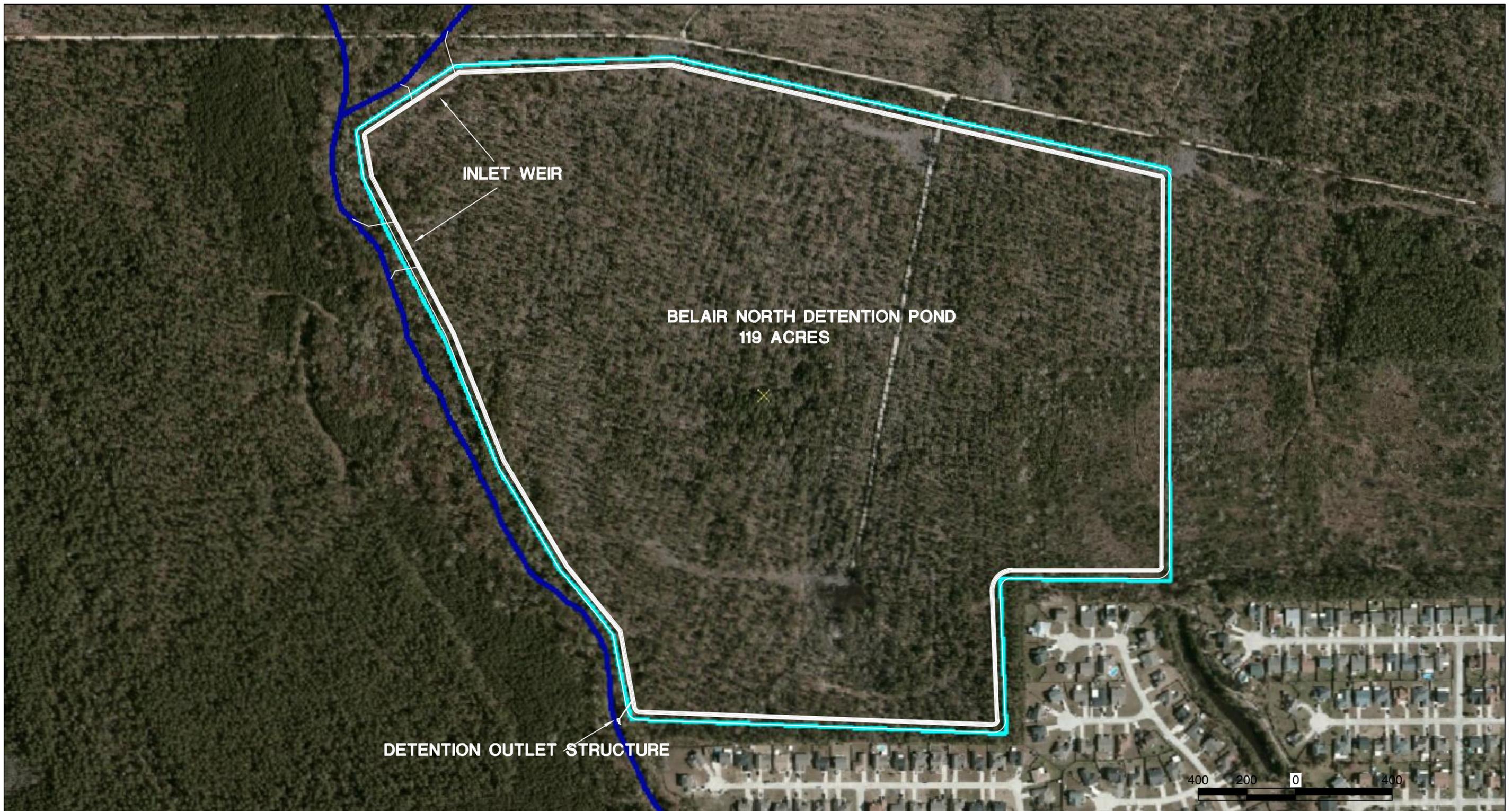
I-12

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



STORM WATER POND NEAR BAYOU LIBERTY BELAIR NORTH

ST. TAMMANY PARISH
WATERSHED STUDY



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
COASTAL PROTECTION AND RESTORATION AUTHORITY

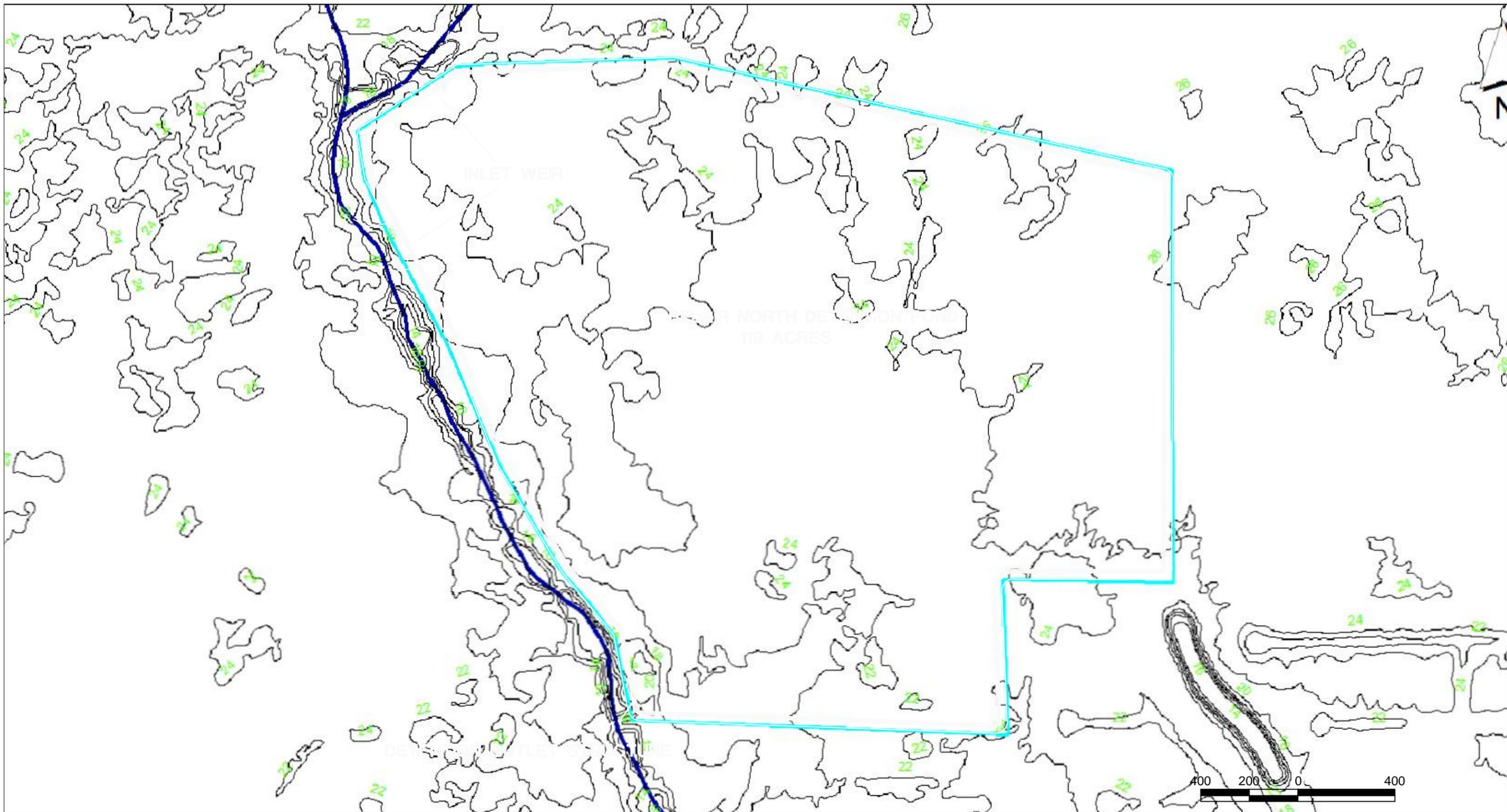
ST. TAMMANY PARISH, LOUISIANA



DATE:
12-1-2014

St. Tammany Parish Watershed
Study

FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



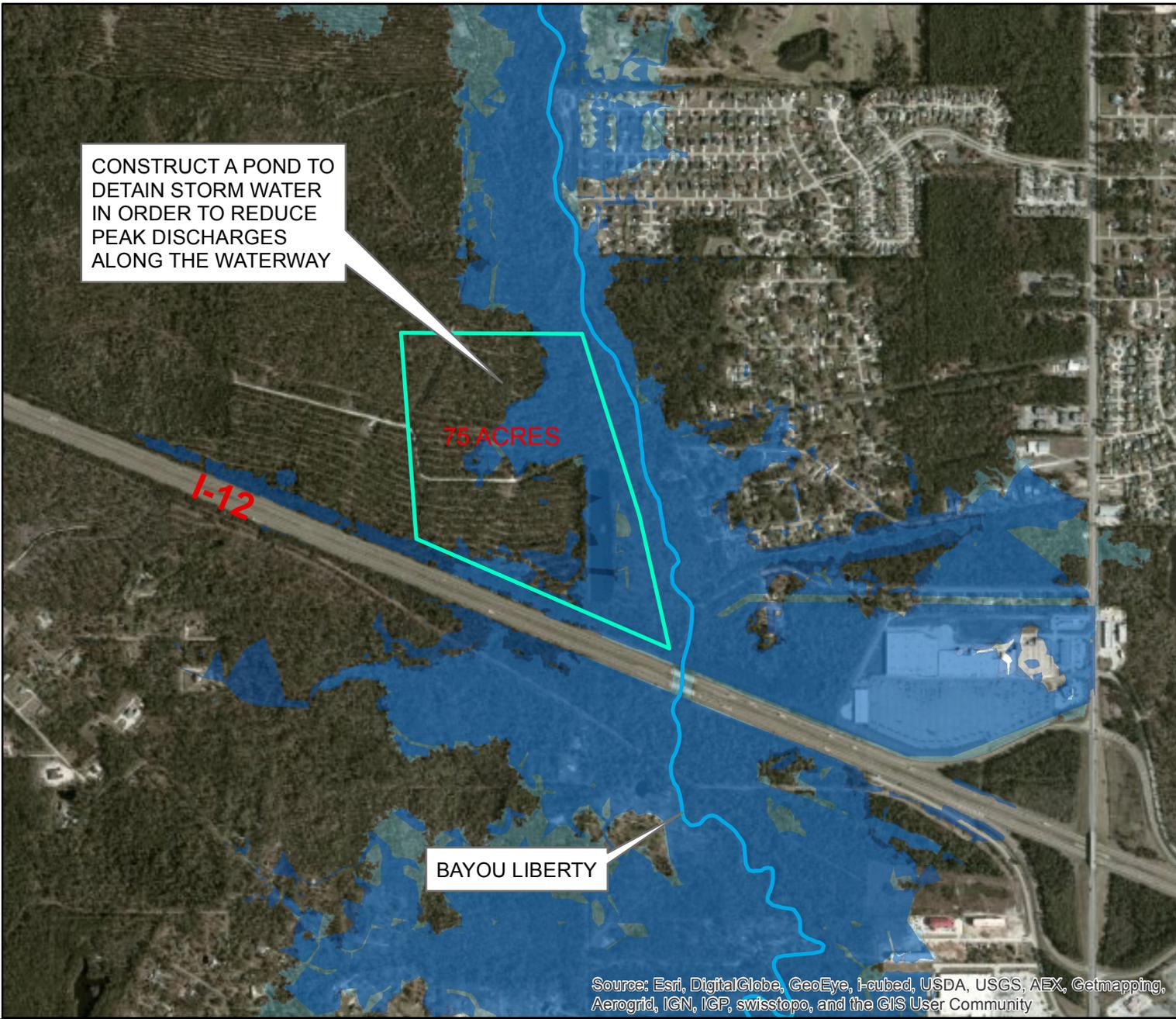
DATE:
12-1-2014
St. Tammany Parish Watershed
Study
FIGURE:

Project: Belair North Detention Pond

Waterway: Bayou Liberty
 Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$755,000	\$755,000	
Land Clearing	AC	119	\$5,000	\$595,000	
Excavation	CY	1,535,893	\$10	\$15,358,933	
Inlet Structure & Outlet Structure	EA	3	\$20,000	\$60,000	
Erosion Control	LS	1	\$50,000	\$50,000	
Sod Side Slopes	SF	242,281	\$0.75	\$181,711	
Piping	LF	250	\$300	\$75,000	
				Subtotal	\$17,075,644
				15% Contingency	\$2,561,347
				Subtotal	\$19,636,991

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$1,963,699	\$1,963,699	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$589,110	\$589,110	
Land Acquisition	AC	119	\$40,000	\$4,760,000	
Mitigation	AC	85	\$35,000	\$2,975,000	
				Subtotal	\$10,467,809
				Grand Total	\$30,104,800

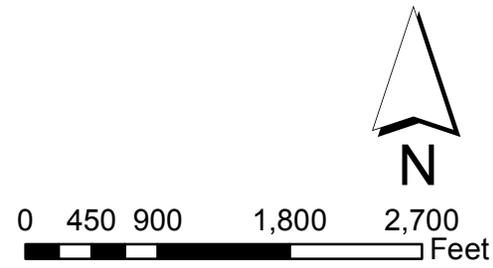


Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



STORM WATER POND NEAR BAYOU LIBERTY BELAIR SOUTH

ST. TAMMANY PARISH
WATERSHED STUDY



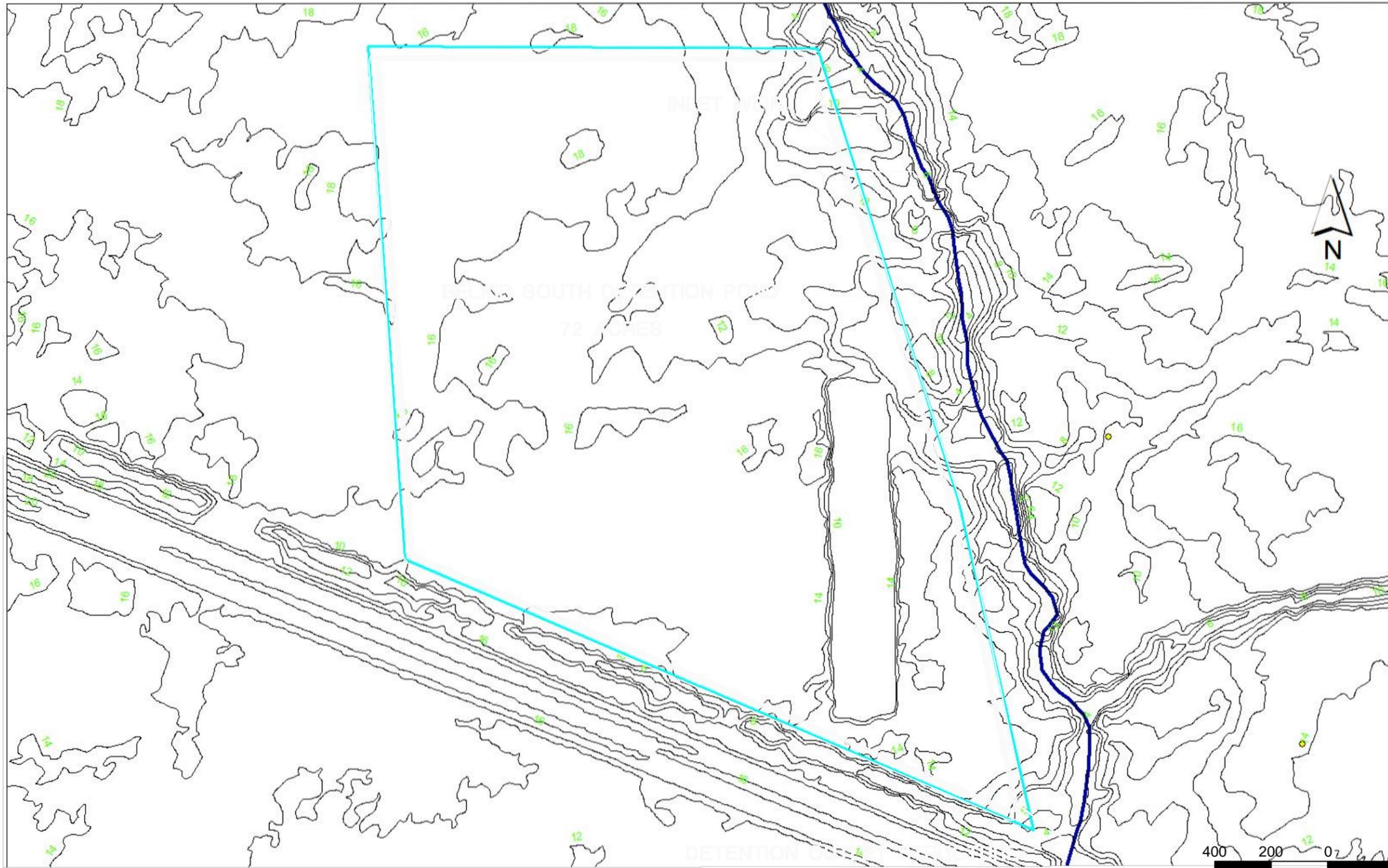
TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

Project: Belair South Detention Pond

Waterway: Bayou Liberty
 Project Type: Storm Water Pond

Construction Funding				
Item	Unit	Quantity	Unit Cost	Total Cost
Mobilization	LS	1	\$501,000	\$501,000
Land Clearing	AC	72	\$5,000	\$360,000
Excavation	CY	1,161,600	\$8	\$9,292,800
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000
Erosion Control	LS	1	\$30,000	\$30,000
Sod Side Slopes	SF	302,851	\$0.75	\$227,138
Piping	LF	250	\$300	\$75,000
			Subtotal	\$10,525,938
			15% Contingency	\$1,578,891
			Subtotal	\$12,104,829

Soft Cost				
Item	Unit	Quantity	Unit Cost	Total Cost
Engineering Design and Survey	LS	1	\$1,210,483	\$1,210,483
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000
Construction Inspection	LS	1	\$363,145	\$363,145
Land Acquisition	AC	72	\$40,000	\$2,880,000
Mitigation	AC	30	\$35,000	\$1,050,000
			Subtotal	\$5,683,628
			Grand Total	\$17,788,457



EXPAND AN EXISTING POND TO DETAIN STORM WATER IN ORDER TO REDUCE PEAK DISCHARGES ALONG THE WATERWAY

50 ACRES

HWY 437

LATICE BRANCH

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



STORM WATER POND- LATICE BRANCH

ST. TAMMANY PARISH WATERSHED STUDY



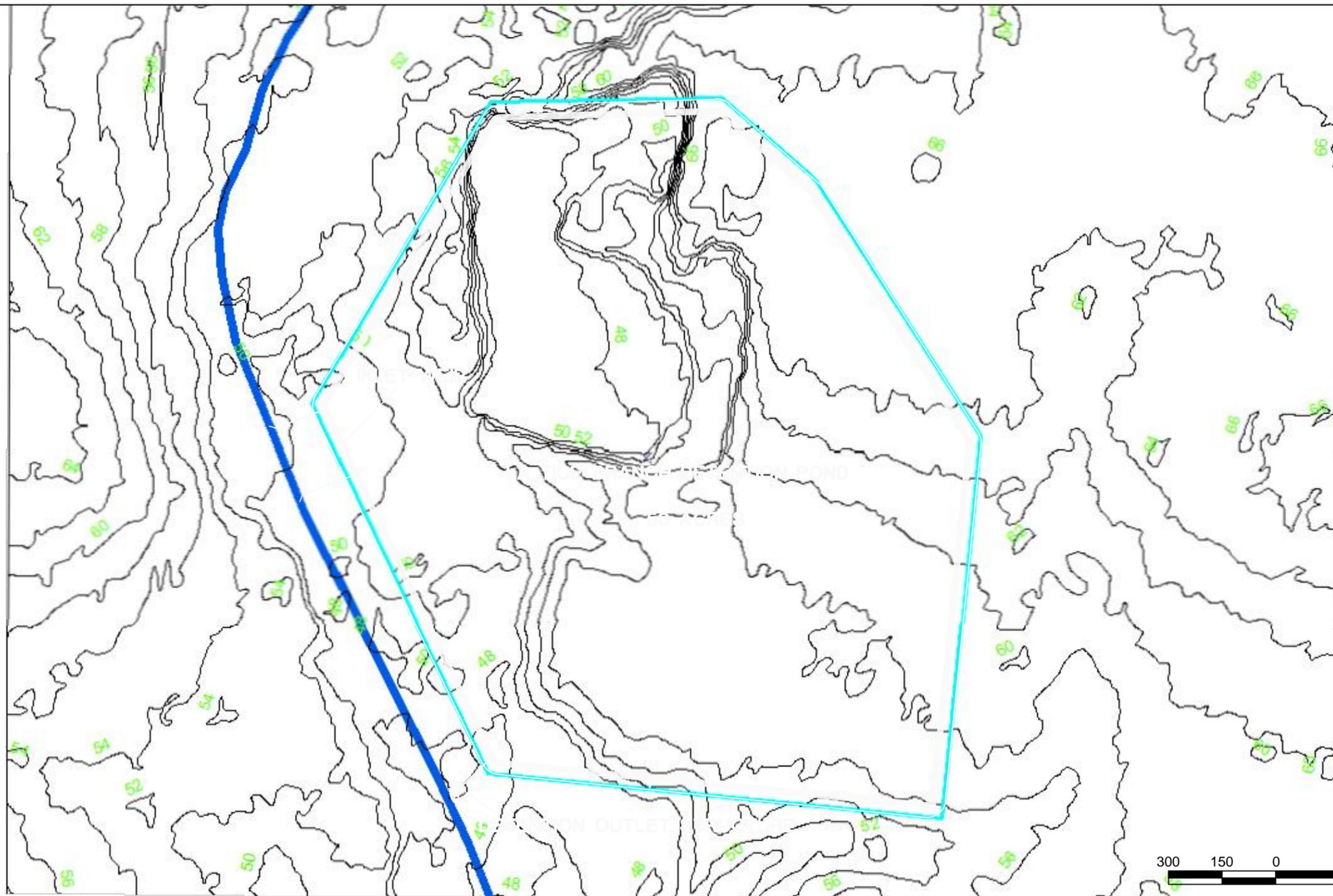
TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
12-1-2014

St. Tammany Parish Watershed
Study

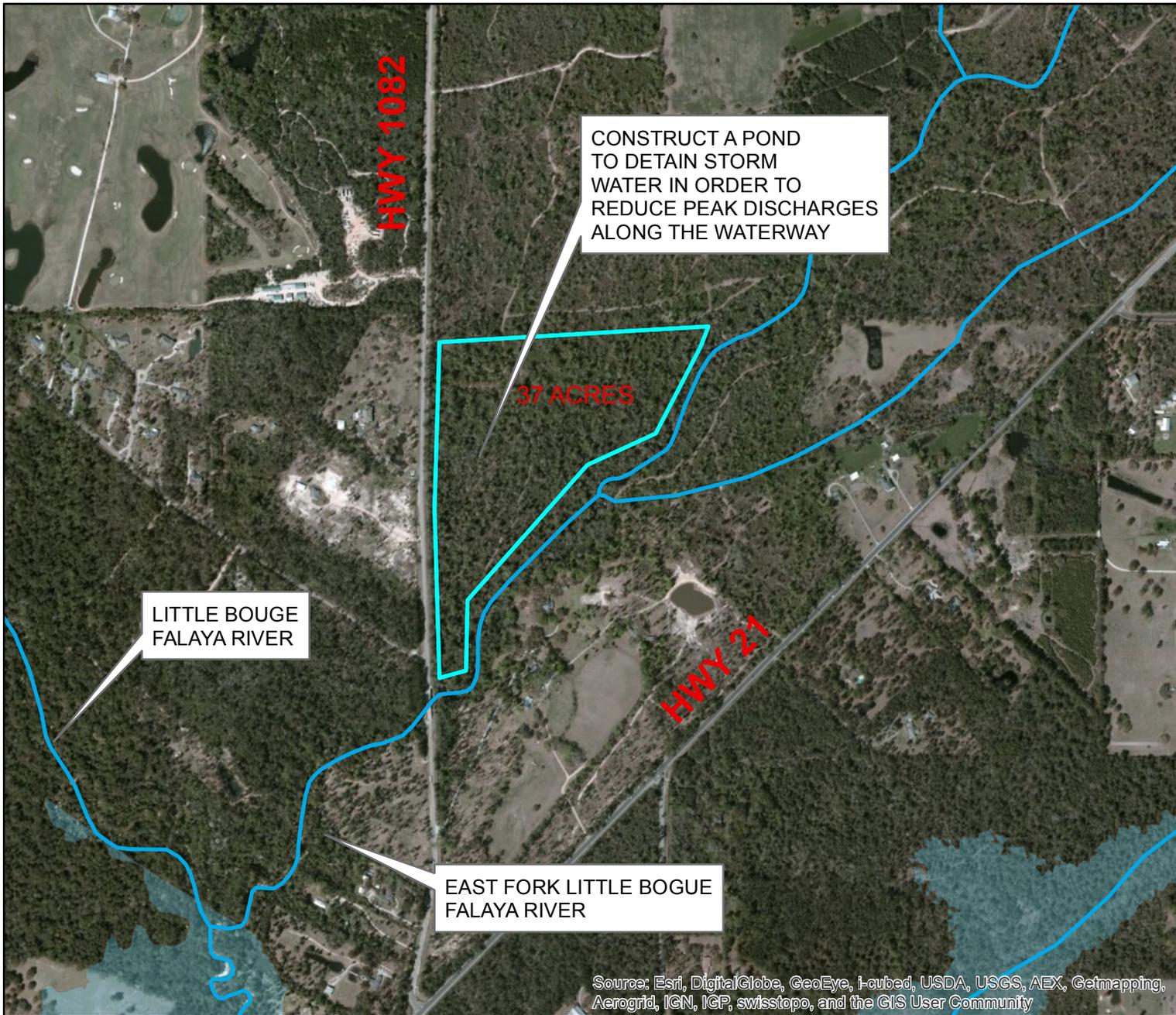
FIGURE:

Project: La Tice Branch Detention Pond
 Tributary to Bogue Falaya River

Waterway: La Tice Branch
 Project Type: Storm Water Pond

Construction Funding				
Item	Unit	Quantity	Unit Cost	Total Cost
Mobilization	LS	1	\$358,000	\$358,000
Land Clearing	AC	20	\$5,000	\$100,000
Excavation	CY	806,667	\$8	\$6,453,333
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000
Erosion Control	LS	1	\$30,000	\$30,000
Sod Side Slopes	SF	141,493	\$0.75	\$106,120
Piping	LF	100	\$300	\$30,000
			Subtotal	\$7,117,453
			15% Contingency	\$1,067,618
			Subtotal	\$8,185,071

Soft Cost				
Item	Unit	Quantity	Unit Cost	Total Cost
Engineering Design and Survey	LS	1	\$818,507	\$818,507
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000
Construction Inspection	LS	1	\$245,552	\$245,552
Land Acquisition	AC	50	\$40,000	\$2,000,000
Mitigation	AC	20	\$35,000	\$700,000
			Subtotal	\$3,944,059
			Grand Total	\$12,129,130



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE

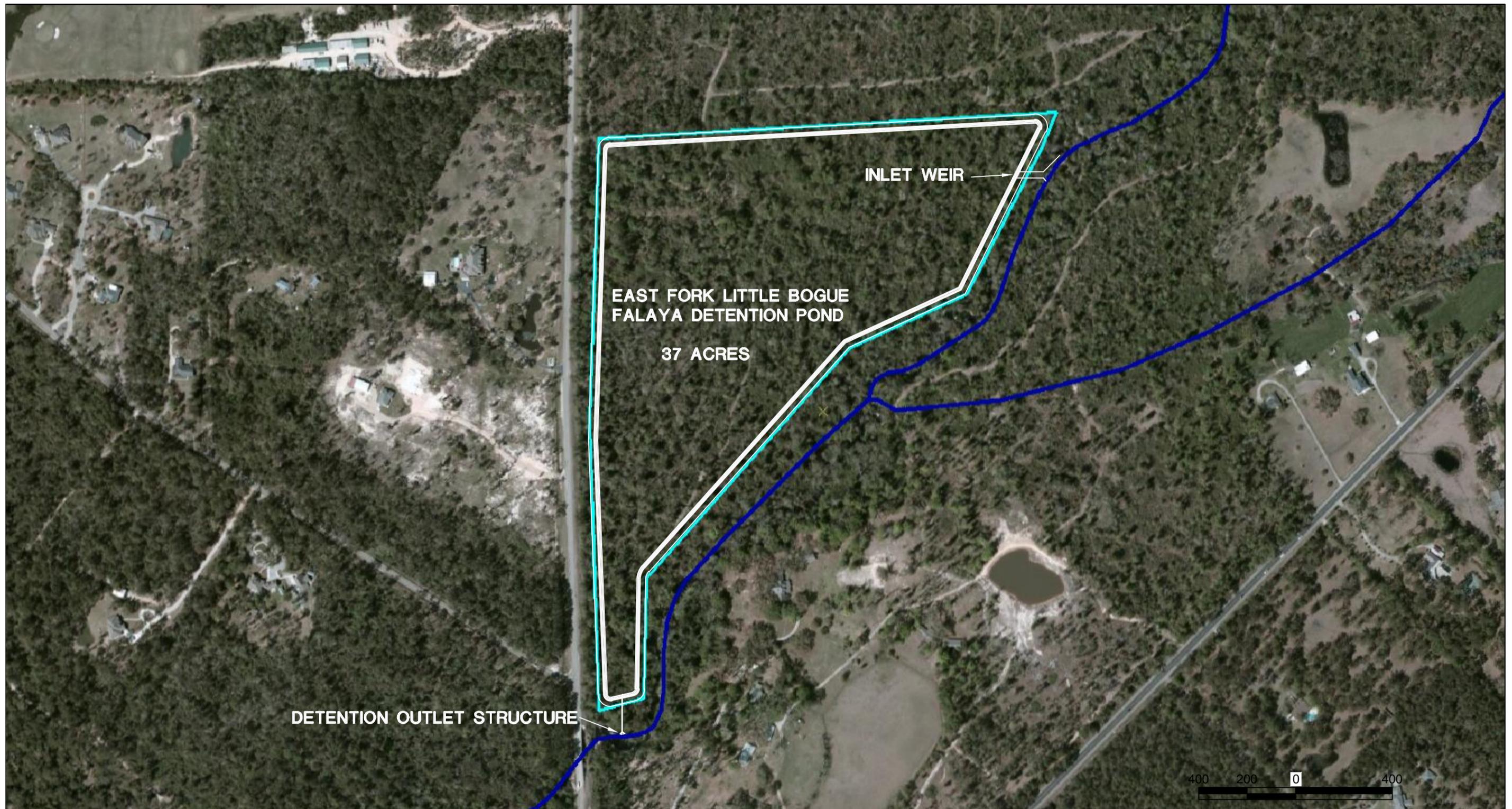


Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



STORM WATER POND- EAST FORK LITTLE BOGUE FALAYA RIVER

ST. TAMMANY PARISH WATERSHED STUDY



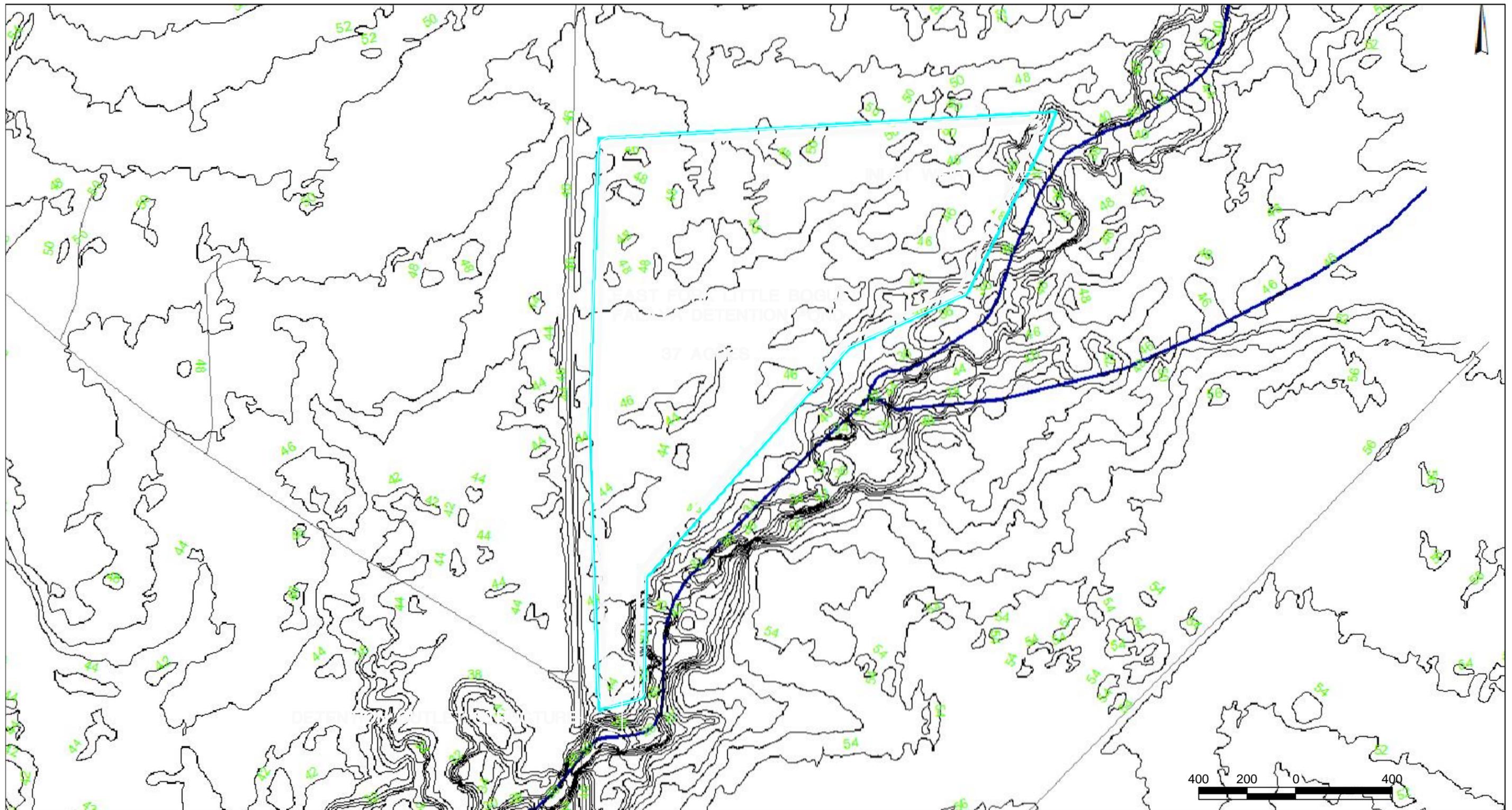
TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

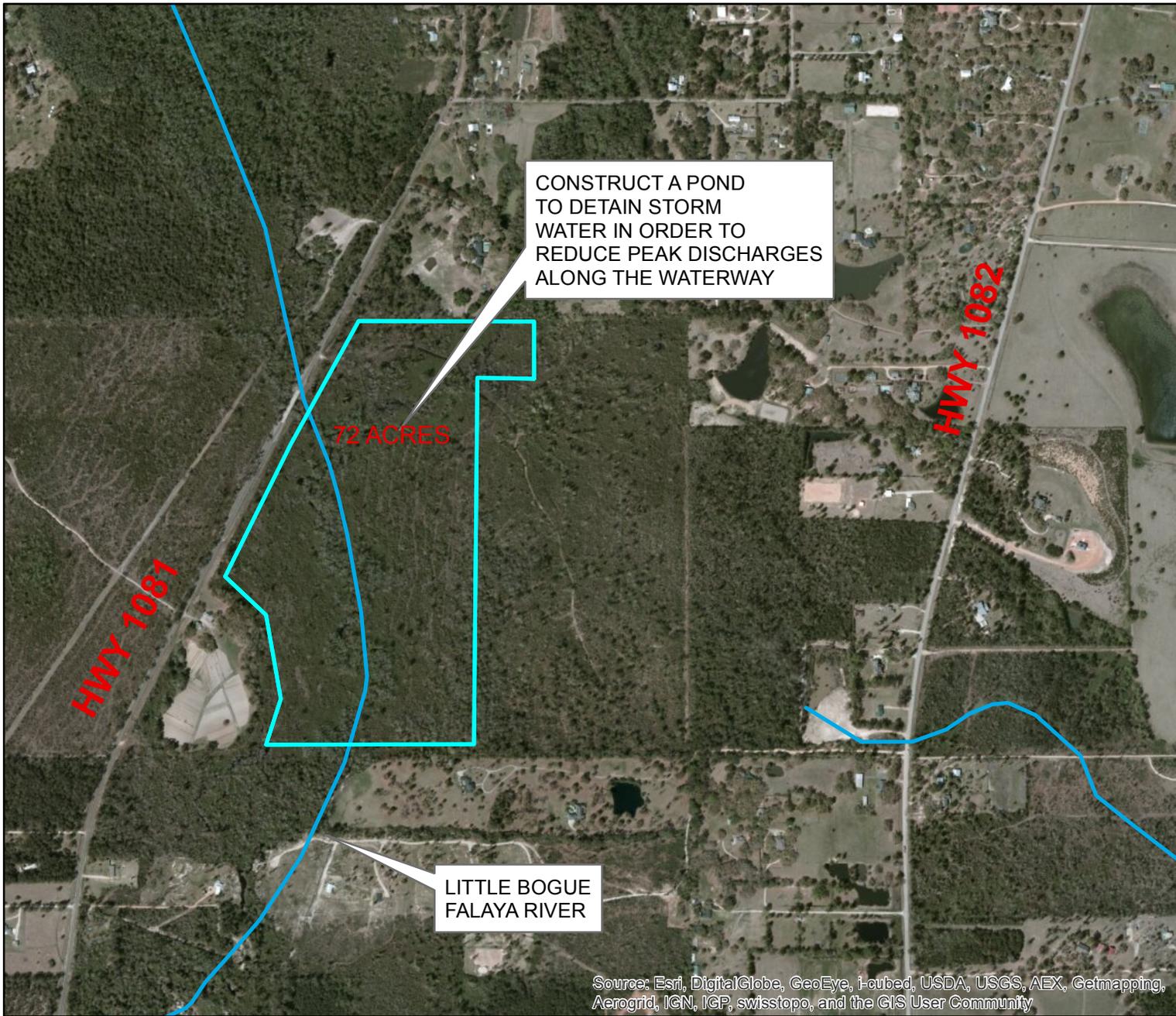
Project: East Fork Little Bogue Falaya Detention Pond

Waterway: Little Bogue Falaya

Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$320,000	\$320,000	
Land Clearing	AC	37	\$5,000	\$185,000	
Excavation	CY	596,933	\$8	\$4,775,467	
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000	
Erosion Control	LS	1	\$30,000	\$30,000	
Sod Side Slopes	SF	302,851	\$0.75	\$227,138	
Piping	LF	150	\$300	\$45,000	
				Subtotal	\$5,622,605
				15% Contingency	\$843,391
				Subtotal	\$6,465,996

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$646,600	\$646,600	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$193,980	\$193,980	
Land Acquisition	AC	37	\$40,000	\$1,480,000	
Mitigation	AC	10	\$35,000	\$350,000	
				Subtotal	\$2,850,579
				Grand Total	\$9,316,575



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



STORM WATER POND- LITTLE BOGUE FALAYA RIVER

ST. TAMMANY PARISH
WATERSHED STUDY



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
COASTAL PROTECTION AND RESTORATION AUTHORITY

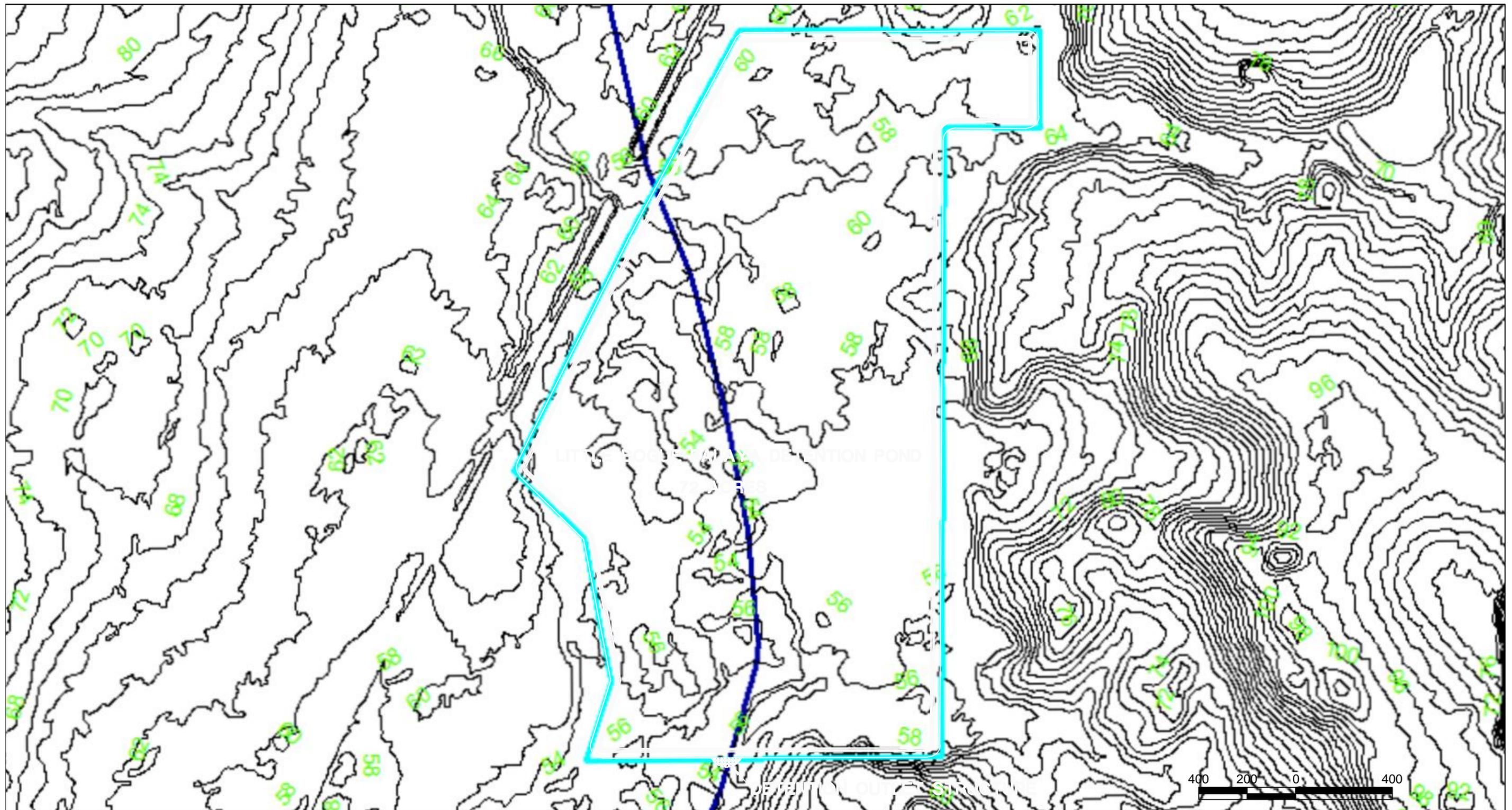
ST. TAMMANY PARISH, LOUISIANA



DATE:
12-1-2014

St. Tammany Parish Watershed
Study

FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

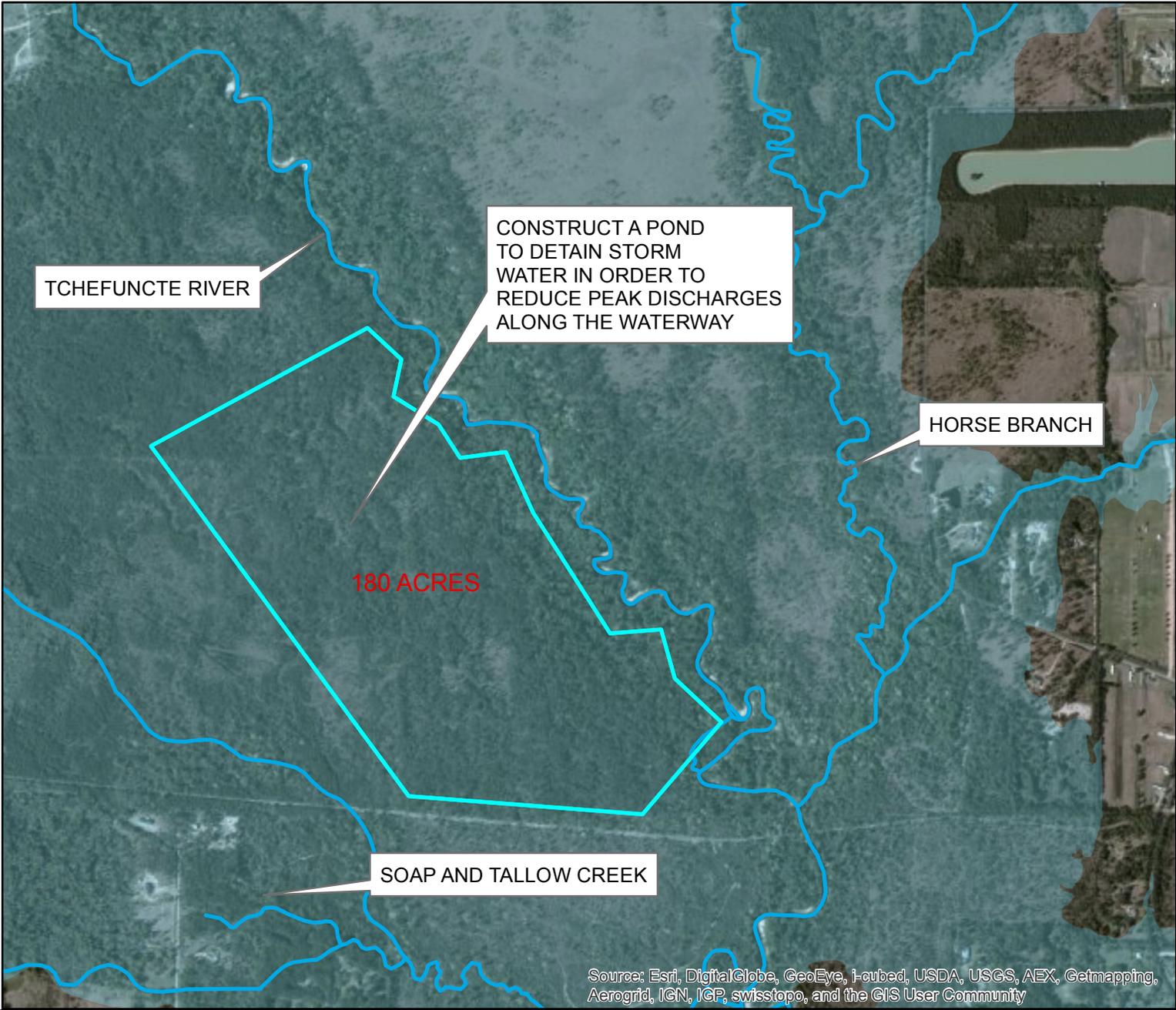
Project: Little Bogue Falaya Detention Pond

Waterway: Little Bogue Falaya

Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$455,000	\$455,000	
Land Clearing	AC	72	\$5,000	\$360,000	
Excavation	CY	929,280	\$8	\$7,434,240	
Outlet Structure	EA	1	\$20,000	\$20,000	
Erosion Control	LS	1	\$25,000	\$25,000	
Sod Side Slopes	SF	242,281	\$0.75	\$181,711	
Piping	LF	100	\$300	\$30,000	
				Subtotal	\$8,505,951
				15% Contingency	\$1,275,893
				Subtotal	\$9,781,843

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$978,184	\$978,184	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$293,455	\$293,455	
Land Acquisition	AC	72	\$40,000	\$2,880,000	
Mitigation	AC	10	\$35,000	\$350,000	
				Subtotal	\$4,681,640
				Grand Total	\$14,463,483

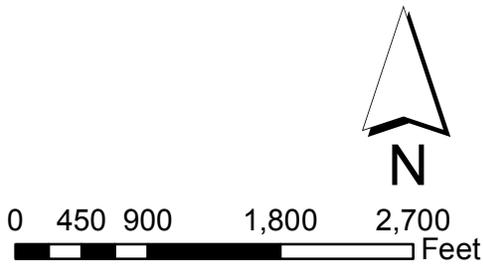


Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



STORM WATER POND- UPPER TCHEFUNCTE

**ST. TAMMANY PARISH
WATERSHED STUDY**



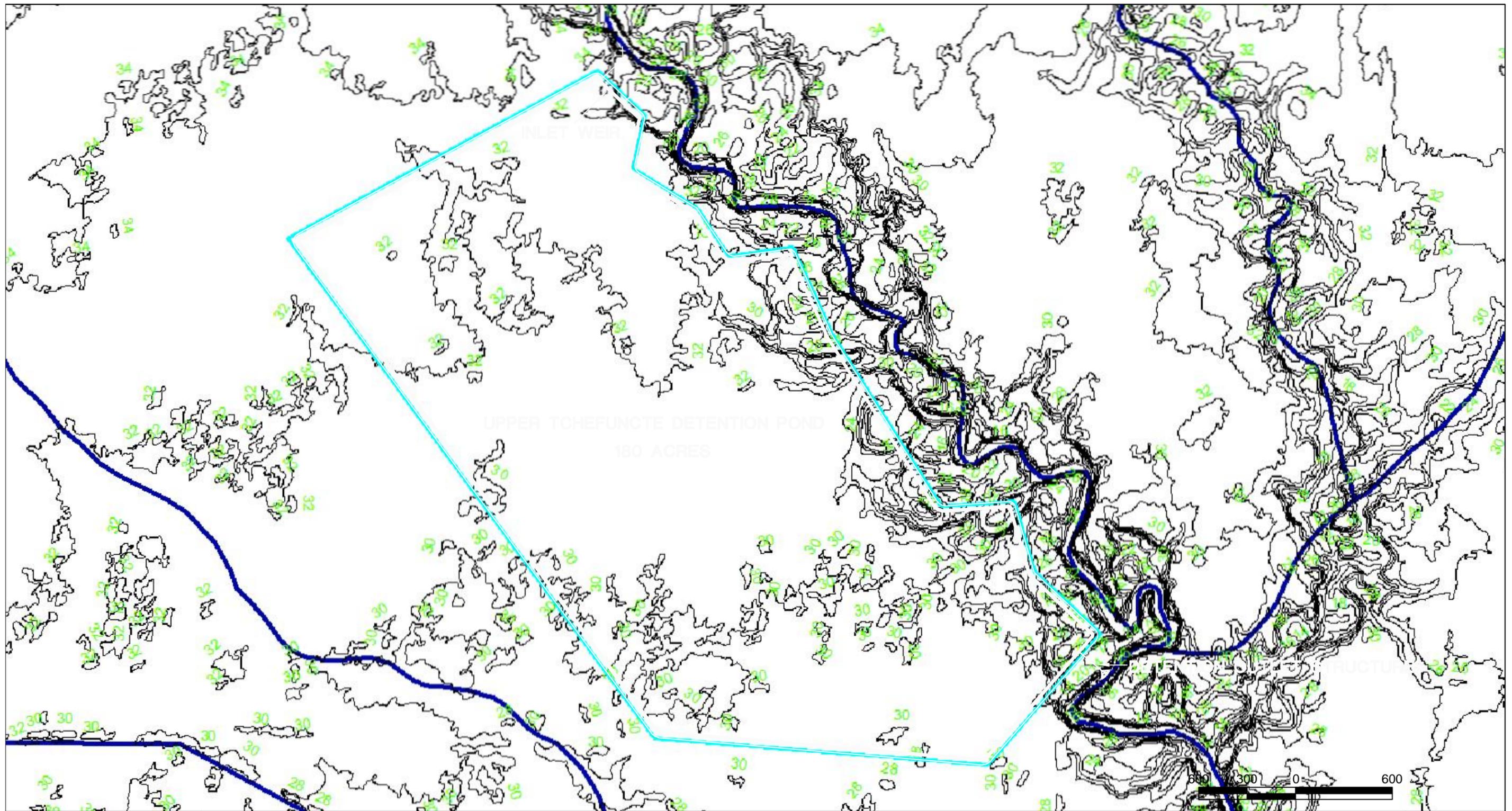
TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



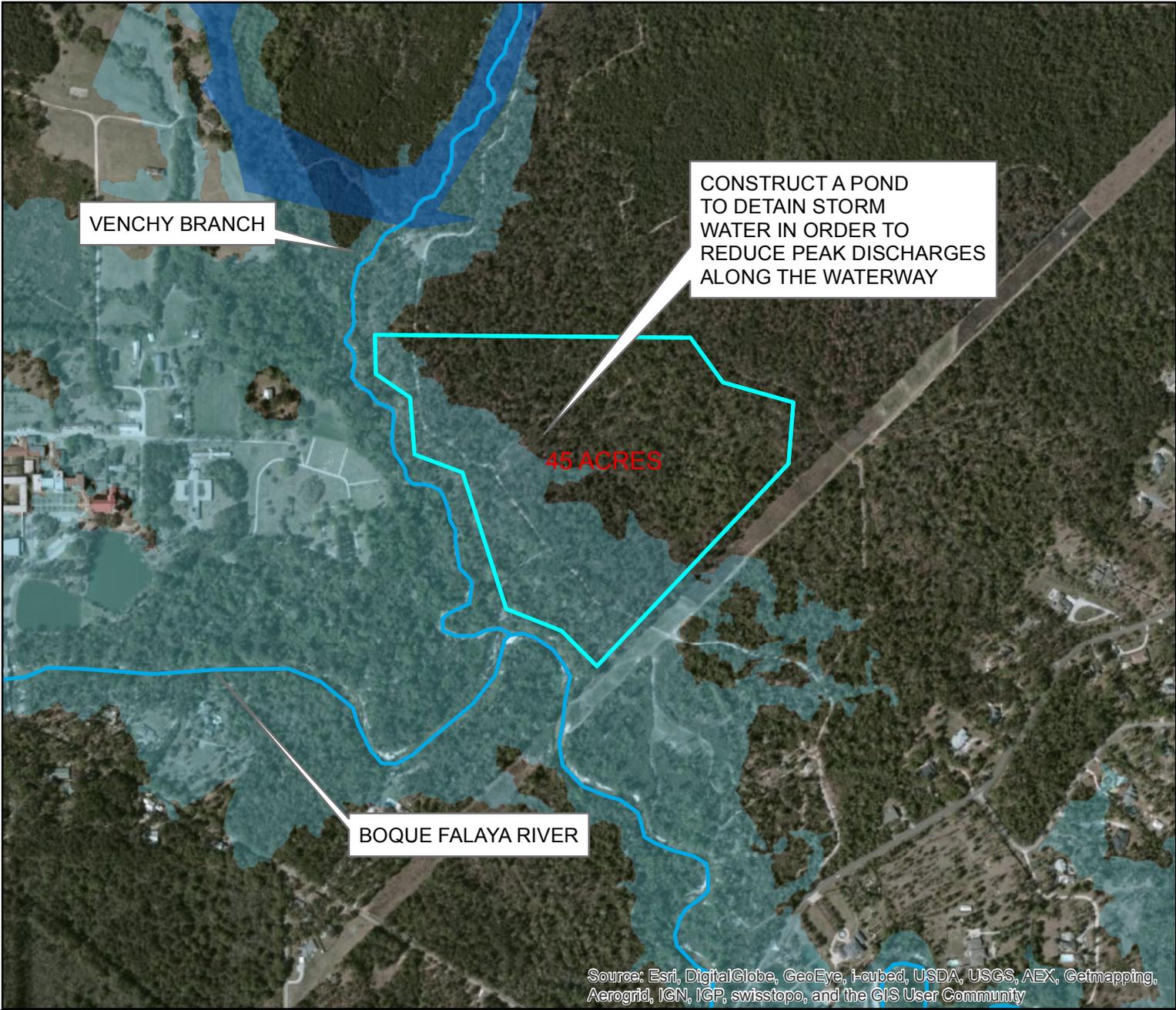
DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

Project: Upper Tchefuncte Detention Pond

Waterway: Tchefuncte
 Project Type: Storm Water Pond

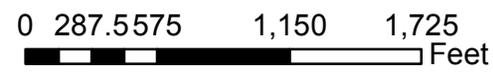
Construction Funding				
Item	Unit	Quantity	Unit Cost	Total Cost
Mobilization	LS	1	\$1,250,000	\$1,250,000
Land Clearing	AC	180	\$5,000	\$900,000
Excavation	CY	2,904,000	\$8	\$23,232,000
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000
Erosion Control	LS	1	\$55,000	\$55,000
Sod Side Slopes	SF	302,851	\$0.75	\$227,138
Piping	LF	100	\$300	\$30,000
			Subtotal	\$25,734,138
			15% Contingency	\$3,860,121
			Subtotal	\$29,594,259

Soft Cost				
Item	Unit	Quantity	Unit Cost	Total Cost
Engineering Design and Survey	LS	1	\$2,959,426	\$2,959,426
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000
Construction Inspection	LS	1	\$887,828	\$887,828
Land Acquisition	AC	180	\$40,000	\$7,200,000
Mitigation	AC	95	\$35,000	\$3,325,000
			Subtotal	\$14,552,254
			Grand Total	\$44,146,513



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE

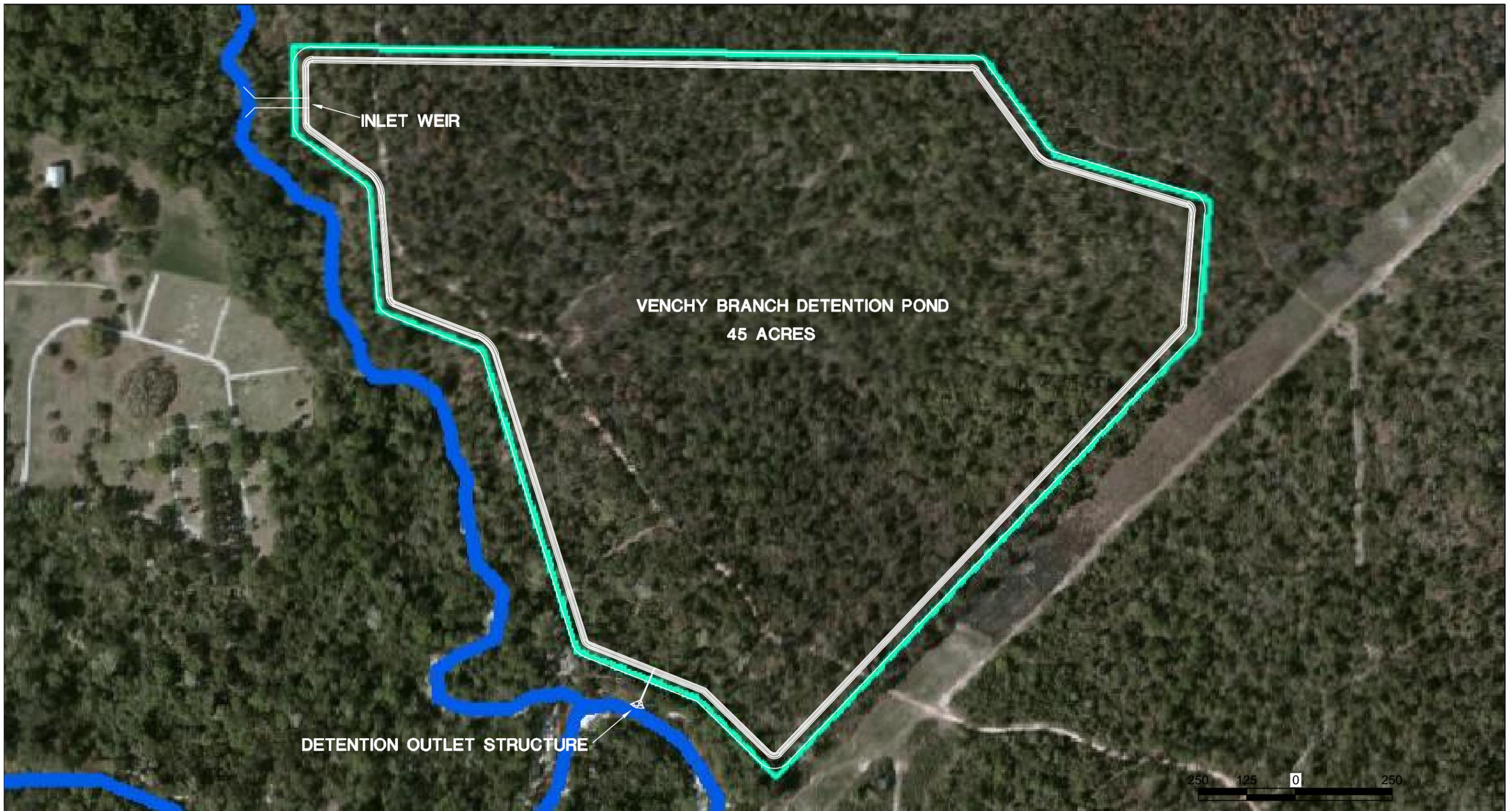


Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

STORM WATER POND- VENCHY BRANCH

ST. TAMMANY PARISH
WATERSHED STUDY





TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
COASTAL PROTECTION AND RESTORATION AUTHORITY

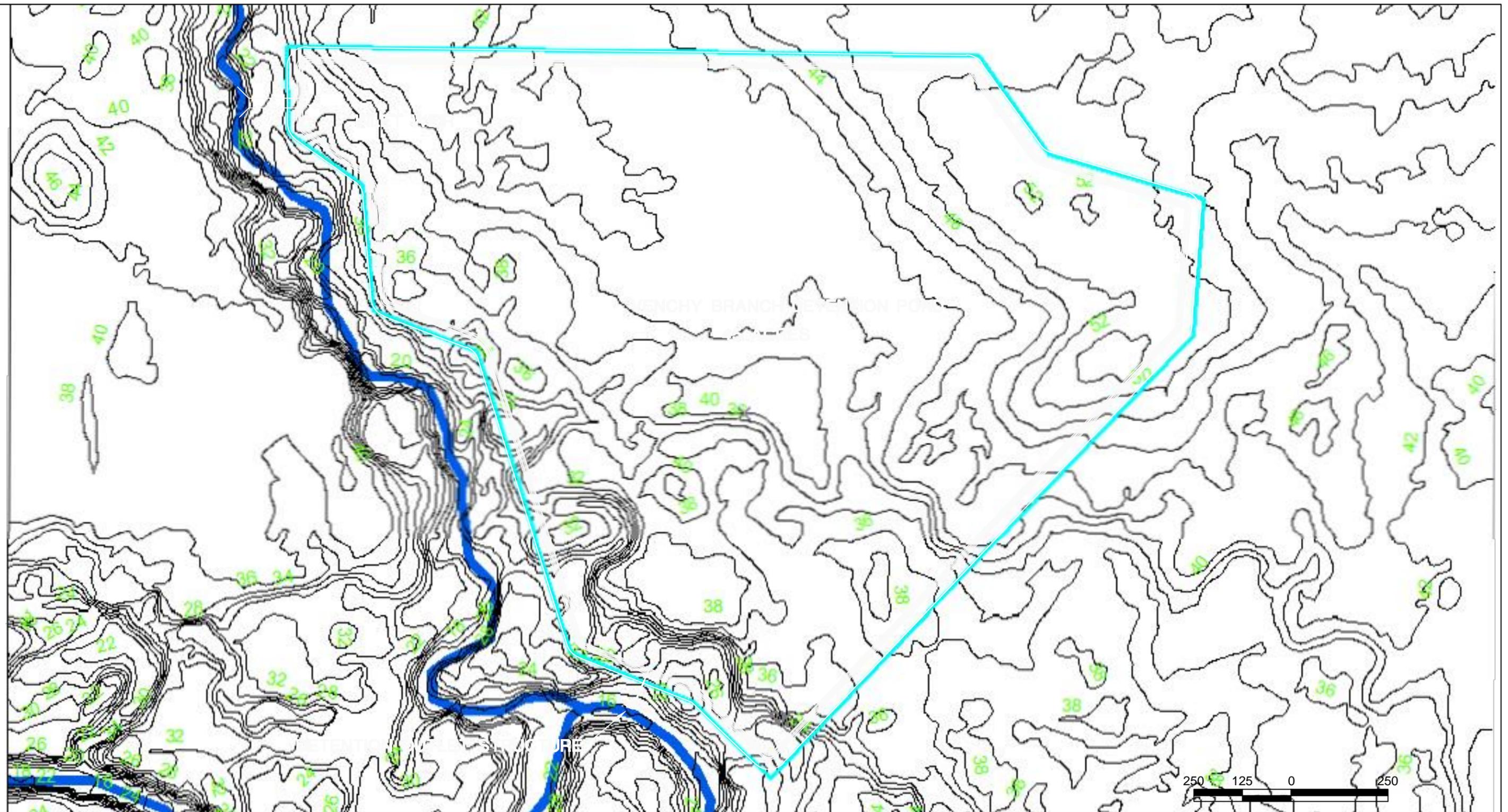
ST. TAMMANY PARISH, LOUISIANA



DATE:
12-1-2014

St. Tammany Parish Watershed
Study

FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

Project: Venchy Branch Detention Pond
 Tributary to Bogue Falaya River

Waterway: Venchy Branch
 Project Type: Storm Water Pond

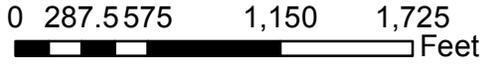
Construction Funding				
Item	Unit	Quantity	Unit Cost	Total Cost
Mobilization	LS	1	\$220,000	\$220,000
Land Clearing	AC	45	\$5,000	\$225,000
Excavation	CY	365,000	\$10	\$3,650,000
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000
Erosion Control	LS	1	\$30,000	\$30,000
Sod Side Slopes	SF	454,277	\$0.75	\$340,708
Piping	LF	100	\$300	\$30,000
			Subtotal	\$4,535,708
			15% Contingency	\$680,356
			Subtotal	\$5,216,064

Soft Cost				
Item	Unit	Quantity	Unit Cost	Total Cost
Engineering Design and Survey	LS	1	\$521,606	\$521,606
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000
Construction Inspection	LS	1	\$156,482	\$156,482
Land Acquisition	AC	45	\$40,000	\$1,800,000
Mitigation	AC	18	\$35,000	\$630,000
			Subtotal	\$3,288,088
			Grand Total	\$8,504,152



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



ROBERT ROAD STORM WATER POND

ST. TAMMANY PARISH
WATERSHED STUDY



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

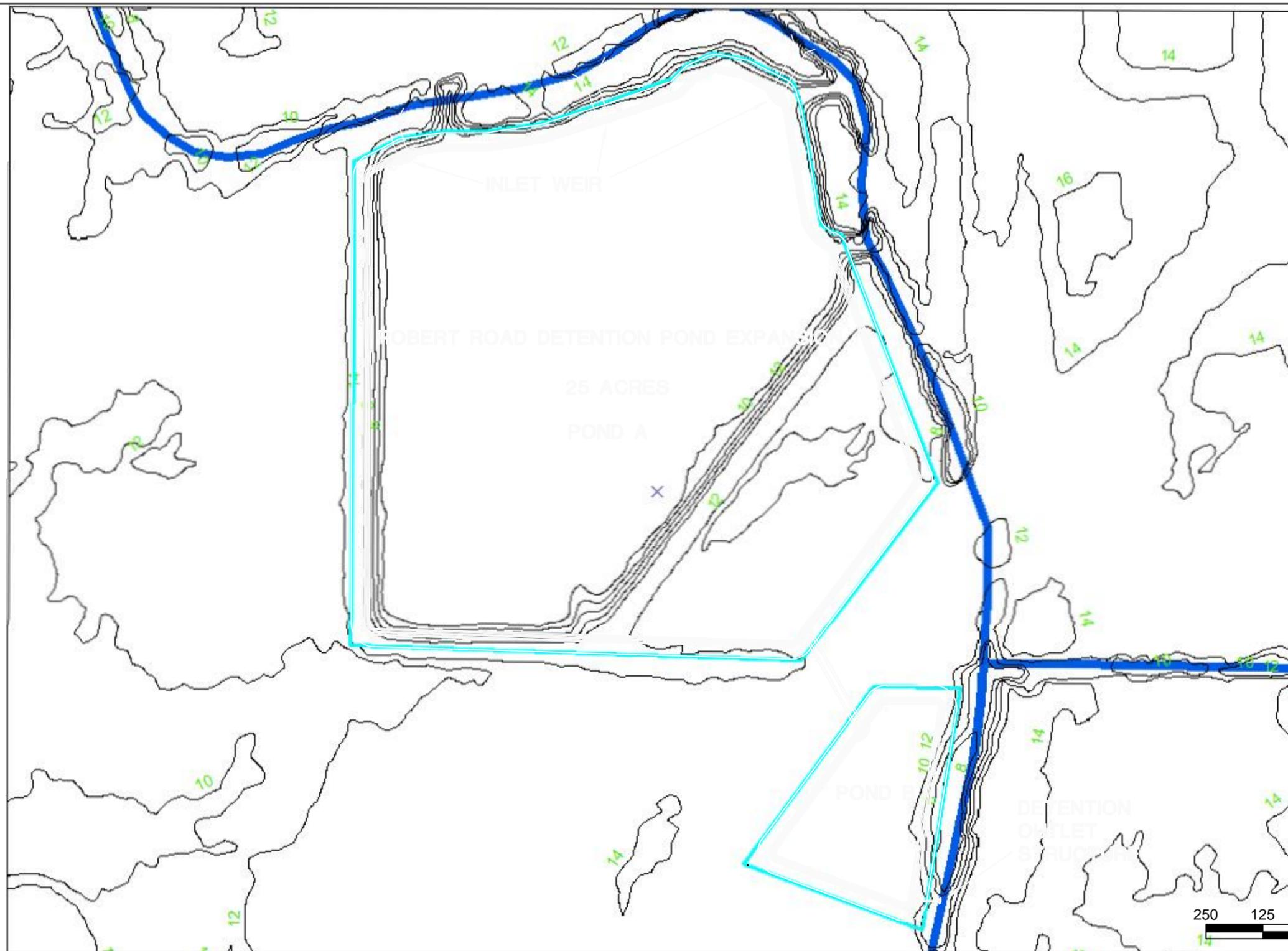
ST. TAMMANY PARISH, LOUISIANA



DATE:
12-1-2014

St. Tammany Parish Watershed
Study

FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014

St. Tammany Parish Watershed
 Study

FIGURE:

Project: Robert Road Detention Pond Expansion

Waterway: W-14 Canal
 Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$75,000	\$75,000	
Land Clearing	AC	10	\$5,000	\$50,000	
Excavation	CY	121,000	\$8	\$968,000	
Inlet Structure & Outlet Structure	EA	4	\$20,000	\$80,000	
Erosion Control	LS	1	\$30,000	\$30,000	
Sod Side Slopes	SF	121,141	\$0.75	\$90,855	
Piping	LF	650	\$300	\$195,000	
				Subtotal	\$1,488,855
				15% Contingency	\$223,328
				Subtotal	\$1,712,184

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$171,218	\$171,218	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$51,366	\$51,366	
Land Acquisition	AC	25	\$40,000	\$1,000,000	
Mitigation	AC	10	\$35,000	\$350,000	
				Subtotal	\$1,752,584
				Grand Total	\$3,464,768



Legend

-  St. Tammany Parish Waterways
-  Storm Water Ponds
-  Critical_Drainage_Areas
-  Floodzones_AE



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



STORM WATER POND IN W-14 BASIN WEST DIVERSION EAST

ST. TAMMANY PARISH
WATERSHED STUDY



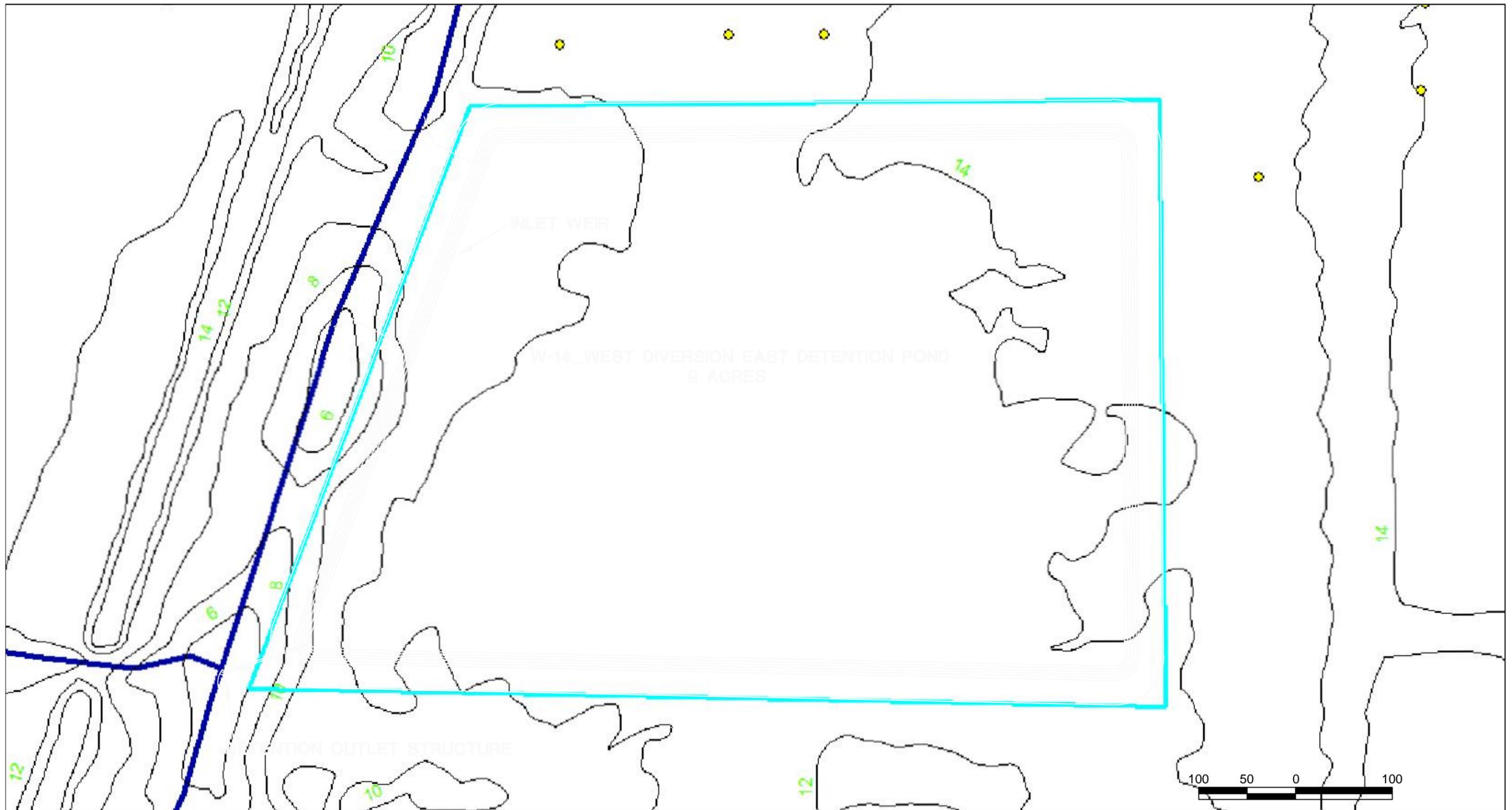
TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:



TYPICAL WASTEWATER INFRASTRUCTURE CONCEPTUAL PLAN

ST. TAMMANY PARISH WATER QUALITY MANAGEMENT STUDY
 COASTAL PROTECTION AND RESTORATION AUTHORITY

ST. TAMMANY PARISH, LOUISIANA



DATE:
 12-1-2014
 St. Tammany Parish Watershed
 Study
 FIGURE:

Project: W-14_West Diversion East

Waterway: W-14 Canal
 Project Type: Storm Water Pond

Construction Funding					
Item	Unit	Quantity	Unit Cost	Total Cost	
Mobilization	LS	1	\$60,000	\$60,000	
Land Clearing	AC	9	\$5,000	\$45,000	
Excavation	CY	87,120	\$10	\$871,200	
Inlet Structure & Outlet Structure	EA	2	\$20,000	\$40,000	
Erosion Control	LS	1	\$15,000	\$15,000	
Sod Side Slopes	SF	181,711	\$0.75	\$136,283	
Piping	LF	100	\$300	\$30,000	
				Subtotal	\$1,197,483
				15% Contingency	\$179,622
				Subtotal	\$1,377,106

Soft Cost					
Item	Unit	Quantity	Unit Cost	Total Cost	
Engineering Design and Survey	LS	1	\$137,711	\$137,711	
Permitting/Misc. Expense/Reimbursement	LS	1	\$30,000	\$30,000	
Drainage Study & Surveying for Study	LS	1	\$150,000	\$150,000	
Construction Inspection	LS	1	\$41,313	\$41,313	
Land Acquisition	AC	9	\$40,000	\$360,000	
Mitigation	AC	9	\$35,000	\$315,000	
				Subtotal	\$1,034,024
				Grand Total	\$2,411,129