Appendix B. Detailed Estimates of Construction Costs

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA A - NORTH BELLE MEADE PUMP STATION AND FLOW-WAY RECREATIONAL AREA						
North Belle Meade Pump Station & Flow-way						
1	01-ELEC	Electrical Equipment - (control panel, site elec.)	1	LS	$75,000.00	$75,000
2	01-ENCL	VFD Package with NEMA 3R Enclosure	4	EA	$7,317.00	$29,268
3	01-PUMP	50 CFS Vertical Axial Flow Pump powered by 60hp, 1800 rpm Electric Motor.	2	EA	$55,274.00	$110,548
4	01-STRT	Freight to the jobsite, installation and start up service	1	EA	$20,648.13	$20,648
5	104-10-3	Sediment Barrier	11,300	LF	$1.50	$16,950
6	104-11	Floating Turbidity Barrier	200	LF	$10.50	$2,100
7	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
8	104-15	Soil Tracking Prevention Device	1	EA	$2,000.00	$2,000
9	110-1-1	Clearing and Grubbing	27	AC	$15,000.00	$405,000
10	120-5	Channel Excavation	8,248	CY	$30.50	$251,564
11	120-6	Embankment	72,165	CY	$10.50	$757,737
12	145-71	Reinforcement Grid for Soil Stabilization (Access Rd & Station Parking)	10,789	SY	$6.50	$70,129
13	160-4	Type B Stabilization	12,230	SY	$3.50	$42,805
14	285-709	Optional Base Group 09	12,230	SY	$15.00	$183,450
15	334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C (220 lb/sy)	1,345	TN	$100.00	$134,530
16	337-7-43	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22 (165 lb/sy)	111	TN	$140.00	$15,538
17	400-1-25	Conc. Class I, Substructure (Electrical Pad)	4	CY	$580.00	$2,320
18	400-2-25	Conc. Class II, Substructure (Pump Support Slab)	12	CY	$667.00	$8,004
19	400-91	Dewatering (For Pump Cans)	4	EA	$20,000.00	$80,000
20	425-2-62	Manhole, P-8, >10'	1	EA	$5,000.00	$5,000
21	425-1-611	Inlets, Ditch Bottom, Type K	1	EA	$21,000.00	$21,000
22	430-174-112	Pipe Culvert, Round 12"	192	LF	$57.00	$10,944
23	430-175-136	Pipe Culvert, Round 36" (Discharge Piping, 36" PVC)	569	LF	$114.00	$64,866
24	430-175-142	Pipe Culvert, Round 42" (Intake Piping, PVC)	506	LF	$130.00	$65,780
25	430-175-142	Pipe Culvert, Round 42" (Outfall Pipes from ditch/pond)	440	LF	$130.00	$57,200
26	430-175-148	Pipe Culvert, Round 48" (Pipe from ditch to I-75 ditch)	460	LF	$160.00	$73,600
27	430-880-2	Flap Gates (36")	4	EA	$10,000.00	$40,000
28	430-982-140	Mitered End Sections, Round 42" CD	8	EA	$3,500.00	$28,000
29	430-982-141	Mitered End Sections, Round 48" CD	8	EA	$4,000.00	$32,000
30	430-984-140	Mitered End Sections, Round 42" SD (with bars)	4	EA	$6,000.00	$24,000
31	430-984-181	Mitered End Sections, Round 12" SD (with bars)	1	EA	$700.00	$700
32	455-133-1	Sheet Piling Steel, Temporary-Critical	9,000	SF	$12.50	$112,500
33	530-3-4	Riprap, Rubble, Ditch Lining (Pump Intake)	65	TN	$85.00	$5,525
34	530-74	Bedding Stone (Stabilized Parking Area - 8" Depth)	400	TN	$70.00	$28,006
35	530-7-4	Regular Excavation	8,476	CY	$5.00	$42,380
36	547-70-2	Riprap, Fabric-Formed Concrete, 10" Filter Points	826	SY	$104.00	$85,904
37	550-10-220	Fencing, Type B, 5.1-6.0', Standard	800	LF	$11.00	$8,800
38	550-60-224	Fence Gate, Type B, DBL 18.1-20' Opening	1	EA	$1,150.00	$1,150
39	570-1-2	Performace Turf (Sod) - North Canal and North Belle Meade Pump Station	114,769	SY	$2.50	$286,923
40	01-PLANT	Trees for planted wetlands (1.2 acres total)	524	EA	$50.00	$26,200
42		Electrical Service Connection	1	LS	$100,000.00	$100,000
43	01-LAND	Landscaping	1	LS	5%	$166,653
44	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$69,994
45		Mobilization (10%)	1	LS	10%	$349,972
46		Contingency (30%)	1	LS	30%	$1,175,906
Sub-total						***$5,095,600***
PROJECT AREA B - INTERSTATE 75 (I-75) CANALS IMPROVEMENTS						
I-75 Canal Excavations & Vegetation Removal						
47	110-1-1	Clearing and Grubbing (Inludes channel vegetation removal)	16	AC	$15,000.00	$240,000
48	120-5	Channel Excavation	11,054	CY	$30.50	$337,154
49	104-11	Floating Turbidity Barrier	1,780	LF	$10.50	$18,690
50	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
41	01-CANALW	Canal Weir	2	LS	$180,000.00	$360,000
51	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$19,217
52		Mobilization (10%)	1	LS	10%	$96,084
53		Contingency (30%)	1	LS	30%	$322,844
Sub-total						***$1,399,000***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA C - SOUTH BELLE MEADE PUMP STATION, FLOW-WAY, AND SPREADER						
South Belle Meade Pump Station, Flow-way, and Spreader						
54	01-PUMP	50 CFS Vertical Axial Flow Pump powered by 60hp, 1800 rpm Electric Motor.	2	EA	$55,274.00	$110,548
55	01-ENCL	VFD Package with NEMA 3R Enclosure	2	EA	$7,317.00	$14,634
56	01-STRT	Freight to the jobsite, installation and start up service	1	EA	$39,397.75	$39,398
57	01-ELEC	Electrical Equipment - (control panel, site elec.)	1	LS	$75,000.00	$75,000
58	400-1-25	Conc. Class I, Substructure (Electrical Pad)	4	CY	$580.00	$2,320
59	400-2-25	Conc. Class II, Substructure (Pump Support Slab)	12	CY	$667.00	$8,004
60	430-175-142	Pipe Culvert, Round 42" (Intake Piping, PVC)	320	LF	$130.00	$41,600
61	430-175-136	Pipe Culvert, Round 36" (Discharge Piping, 36" PVC)	200	LF	$114.00	$22,800
62	SPECIAL	5'X10' Reinforced Concrete Box Culvert	310	LF	$400.00	$124,000
63	430-880-2	Flap Gates (36")	4	EA	$10,000.00	$40,000
64	430-984-140	Mitered End Sections, Round 42" SD (with bars)	4	EA	$6,000.00	$24,000
65	430-984-181	Mitered End Sections, Round 12" SD (with bars)	1	EA	$700.00	$700
66	455-133-1	Sheet Piling Steel, Temporary-Critical	4,000	SF	$12.50	$50,000
67	524-1-29	Conc. Ditch Pavt, 4" Reinforced	410	SY	$83.00	$34,030
68	530-3-4	Riprap, Rubble, Ditch Lining (Pump Intake)	65	TN	$85.00	$5,525
69	550-10-220	Fencing, Type B, 5.1-6.0', Standard	480	LF	$11.00	$5,280
70	550-60-224	Fench Gate, Type B, DBL 18.1-20' Opening	2	EA	$1,150.00	$2,300
71	425-2-62	Manhole, P-8, >10'	1	EA	$5,000.00	$5,000
72	430-174-112	Pipe Culvert, Round 12"	100	LF	$57.00	$5,700
73	145-71	Reinforcement Grid for Soil Stabilization (Parking Area)	4,260	SY	$6.50	$27,690
74	530-74	Bedding Stone (Stabilized Parking Area - 8" Depth)	1,470	TN	$70.00	$102,879
75	120-1	Regular Excavation	9,244	CY	$5.00	$46,220
76	120-5	Channel Excavation	1,060	CY	$30.50	$32,330
77	120-6	Embankment	31,336	CY	$10.50	$329,028
78	524-1-2	Conc. Ditch Pavt, 4" Non Reinforced	406	SY	$63.50	$25,781
79	524-1-29	Conc. Ditch Pavt, 4" Reinforced	3,667	SY	$83.00	$304,361
80	530-3-4	Riprap, Rubble, Ditch Lining (Outfalls)	902	TN	$85.00	$76,670
81	110-1-1	Clearing and Grubbing (Pump Station & Spreader Swale)	29	AC	$15,000.00	$435,000
82	110-1-1	Clearing and Grubbing (Dirt Access Road)	6	AC	$15,000.00	$96,419
83		Dirt Access Road Compaction	31,111	SY	$20.00	$622,222
84	570-1-2	Performace Turf (Sod) - South Ditch and South Belle Meade Pump Station	47,768	SY	$2.50	$119,420
85	570-1-2	Performace Turf (Sod) - South Channel Bottom	52,973	SY	$2.50	$132,433
86	400-91	Dewatering (For Pump Cans)	4	EA	$20,000.00	$80,000
87	104-11	Floating Turbidity Barrier	250	LF	$10.50	$2,625
88	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
89	104-10-3	Sediment Barrier	11,600	LF	$1.50	$17,400
90		Electrical Service Connection	1	LS	$100,000.00	$100,000
91	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$63,326
92		Mobilization (10%)	1	LS	10%	$316,632
93		Contingency (30%)	1	LS	30%	$1,063,882
Sub-total						***$4,610,200***
PROJECT AREA D - SABAL PALM ROAD CULVERT CROSSINGS						
Sabal Palm Road Culvert Crossings						
94	110-1-1	Clearing and Grubbing	1	AC	$15,000.00	$15,000
95	160-4	Type B Stabilization	150	SY	$3.50	$525
96	285-709	Optional Base Group 09	150	SY	$15.00	$2,250
97	334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C (220 lb/sy)	16.5	TN	$100.00	$1,650
98	337-7-43	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22 (165 lb/sy)	2	TN	$140.00	$280
99	425-1-585	Inlets, Ditch Bottom, Type H, <10'	8	EA	$7,000.00	$56,000
100	430-175-148	Pipe Culvert, Round 48"	160	LF	$160.00	$25,600
101	570-1-2	Performace Turf (Sod)	356	SY	$2.50	$890
102	104-10-3	Sediment Barrier	400	LF	$1.50	$600
103	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
104		Mobilization (10%)	1	LS	10%	$10,280
105		Contingency (30%)	1	LS	30%	$35,422
Sub-total						***$153,500***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA E - SIX L'S / U.S. 41 FLOW-WAYS AND CONVEYANCE IMPROVEMENTS						
Tamiami Trail Conveyance Improvement (U.S. 41)						
106	110-1-1	Clearing and Grubbing	0.5	AC	$15,000.00	$7,500
107	430-185-148	Pipe Culvert, Round 48" (Jack and Bore)	70	LF	$800.00	$56,000
108	430-175-148	Pipe Culvert, Round 48"	80	LF	$160.00	$12,800
109	430-982-141	Mitered End Section, Round 48"	2	EA	$4,000.00	$8,000
110	570-1-2	Performace Turf (Sod)	556	SY	$2.50	$1,390
111	104-10-3	Sediment Barrier	100	LF	$1.50	$150
112	104-12	Staked Turbidity Barrier	200	LF	$7.00	$1,400
113	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
114		Mobilization (10%)	1	LS	10%	$8,724
115		Contingency (30%)	1	LS	30%	$30,289
Sub-total						***$131,300***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
Tamiami Trail Water Quality and Attenuation Area (U.S. 41)						
116	01-PUMP	10 CFS Vertical Axial Flow Pump Station	1	EA	$40,000.00	$40,000
117	110-1-1	Clearing and Grubbing	12	AC	$15,000.00	$180,000
118	120-1	Regular Excavation	10,400	CY	$5.00	$52,000
119	120-6	Embankment (New Berms)	12,500	CY	$10.50	$131,250
120	120-SPECIAL	Finish Grading	24,000	SY	$10.00	$240,000
121	104-10-3	Sediment Barrier	7,000	LF	$1.50	$10,500
122	104-12	Staked Turbidity Barrier	100	LF	$7.00	$700
123	400-2-25	Conc. Class II, Substructure (Pump Support Slab)	12	CY	$667.00	$8,004
124	550-10-220	Fencing, Type B, 5.1-6.0', Standard	150	LF	$11.00	$1,650
125	550-60-224	Fence Gate, Type B, DBL 18.1-20' Opening	1	EA	$1,150.00	$1,150
124	570-1-2	Performace Turf (Sod)	50,000	SY	$2.50	$125,000
125	SPECIAL	Concrete Spillways	3	EA	$11,000.00	$33,000
126	SPECIAL	Outfall Weir Structure	1	EA	$30,000.00	$30,000
127	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$17,065
128		Mobilization (10%)	1	LS	10%	$85,325
129		Contingency (30%)	1	LS	30%	$286,693
Sub-total						***$1,242,300***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
Old Railroad Embankment Removal (U.S. 41)						
130	110-1-1	Clearing and Grubbing	1	AC	$15,000.00	$15,000
131	120-1	Regular Excavation (Assumed RR = 12' top, 3' high, 1:3 SS)	700	CY	$5.00	$3,500
132	570-1-2	Performace Turf (Sod)	4,000	SY	$2.50	$10,000
133	104-10-3	Sediment Barrier	1,800	LF	$1.50	$2,700
134	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
135		Mobilization (10%)	1	LS	10%	$3,120
136		Contingency (30%)	1	LS	30%	$11,796
Sub-total						***$51,100***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
Collier Boulevard (FL-951) Conveyance Improvement						
137	110-1-1	Clearing and Grubbing	1	AC	$15,000.00	$15,000
138	430-185-148	Pipe Culvert, Round 48" (Jack and Bore)	200	LF	$800.00	$160,000
139	430-175-148	Pipe Culvert, Round 48"	160	LF	$160.00	$25,600
140	430-982-141	Mitered End Section, Round 48"	4	EA	$4,000.00	$16,000
141	570-1-2	Performace Turf (Sod)	1,112	SY	$2.50	$2,780
142	104-10-3	Sediment Barrier	200	LF	$1.50	$300
143	104-12	Staked Turbidity Barrier	400	LF	$7.00	$2,800
144	102-1	Maintenance of Traffic (MOT)	1	LS	2%	$5,000
145		Mobilization (10%)	1	LS	10%	$22,248
146		Contingency (30%)	1	LS	30%	$74,918
Sub-total						***$324,600***

ITEM	PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PROJECT AREA E - SIX L'S / U.S. 41 FLOW-WAYS AND CONVEYANCE IMPROVEMENTS (CONT'D.)						
6L's Agricultural Area Improvements						
147	104-10-3	Sediment Barrier	140,000	LF	$1.50	$210,000
148	104-11	Floating Turbidity Barrier	700	LF	$10.50	$7,350
149	104-11-X	Turbidity Monitoring	1	LS	$5,000.00	$5,000
150	110-1-1	Clearing and Grubbing	50	AC	$15,000.00	$750,000
151	120-1	Regular Excavation	7,580	CY	$5.00	$37,900
152	120-6	Embankment (New Berms)	14,710	CY	$10.50	$154,455
153	120-6	Embankment (Berm Plugs)	250	CY	$10.50	$2,625
154	120-SPECIAL	Finish Grading	27,800	SY	$10.00	$278,000
155	400-91	Dewatering (For Control Structures)	5	EA	$60,000.00	$300,000
156	425-158-9	Inlets, Ditch Bottom, Type H, Modify	10	EA	$7,500.00	$75,000
157	430-175-172	Pipe Culvert, Round 72" (Cross Drain, RCP)	400	LF	$500.00	$200,000
158	430-175-172	Pipe Culvert, Round 72" (Outfall, RCP)	500	LF	$500.00	$250,000
159	430-982-645	Mitered End Sections, Round 72" CD (with bars)	16	EA	$3,000.00	$48,000
160	455-133-2	Sheet Piling Steel, Temporary-Critical	6,000	SF	$12.50	$75,000
161	530-3-4	Riprap, Rubble, Bank and Shore (24", Cross Drains, Includes Filter Fabric)	260	TN	$85.00	$22,100
162	530-3-4	Riprap, Rubble, Bank and Shore (24", Outfalls, Includes Filter Fabric)	160	TN	$85.00	$13,600
163	530-74	Bedding Stone (8", Cross Drains, Includes Filter Fabric)	90	TN	$70.00	$6,300
164	530-74	Bedding Stone (8", Outfalls, Includes Filter Fabric)	55	TN	$70.00	$3,850
165	570-1-2	Performace Turf (Sod) - New Berms	27,550	SY	$2.50	$68,875
166	SPECIAL	Geotechnical Exploration and Berm Inspection	1	LS	$500,000.00	$500,000
167	SPECIAL	Berm Rehabilitation Allowance	1	LS	$500,000.00	$500,000
168	SPECIAL	Sluice Gates Weir Structures	2	EA	$204,000.00	$408,000
169	102-1	Maintenance of Traffic (MOT)	1	LS	5%	$195,803
170		Mobilization (10%)	1	LS	10%	$391,606
171		Contingency (30%)	1	LS	30%	$1,351,039
Sub-total						***$5,854,500***

Construction Cost Estimate Total (Project Areas A-E)	**$18,862,100**
Project Development (5%)	**$943,100**
Design/Engineering (10%)	**$1,886,200**
Permitting (5%)	**$943,100**
Mitigation (5%)	**$943,100**
Monitoring and Scada Telemetry Systems	**$1,000,000**
Additional Minor Projects	**$1,000,000**
North Belle Meade Preliminary Engineering	**$1,000,000**
Six L's Area Future Masterplan	**$1,000,000**
Cost Escalation compounded over 7 years (3% per year)	**$4,338,300**
Total Estimated Cost	**$31,916,000**