APPENDIX B
COST ENGINEERING AND RISK ANALYSIS

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LIST OF ATTACHMENTS

B COST ESTIMATES

B.1 General Information

U.S. Army Corps of Engineers (Corps) cost estimates for planning purposes are prepared in accordance with the following guidance:

- Engineer Regulation (ER) 1110-1-1300, *Cost Engineering Policy and General Requirements* (March 26, 1993);
- ER 1110-2-1302, *Civil Works Cost Engineering* (June 30, 2016);
- ER 1110-2-1150, Engineering and Design for Civil Works Projects (August 31, 1999);
- ER 1105-2-100, *Planning Guidance Notebook* (April 22, 2000, as amended);
- Engineer Manual (EM) 1110-2-1304 (Tables revised September 30, 2018), *Civil Works Construction Cost Index System* (September 30, 2018);
- CECW-CP Memorandum for Distribution, Subject: Initiatives to Improve the Accuracy of Total Project Costs in Civil Works Feasibility Studies Requiring Congressional Authorization (September 19, 2007);
- CECW-CE Memorandum for Distribution, Subject: Application of Cost Risk Analysis Methods to Develop Contingencies for Civil Works Total Project Costs (July 3, 2007); and
- Cost and Schedule Risk Analysis Process (March 2008).

The goal of the planning level cost estimate for the Lake Okeechobee Component A Storage Reservoir (LOCAR) study (Project) is to present a total project cost (i.e., construction and non-construction cost) for the selected plan, in today's dollars, for Project justification/authorization. Additionally, the total Project cost summary sheet calculates a fully funded estimate (escalated for inflation through Project completion) for budgeting purposes. The intent of these costing efforts is to produce a final product (i.e., cost estimate) that is reliable and accurate and that supports the definition of the government's and the non-federal sponsor's obligations based on the current design plan. This estimate was prepared with the Project at the primary level and the Civil Works Breakdown Structure (CWBS) features code at the secondary Level and is supported by labor, equipment, and materials for most cost items. Additionally, some cost items are priced based on recent bid result data from ongoing, similar reservoir projects in the area. A risk analysis was prepared that addresses uncertainties in the Project and sets contingencies for selected plan cost items. A discussion of the risk analysis is included at the end of this appendix.

B.1.1 Plan Formation and Cost Estimates

The plan formulation is described in the main report and Appendix E. The final alternative considered includes a 200,000-acre-foot (ac-ft) reservoir, Alternative 1.

B.1.2 Project Scope for Recommended Plan

Alternative 1, the Recommended Plan, includes a 200,000 ac-ft aboveground storage reservoir north of the C-41A. The reservoir would cover an area of approximately 13,000 acres (ac) and be designed to have an average storage depth of 18 feet (ft) at its normal full-storage level. The reservoir would include two

pump stations, two outflow culverts, an outflow canal, an interior divider dam with a gated control structure, and two ungated overflow spillways.

Construction. The reservoir would be constructed with a perimeter dam and an interior divider dam, with each having an average height of approximately 33 ft above the ground. The perimeter dam would be approximately 18 miles (mi) around, allowing for recreational opportunities. Material from the Project footprint and the surrounding seepage canal would be used to construct the dams. A gated outflow culvert would be constructed on the west side of the reservoir to discharge water into C-41A upstream of S-83, while another gated culvert would be constructed near the southeast side of the reservoir to discharge water into C-41A, downstream of S-83.

The reservoir would be constructed to have two storage cells (i.e., east and west) split by an interior divider dam to reduce wave runup. The interior divider dam would include a 1,500-cubic-foot-per-second (cfs), gated water-control structure to allow for controlled conveyance of water between the two cells. Each cell would include an ungated overflow spillway designed to discharge into C-41A.

A seepage canal would be constructed outside the perimeter dam of the reservoir. Seepage from the reservoir would collect in the canal and be returned to the reservoir via seepage pump stations. If the seepage pump stations were not operational, the seepage collected in the canal would eventually overflow into the C-41A via overflow weir structures.

Operations. Two pump stations would be used to fill the reservoir at 1,500 cfs. One pump station would be located downstream of S-84 and move water from C-38 into C-41A, upstream of S-84. The second pump would be located on the C-41A canal upstream of State Highway 70 to pump water from C-41A directly into the reservoir. Water would be conveyed to the reservoir in one of two ways: (1) full or partial diversion of flow in C-41A downstream of S-83, or (2) back-pumping water from Lake Okeechobee via pumping from C-41A, downstream of S-84, into C-41A between S-83 and S-84. Water would be returned to Lake Okeechobee by discharging from the reservoir to C-41A upstream and/or downstream of S-83. The location of the reservoir outflow culverts would allow for water to be conveyed south to provide opportunities for storage in surrounding canals (e.g., C-41A, C-41, C-40, and C-39A).

B.2 Estimating Methodology

The Micro-Computer Aided Cost Estimating System (MCACES)/Second Generation (MII) cost estimate for the Selected Plan is based on the pre-final Engineering Appendix and Annex C-1 (Plans) provided. The estimate is formatted following the CWBS.

B.2.1 Quantities

Detailed quantity take-offs have been prepared for each of the primary features of the project and are consistent with the current level of design. Attachment 1 includes all quantity calculations currently developed for use in the estimate, sorted by proposed construction contract. These quantities include assumptions and sources of data used for the quantity development.

B.2.2 Work Breakdown Structure

The estimate includes both construction and non-construction costs. The construction costs, developed in MCACES, fall under the following feature codes:

- 03 Reservoirs;
- 09 Channels and Canals;
- 11 Levees and Floodwalls;
- 13 Pumping Plant;
- 14 Recreation Facilities; and
- 15 Flood Control and Diversion Structures.

The non-construction costs, included in the total project cost summary, fall under the following feature codes:

- 01 Lands and Damages;
- 30 Planning, Engineering, and Design; and
- 31 Construction Management.

B.2.3 MCACES Cost Item Development

The direct cost for Project elements identified in the plans and scope of work were developed in the MCACES/MII estimate using detailed labor, equipment, and materials for most of the cost items. Some cost items are priced using recent bids and quotes received on other similar reservoir projects in the area. The database line item productivities have been used where possible, with productivity adjustments made, as necessary. Where required, new crews have been created using the appropriate number of equipment, size of equipment, and labor trades to fit the work activity, and detailed production rate calculation have been developed (see Attachment 2). A majority of the costs have been compared with contractor bid prices from other reservoir projects in the area for reasonableness of use in this estimate.

B.2.4 Contracting Plan

Due to the size of the project, the estimate assumes this work would be broken out into seven (7) separate construction contracts. The prime contractors would be a heavy civil contractor and would self-perform embankment placement, excavation, and foundation drain installation for embankment and canal work. Primary subcontractor work in each contract has been assumed to include dewatering, landscaping, reinforced concrete, pile driving, asphalt, and pump installation.

B.2.5 Cost Estimate Productivities and Markups

Crew productivities were adjusted as necessary to be consistent with other ongoing and completed reservoir projects in the area, as well as to account for efficiency factors/weather delays. In addition, a 7 percent material sales tax and a 17 percent overtime markup have been included in the estimate.

The following prime contractor's markups were applied to the direct and subcontractor's costs:

- Job Office Overhead – Prime contractor job office overhead (JOOH) values are based on calculated values for each of the proposed construction contracts. Subcontractor JOOH is assumed to be 7.5 percent.
- Home Office Overhead – 8 percent prime contractor and 12.5 percent subcontractor.
- Profit – Prime contractor profits have been calculated using the profit weighted guidelines for each contract. Subcontractor profit is assumed to be 10 percent.
- Performance Bond – These have been calculated using Table B for each of the proposed contracts.

B.2.6 Non-Construction Costs

Non-construction costs include real estate, planning, engineering, and design (PED), and construction management (supervision and administration [S&A]). Real estate costs were taken from the Appendix D Real Estate. The total real estate cost input in the total project cost summary spreadsheet includes all costs for land payments, administrative costs, condemnations, relocation assistance and contingencies.

PED cost was calculated based upon a percentage of 25 percent of construction costs.

Construction management cost was calculated based upon a percentage of 9.2 percent of construction costs.

B.2.7 Tentative Project Schedule

A tentative project schedule was prepared to present a reasonable schedule for the work that could be used in estimating durations for job office overhead calculations within the cost estimate. The construction duration and sequence were established based on productivities from recent and ongoing reservoir projects in the area. The construction schedule will be updated as the design of the Project proceeds into plans and specifications phase. Once the contract is award, the contractor will provide a construction schedule that may be different from this draft schedule based on historical data. The Project schedule is provided in Attachment 3.

B.2.8 MCACES Summary

A detailed printout of the MCACES cost estimate is provided in Attachment 4. This summary presents the current construction costs of the project based on the assumptions and information discussed above.

Any estimate of total project and/or construction costs prepared by Tetra Tech represents its professional judgment at the time of this submittal and is supplied for the guidance of the client. Tetra Tech has developed the current construction cost estimate per USACE cost estimating guidance, along with the best available information, and Tetra Tech's cost estimating experience. But Tetra Tech does not have control over the cost of contractor labor and material, or over competitive bidding or market conditions. As such, Tetra Tech is not able to guarantee the accuracy of such estimates as compared to contractor bids or actual costs to the client at some future date.

B.3 Risk and Uncertainty Analysis

B.3.1 Risk Analysis Methods

The risk analysis process for this study followed the Corps requirements as well as the guidance provided by the Cost Engineering Directory of Expertise for Civil Works (Cost Engineering DX). The risk analysis process reflected within this report uses probabilistic cost and schedule risk analysis methods within the framework of the Oracle Crystal Ball software application. First, members of the Project Delivery Team (PDT) met to identify risk items for both the construction cost estimate and the construction schedule. Then, the risk register was completed (see Attachment 5). After that, the risk model was customized using commercially available Oracle Crystal Ball software. The most likely "high" and "low" values were assigned to estimate items using the software's "Assumption" function and the triangular distribution. "Forecasts" were then defined and the model was run.

After the model was run, the results were extracted from the sensitivity chart, the forecast chart, and the percentiles table for major items. The percentiles were then used to determine the contingency at the 80 percent confidence level. The appropriate contingency was then input in the total project cost summary spreadsheet.

B.3.2 Risk Analysis Results

The current risk analysis calculated a 54 percent contingency for costs and a 38 percent contingency on the schedule, which is based on the 80 percent confidence level. The current sensitivity charts, which provide an assessment of the contribution to the contingency calculation, are presented below.

Figure 1 - Sensitivity Chart, Construction Contingency

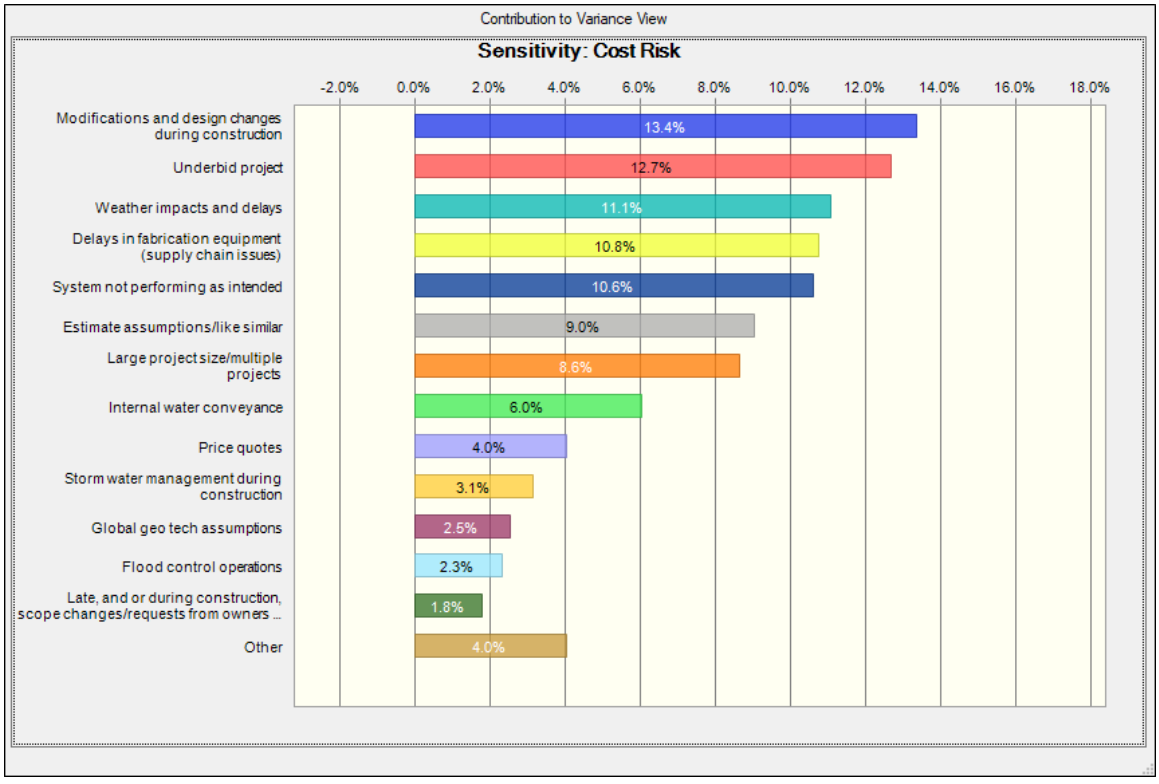
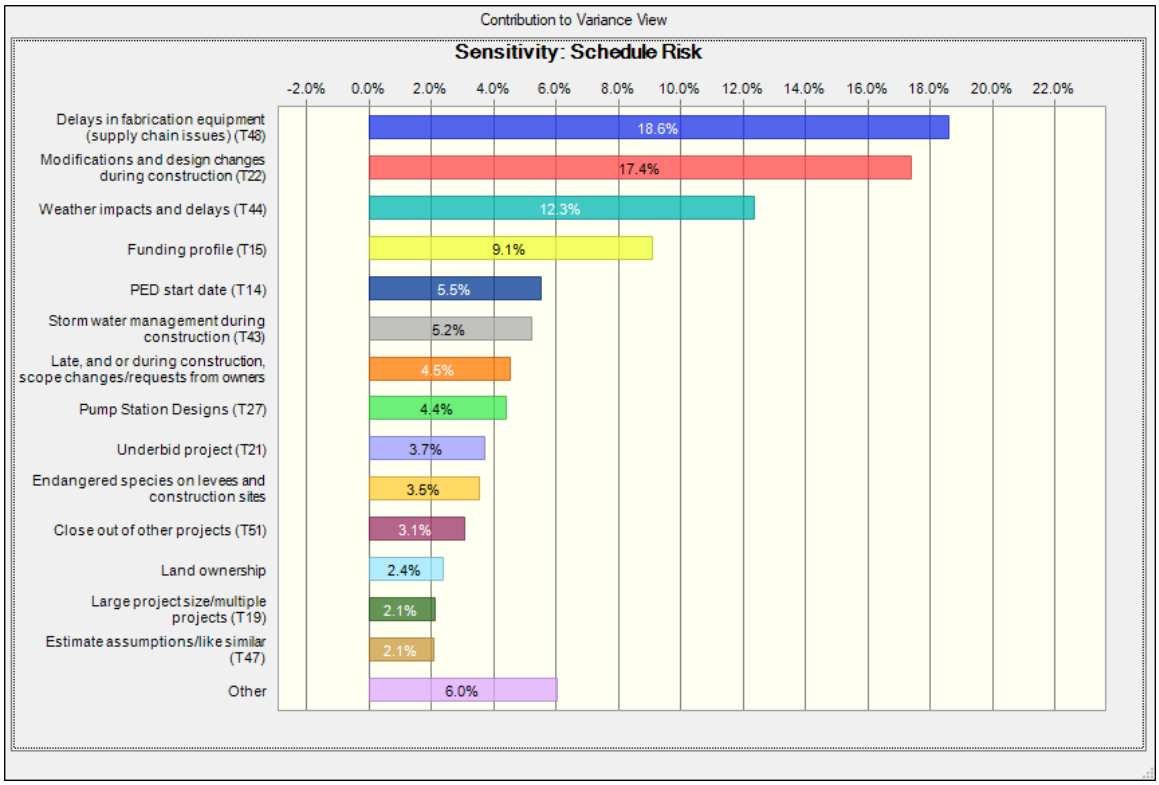


Figure 2 - Sensitivity Chart, Schedule Contingency



B.4 Total Project Cost Summary

The TPCS addresses inflation through Project completion (accomplished by escalation to midpoint of construction per ER 1110-2-1302, Appendix C). It is based on the scope of the Recommended Plan and the Project schedule. The TPCS includes federal and non-federal costs for lands and damages, all construction features, PED, and S&A, along with the appropriate contingencies and escalation associated with each of these activities as discussed above. The current TPCS is provided in Attachment 6.

B.4.1 Cost Agency Technical Review Certification

[*Preparer's Note: Certification from Walla Walla is expected in Fall 2023.*]

ATTACHMENT 1

QUANTITY TAKE-OFFS

Appendix

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

Cost Estimate Scope Assumptions, Representative Drawings, and Quantity Takeoffs

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

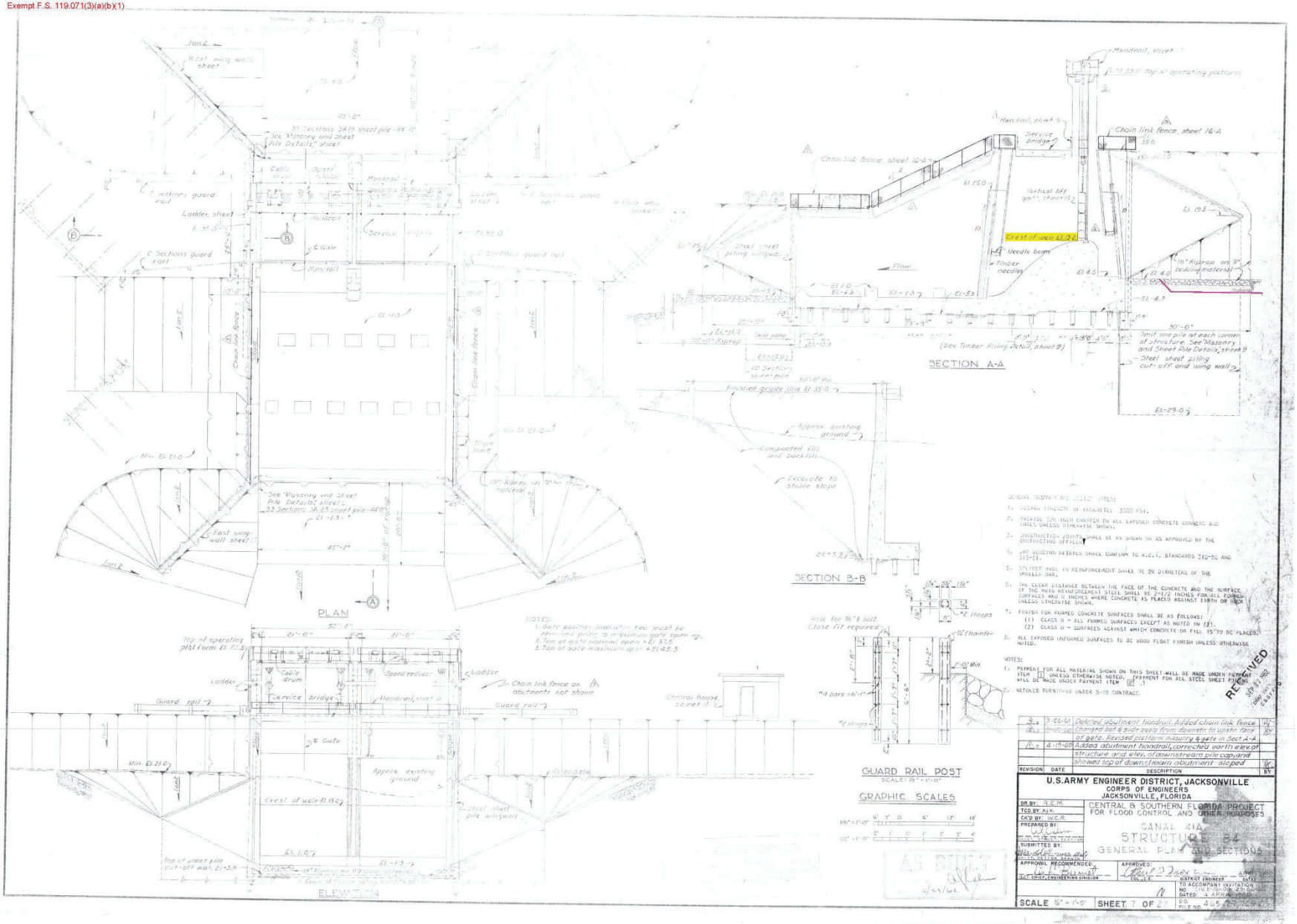
CONTRACT 1 – S-84 SITE

- Demo Spillway S-84 and S-84X
- Construct Spillway S-84+
- Construct Pump Station PS-1

Feature of Work:	STRUCTURE S-84+: DEMO EXISTING S-84 AND S-84A(X) SPILLWAY, CONSTRUCT NEW SPILLWAY
Scope Given:	To accommodate the peak design outflow rate from LOCAR during Probable Maximum Precipitation (PMP) Scenarios 1 and 2, and improve operational flexibility of C-41A, S-84+ will have three 22' wide x 14' tall roller gates, that will provide a total design discharge capacity of 9,000 cfs.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to existing S-84 and S-84A structures.
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature.
Sequence of Work:	
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: S-84 and S-84A

Exempt F.S. 119.071(3)(a)(b)(1)



Feature of Work:	STRUCTURE S-84: EXISTING SPILLWAY DEMO AND RE-CONSTRUCTION

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	210.0	FT	Assume 20' from top of excavation
Length	=	200.0	FT	Assume 20' from length of excavation
Depth	=	50.0	FT	Approx. from As-Built
Total Perimeter	=	820.0	LF	Sheetpile perimeter
Area	=	42,000.0	SF	

Spillway Excavation

Assume Spillway Excavation will be partially performed during canal excavation, if no canal exists

Length	=	160.0	FT	Add'l 40' assumed for wingwall installation each way
Total Depth	=	40.0	FT	
Thickness of Organic	=	2.0	FT	
Thickness of Cap Rock	=	8.0	FT	
Thickness of Fort Thompson	=	30.0	FT	
Canal Slope		1.5	:1	From Typical Sections
				Canal bottom: 80' wide, Canal top: 160' wide
Bottom Width	=	50.0	FT	
Top Width	=	170.0	FT	Assumes slope same as canal
Cross Section	=	2,000.0	SF	
Cross Section Organic	=	0.0	SF	Removed due to Existing
Cross Section of Cap Rock	=	0.0	SF	Removed due to Existing
Cross Section of Fort Thompson	=	0.0	SF	Removed due to Existing

Organic Cut Volume	=	0.0	CF	=	-	BCY	=	LCY
Cap Rock Cut Volume	=	0.0	CF	=	-	BCY	=	LCY
Fort Thompson Cut Volume	=	0.0	CF	=	-	BCY	=	LCY
EXCAVATION		TOTAL		=	-	BCY	=	- LCY

Structure Dimensions and Volumes

Units	=	-	EA	For use only if existing canal is located where structure is to be placed, tremie pour below area of structure, approx. 20 ft past structure dimensions, 5 ft thick	
Underwater Concrete Seal Volume (Unreinforced concrete)	=	-	CF		
Tremie Volume	=	-	CF	= - CY	Tremie Concrete

Structure	1		Length	80	ft	Width	50 ft
Gate Openings	2		Height	40	ft	Width	25 ft
Number of Gates	=	2.0	EA				

Foundation					
Depth	=	4.0	FT		Assumed
Length	=	80.0	FT		
Width	=	50.0	FT		
Volume	=	16,000.0	CF	=	592.6 CY
Superstructure/Gate Structure					
Number of Towers	=	3.0	EA		
Tower Cross-Section	=	129.5	SF		Approx. from As-Built
Tower Width	=	3.0	FT		
Volume	=	1,165.5	CF	=	43.2 CY

Number of Piers	=	1.0	EA				
Pier Top Cross-Section	=	120.0	SF		Approx. from As-Built		
Pier Height	=	35.0	FT		Approx. from As-Built		
Volume	=	4,200.0	CF	=	155.6	CY	
Abutment Walls	=	2.0	EA				
Side Cross-Section of Abutment Wall	=	2,300.0	SF		Approx. from As-Built		
Wall Width	=	2.5	FT		Approx. from As-Built		
Volume	=	11,500.0	CF	=	425.9	CY	
Operating Platform Cross-Section	=	4.5	SF		Approx. from As-Built		
Beam Length	=	45.0	FT		Width minus abutment walls		
volume of elevated beam	=	202.5	CF	=	7.5	CY	
Service Bridge Cross-Section	=	21.4	SF				
Width	=	45.0	FT				
Volume	=	964.1	CF	=	35.7	CY	
OGEE volume							
Cross section	=	250.0	SF		Approx. from As-Built		
Width	=	45.0	FT				
OGEE Spillway volume	=	11,250.0	CF	=	416.7	CY	
Elevated approach apron					Approx. from As-Built		
Length	=	6.5	FT				
Thickness	=	4.5	FT				
Volume	=	1,316.3	CF	=	48.8	CY	
Baffles							
Units	=	10.0	EA				
Length	=	3.0	FT				
Width	=	4.0	FT				
Thickness	=	2.3	FT				
Volume	=	276.0	CF	=	10.2	CY	
CONCRETE		TOTAL		=	1,736.1	CY	Concrete
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	20.8	CY	Rebar
					137.7	TONS	

Wing Walls and Cutoff

Assume same for US and DS sides

Wingwalls							
Number	=	4.0	EA				
Length	=	20.0	FT		Length to reach past riprap banks		
Depth	=	45.0	FT		Past bottom of structure of slab		
Area of Sheet Pile	=	3,600.0	SF				
Pile Cap					x4		
Height	=	2.0	FT				
Width	=	2.0	FT				
Volume	=	320.0	CF	=	11.9	CY	Concrete
Cutoff Walls							
Number	=	2.0	EA		US & DS		
Depth	=	15.0	FT		Min. 10' required		
Width	=	50.0	FT				

Area of Sheet Pile	=	1,500.0	SF				
TOTAL SHEETPILE		5,100.0	SF		Steel Sheetpile Wall		
Anchor Rod Length	=	60.0	FT				
spacing	=	4.0	FT				
number of rods	=	96.0	EA				

RIP RAP

Lengths and depths assumed, and similar on US and DS

Number	=	2.0	EA				
Length	=	50.0	FT		Average from As-Built (70'/30')		
Width	=	160.0	FT		Assume full Canal Width		
Depth	=	3.0	FT		Average depth		
Volume	=	48,000.0	CF	=	1,777.8	CY	Riprap
Geotextile Filter Fabric	=	9,000.0	SF		Fabric		

NEW GATES

Assumptions borrowed from As-Built or Similar Structure

Gate weight calculations

Height	=	12.0			Assume 2' taller than opening		
Width	=	22.0					
3/8" Plate steel	=	15.3	lb/sq ft		Given		
1/2" Plate steel	=	20.4	lb/sq ft		Given		
1" Plate Steel	=	40.8	lb/sq ft		Given		
Gate Skin 3/8" Plate Steel	=	264.0	sq ft		Same size as gate dimensions above		
3/8" Plate stiffeners and seal angles	=	87.0	sq ft		Assume 5 sq ft for seal angles and 82 for stiffeners		
Horizontal C-Channels (1/2")	=	541.7	sq ft		Assume ea. channel is equivalent to 26"x25' (10 Channels).		
Vertical C-Channels (1/2")	=	346.7	sq ft		Assume each vertical channel is 26"x16' (10 Channels).		
Pull Pad eyes (1")	=	4.0	sq ft		Assume 4 pad eyes per gate @ 1 sq ft each		
Total 3/8" Plus 10% for misc. items	=	386.1	sq ft	=	5,907.3	lbs	
Total 1/2" plus 15% for misc items	=	1,021.6	sq ft	=	20,840.3	lbs	
Total 1" steel	=	4.0	sq ft	=	163.2	lbs	
lbs/sq ft for 28'x14' gate	=	101.9	lb/sq ft				
Area of single gate	=	264.0	sq ft		assumed 3 ft bigger then opening in each direction		
Approximate weight of gate	=	26,910.8	lb				
Overweight factor for larger gates (10%)	=	29,601.9	LB EA	=	59,203.8	LB Total	
Total Steel Gate Weight				=	29.6	Tons	

Gate embeds/seal lengths

Gate Dimensions							
Width	=	22.0	FT				
Height	=	12.0	FT				
Gate Well Height	=	40.0	FT				
Gate Well Embed	=	102.0	FT				
Total Embed Length	=	204.0	FT		2 gates		
Seal Length	=	46.0	FT		seal length is the perimeter of bottom and both sides		
Total Seal Length	=	138.0	FT		total of 3 gates		
US and DS Bulkhead Slot	=	180.0	FT		6 times vertical plus width of new gate per slot		
Bulkheads	=	29,601.9	LB EA		Assume same size as gates		

Number	=	4.0	EA			x2 per gate needed
Total Length of embeds	=	384.0	FT			
Total Weight of Stoplogs	=	118,407.7	LB	=	59.2	Tons
TOTAL J BULB for GATES AND STOP LOGS	=	567.0	FT			

Backfill

Assume structure/wingwalls are backfilled as part of levee construction

Railings and Ladders

Railing				
Length	=	540.0	FT	Assumed 4 time the length of a wing wall and 6 times the width of the structure and twice the length
Height	=	3.5	FT	
Ladders				
Count	=	6.0	EA	Assumed ladders on each side of the structure
Height	=	18.5	FT	average of all three types
Total Height	=	111.0	FT	

Boat Barrier

Number	=	2.0	EA	
Piles for Buoys	=	3.0	EA	Assume barrier has 3 points (2 at shore, 1 at canal)
Length	=	180.0	FT/EA	Assumed
Total Length	=	360.0	FT	Buoy style barrier
Total Piles	=	6.0	EA	

Site Fencing

Length	=	1,000.0	FT	Approx. chainlink fence required ~600', assume 1,000'
Gates	=	4.0	EA	Assumed

SWPPP

Length	=	1,000.0	LF	Assumed
Floating Silt Boom	=	250.0	LF	Assumed

Control Building

Size	=	288.0	SF	12x24
Electrical	=	NEEDED		
Communications	=	NEEDED		
Modular Precast Concrete Structure				
Exterior Walls				
Height	=	12.0	FT	
Perimeter Length	=	72.0	FT	
Thickness	=	4.0	IN	
Volume	=	288.0	=	10.7 CY
Interior Wall				
Height	=	12.0	FT	

Length	=	12.0	FT				
Thickness	=	4.0	IN				
Volume	=	48.0		=	1.8	CY	
Floor Slab							
Thickness	=	6.0	IN				
Area	=	288.0	SF				
Volume	=	144.0	CF	=	5.3	CY	
Roof							
Thickness	=	5.0	IN				
Area	=	288.0	SF				
Volume	=	120.0	CF	=	4.4	CY	
Fuel Pad	=	96.0	CF		Assume 8'x12'x12" thick reinforced concrete slab on grade pad		
	=	3.6	CY				
CONCRETE		TOTAL		=	25.8	CY	
Total Doors	=	2.0	EA				
Size	=	4'-0" x 7'-0"					
Conduit Boxes	=	1.0	EA/DOOR				
Lock Boxes	=	1.0	EA/DOOR				
Fire Extinguishers	=	2.0	EA				
26" x 26" Exhaust Hoods	=	1.0	EA				
30" x 30" Exhaust Hoods	=	1.0	EA				
30" x 30"Intake Hoods	=	2.0	EA				
18" x 18" Intake Air Hood	=	1.0	EA				
18" x 18" Exhaust Hood	=	1.0	EA				
20" Exhaust Fan	=	1.0	EA		Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP		
12" Exhaust Fan	=	1.0	EA		Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP		
Generator Fuel Tank	=	1,000.0	GALLON				
Gravel Pad	=	216.0	CF		Assume 50% greater area than building, 6" thick		
	=	8.0	CY				
Filter Fabric		472.0	SF				

Quantities Summary

Coffer dam:	820.0	LF	
Coffer dam:	42,000.0	SF	
Tremie Concrete:	0.0	CY	
Excavation:	-	CY	
Concrete:	1,736.1	CY	
Steel Rebar:	20.8	CY (?)	
Steel Rebar:	137.7	TONS	
Sheetpile:	5,100.0	SF	160' Wall length x 30' Long sheets
Cap:	11.9	CY	
Railing:	540.0	LF	
Ladders:	6.0	EA	
Gates:	2.0	EA	12'x22'
Total steel gate wt	29.6	Tons	
Stoplogs	4.0	EA	
Total stoplog wt	59.20	Tons	
Seals:	138.0	LF	
Backfill:	-	LCY	
Rip-rap:	1,777.8	CY	
Geofabric:	9,000.0	SF	
Boat Barrier:	360.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	250.0	LF	
Silt Fence:	1,000.0	LF	
Control bldg.:	25.8	CY	Concrete
Total Doors	2.0	EA	Size 4'-0" x 7'-0"
Conduit Boxes	1.0	EA/DOOR	
Lock Boxes	1.0	EA/DOOR	
Fire Extinguishers	2.0	EA	
26" x 26" Exhaust Hoods	1.0	EA	
30" x 30" Exhaust Hoods	1.0	EA	
30" x 30"Intake Hoods	2.0	EA	
18" x 18" Intake Air Hood	1.0	EA	
18" x 18" Exhaust Hood	1.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	
CTRL BLDG Gravel Pad	8.0	CY	
CTRL BLDG Pad Fabric	472.0	SF	

DEMO

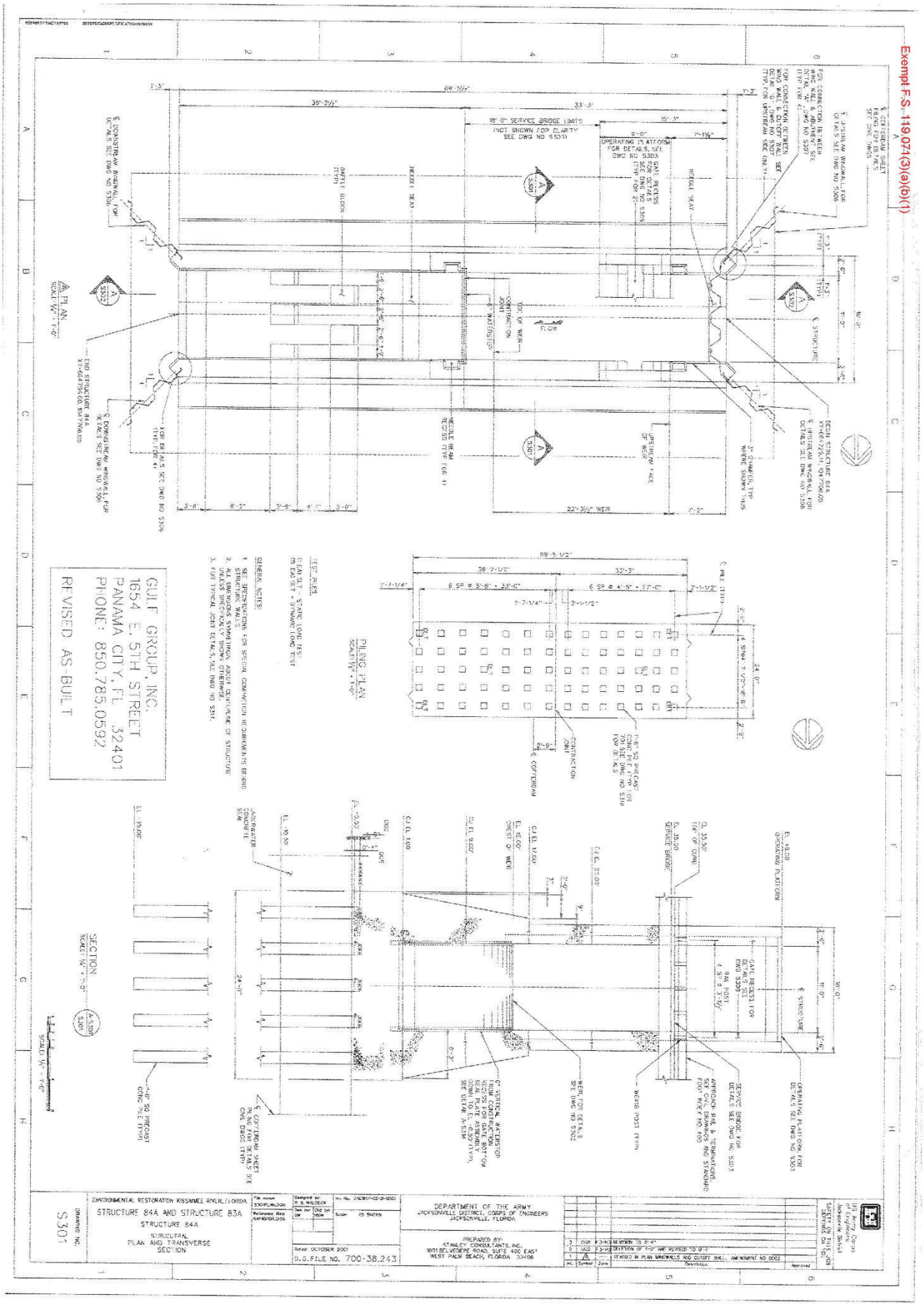
12"x15' Timber Pile Supports	162	ea	Approx. from As-Built

NEW

1.5'x30' SQ Concrete Piles	160	ea	Approx. @ 5' Spacing

Representative Drawings/Photos: S-84 and S-84A

Exempt F.S. 119.071(3)(a)(b)(1)



Feature of Work:	STRUCTURE S-84X: EXISTING SPILLWAY DEMO (assume similar to S-84, 1 gate)

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	176.0	FT	Assume 20' from top of excavation
Length	=	192.0	FT	Assume 20' from length of excavation
Depth	=	50.0	FT	Approx. from As-Built
Total Perimeter	=	736.0	LF	Sheetpile perimeter
Area	=	33,792.0	SF	

Spillway Excavation

Assume Spillway Excavation will be partially performed during canal excavation, if no canal exists

Length	=	152.0	FT			Add'l 40' assumed for wingwall installation each way		
Total Depth	=	40.0	FT					
Thickness of Organic	=	2.0	FT					
Thickness of Cap Rock	=	8.0	FT					
Thickness of Fort Thompson	=	30.0	FT					
Canal Slope		1.5	:1			From Typical Sections		
						Canal bottom: 80' wide, Canal top: 160' wide		
Bottom Width	=	16.0	FT					
Top Width	=	136.0	FT			Assumes slope same as canal		
Cross Section	=	640.0	SF					
Cross Section Organic	=	0.0	SF			Removed due to Existing		
Cross Section of Cap Rock	=	0.0	SF			Removed due to Existing		
Cross Section of Fort Thompson	=	0.0	SF			Removed due to Existing		
Organic Cut Volume	=	0.0	CF	=	-	BCY	=	LCY
Cap Rock Cut Volume	=	0.0	CF	=	-	BCY	=	LCY
Fort Thompson Cut Volume	=	0.0	CF	=	-	BCY	=	LCY
EXCAVATION		TOTAL		=	-	BCY	=	- LCY

Structure Dimensions and Volumes

Units	=	1.0	EA	For use only if existing canal is located where structure is to be placed, tremie pour below area of structure, approx. 20 ft past structure dimensions, 5 ft thick		
Underwater Concrete Seal Volume (Unreinforced concrete)	=	31,360.0	CF			
Tremie Volume	=	31,360.0	CF	=	1,161.5 CY	Tremie Concrete

Structure	1		Length	72	ft	Width	16 ft
Gate Openings	1		Height	40	ft	Width	25 ft

Number of Gates = 1.0 EA

Foundation

Depth	=	6.0	FT	Assumed	
Length	=	72.0	FT		
Width	=	16.0	FT		
Volume	=	6,912.0	CF	=	256.0 CY

Superstructure/Gate Structure

Number of Towers	=	2.0	EA		
Tower Cross-Section	=	129.5	SF	Approx. from As-Built	
Tower Width	=	3.0	FT		
Volume	=	777.0	CF	=	28.8 CY

Number of Piers	=	-	EA				
Pier Top Cross-Section	=	120.0	SF		Approx. from As-Built		
Pier Height	=	35.0	FT		Approx. from As-Built		
Volume	=	-	CF	=	-	CY	
Abutment Walls	=	2.0	EA				
Side Cross-Section of Abutment Wall	=	2,300.0	SF		Approx. from As-Built		
Wall Width	=	2.5	FT		Approx. from As-Built		
Volume	=	11,500.0	CF	=	425.9	CY	
Operating Platform Cross-Section	=	4.5	SF		Approx. from As-Built		
Beam Length	=	11.0	FT		Width minus abutment walls		
volume of elevated beam	=	49.5	CF	=	1.8	CY	
Service Bridge Cross-Section	=	21.4	SF				
Width	=	11.0	FT				
Volume	=	235.7	CF	=	8.7	CY	
OGEE volume							
Cross section	=	250.0	SF		Approx. from As-Built		
Width	=	11.0	FT				
OGEE Spillway volume	=	2,750.0	CF	=	101.9	CY	
Elevated approach apron					Approx. from As-Built		
Length	=	6.5	FT				
Thickness	=	4.5	FT				
Volume	=	321.8	CF	=	11.9	CY	
Baffles							
Units	=	4.0	EA				
Length	=	3.0	FT				
Width	=	4.0	FT				
Thickness	=	2.3	FT				
Volume	=	110.4	CF	=	4.1	CY	
CONCRETE		TOTAL		=	839.1	CY	Concrete
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	10.1	CY	Rebar
					66.6	TONS	

Wing Walls and Cutoff

Assume same for US and DS sides

Wingwalls							
Number	=	4.0	EA				
Length	=	60.0	FT		Length to reach past riprap banks		
Depth	=	47.0	FT		Past bottom of structure of slab		
Area of Sheet Pile	=	11,280.0	SF				
Pile Cap					x4		
Height	=	2.0	FT				
Width	=	2.0	FT				
Volume	=	960.0	CF	=	35.6	CY	Concrete
Cutoff Walls							
Number	=	2.0	EA		US & DS		
Depth	=	15.0	FT		Min. 10' required		
Width	=	16.0	FT				

Area of Sheet Pile	=	480.0	SF				
TOTAL SHEETPILE		11,760.0	SF			Steel Sheetpile Wall	
Anchor Rod Length	=	60.0	FT				
spacing	=	4.0	FT				
number of rods	=	96.0	EA				

RIP RAP

Lengths and depths assumed, and similar on US and DS

Number	=	2.0	EA				
Length	=	50.0	FT			Average from As-Built (70'/30')	
Width	=	160.0	FT			Assume full Canal Width	
Depth	=	3.0	FT			Average depth	
Volume	=	48,000.0	CF	=	1,777.8	CY	Riprap
Geotextile Filter Fabric	=	9,000.0	SF			Fabric	

GATES

Assumptions borrowed from As-Built or Similar Structure

Gate weight calculations

Height	=	12.0				Assume 2' taller than opening	
Width	=	22.0					
3/8" Plate steel	=	15.3	lb/sq ft			Given	
1/2" Plate steel	=	20.4	lb/sq ft			Given	
1" Plate Steel	=	40.8	lb/sq ft			Given	
Gate Skin 3/8" Plate Steel	=	264.0	sq ft			Same size as gate dimensions above	
3/8" Plate stiffeners and seal angles	=	87.0	sq ft			Assume 5 sq ft for seal angles and 82 for stiffeners	
Horizontal C-Channels (1/2")	=	541.7	sq ft			Assume ea. channel is equivalent to 26"x25' (10 Channels).	
Vertical C-Channels (1/2")	=	346.7	sq ft			Assume each vertical channel is 26"x16' (10 Channels).	
Pull Pad eyes (1")	=	4.0	sq ft			Assume 4 pad eyes per gate @ 1 sq ft each	
Total 3/8" Plus 10% for misc. items	=	386.1	sq ft	=	5,907.3	lbs	
Total 1/2" plus 15% for misc items	=	1,021.6	sq ft	=	20,840.3	lbs	
Total 1" steel	=	4.0	sq ft	=	163.2	lbs	
lbs/sq ft for 28'x14' gate	=	101.9	lb/sq ft				
Area of single gate	=	264.0	sq ft			assumed 3 ft bigger then opening in each direction	
Approximate weight of gate	=	26,910.8	lb				
Overweight factor for larger gates (10%)	=	29,601.9	LB EA	=	29,601.9	LB Total	
Total Steel Gate Weight				=	14.8	Tons	

Gate embeds/seal lengths

Gate Dimensions							
Width	=	22.0	FT				
Height	=	12.0	FT				
Gate Well Height	=	40.0	FT				
Gate Well Embed	=	102.0	FT				
Total Embed Length	=	102.0	FT			2 gates	
Seal Length	=	46.0	FT			seal length is the perimeter of bottom and both sides	
Total Seal Length	=	138.0	FT			total of 3 gates	
US and DS Bulkhead Slot	=	180.0	FT			6 times vertical plus width of new gate per slot	
Bulkheads	=	29,601.9	LB EA			Assume same size as gates	

Number	=	2.0	EA		x2 per gate needed
Total Length of embeds	=	282.0	FT		
Total Weight of Stoplogs	=	59,203.8	LB	=	29.6 Tons
TOTAL J BULB for GATES AND STOP LOGS	=	567.0	FT		

Backfill

Assume structure/wingwalls are backfilled as part of levee construction

Railings and Ladders

Railing				
Length	=	480.0	FT	Assumed 4 time the length of a wing wall and 6 times the width of the structure and twice the length
Height	=	3.5	FT	
Ladders				
Count	=	6.0	EA	Assumed ladders on each side of the structure
Height	=	18.5	FT	average of all three types
Total Height	=	111.0	FT	

Boat Barrier

Number	=	2.0	EA	
Piles for Buoys	=	3.0	EA	Assume barrier has 3 points (2 at shore, 1 at canal)
Length	=	180.0	FT/EA	Assumed
Total Length	=	360.0	FT	Buoy style barrier
Total Piles	=	6.0	EA	

Site Fencing

Length	=	1,000.0	FT	Approx. chainlink fence required ~600', assume 1,000'
Gates	=	4.0	EA	Assumed

SWPPP

Length	=	1,000.0	LF	Assumed
Floating Silt Boom	=	250.0	LF	Assumed

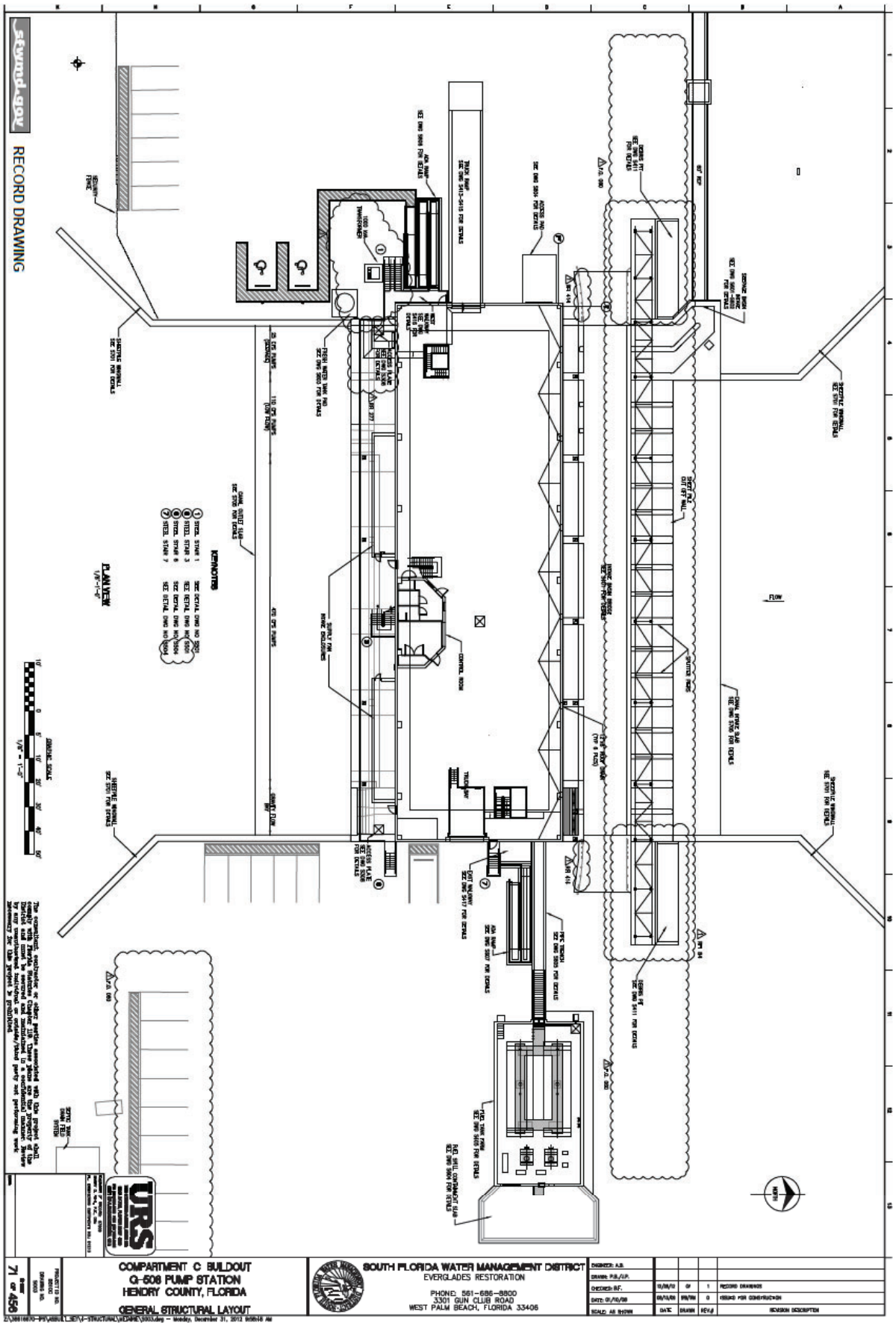
Quantities Summary

Coffer dam:	736.0	LF	
Coffer dam:	33,792.0	SF	
Tremie Concrete:	1,161.5	CY	
Excavation:	-	CY	
Concrete:	839.1	CY	
Steel Rebar:	10.1	CY (?)	
Steel Rebar:	66.6	TONS	
Sheetpile:	11,760.0	SF	160' Wall length x 30' Long sheets
Cap:	35.6	CY	
Railing:	480.0	LF	
Ladders:	6.0	EA	
Gates:	1.0	EA	12'x22'
Total steel gate wt	14.8	Tons	
Stoplogs	2.0	EA	
Total stoplog wt	29.60	Tons	
Seals:	138.0	LF	
Backfill:	-	LCY	
Rip-rap:	1,777.8	CY	
Geofabric:	9,000.0	SF	
Boat Barrier:	360.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	250.0	LF	
Silt Fence:	1,000.0	LF	

1.5'x30' SQ Concrete Piles	70	ea	Approx. @ 4' Spacing

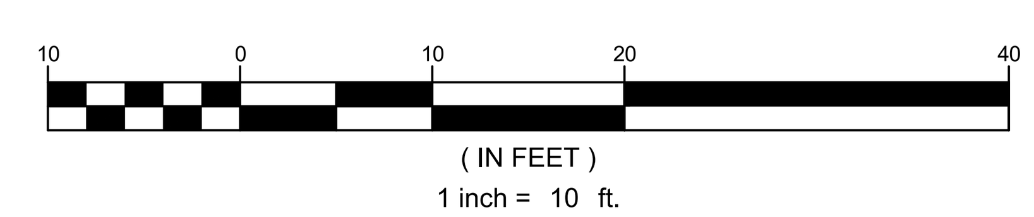
Feature of Work:	STRUCTURE PS-1: 1,500 CFS DIESEL ELECTRIC PUMP STATION
Scope Given:	1,500 CFS diesel pump station (by-pass not required for construction). Pump Station PS-1 (S-84) will pump water from the C-41A Canal toward the LOCAR Site, South of .the S-83 Structure.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure Pump Station G-508 with a smaller capacity. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume there will be a total of four 375 cfs pumps. – Assume discharge of pumps will be piped by 6-8' diameter pipes. – Assume the discharge structure will consist of a concrete headwall full height of the canal 30 ft wide 18 inch thick reinforced concrete, 20'x30' apron 18 inch thick reinforced concrete, wing walls extending 30ft up and downstream of the discharge point sloping from full height of the canal to bottom of canal 18 inch thick reinforced concrete and riprap lining 136 ft beyond the concrete apron. – Assume the excavation will extend 3 feet below the inflow canal bottom elevation. – Assume pump station will be constructed of reinforced concrete below grade and a combination of cast-in-place columns and reinforced CMU walls. – Assume a fuel pad will be required for storage tanks for the diesel pump and the diesel generator, assumed 2 feet thick reinforced concrete.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *Updated with some features shown on site planning documents.
Sequence of Work:	Cap slab will be placed in bottom of excavation. Structure will be built and excavation for the inlet basin will commence. Suction apron will be placed along with excavation for discharge piping and discharge headwall/discharge apron. Excavate out discharge piping and backfill levee.
Key Challenges, Risks, and Opportunities	

Representative Drawings/Photos: PS-1



LOCAR RECOMMENDED PLAN

SECTION - PS-1 PUMP STATION



NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE PS-1: 1,500 CFS DIESEL ELECTRIC PUMP STATION

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	294.0	FT	Assume 20' from top of excavation
Length	=	306.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	1,200.0	LF	Sheetpile perimeter
Area	=	89,964.0	SF	

Pump Station Excavation

Length	=	266.0	FT			Compared to G-508			
Total Depth	=	26.0	FT			Assumed			
Thickness of Organic	=	2.0	FT						
Thickness of Cap Rock	=	8.0	FT						
Thickness of Fort Thompson	=	16.0	FT						
Slope1	=	2.0	:1						
Slope2	=	2.0	:1						
Bottom Width	=	150.0	FT			Compared to G-508			
Top Width	=	254.0	FT						
Cross Section	=	5,252.0	SF						
Cross Section Organic	=	500.0	SF						
Cross Section of Cap Rock	=	1,840.0	SF						
Cross Section of Fort Thompson	=	2,912.0	SF						
Organic Cut Volume	=	133,000.0	CF	=	4,925.9	BCY	=		LCY
Cap Rock Cut Volume	=	489,440.0	CF	=	18,127.4	BCY	=		LCY
Fort Thompson Cut Volume	=	774,592.0	CF	=	28,688.6	BCY	=		LCY
EXCAVATION		TOTAL		=	51,741.9	BCY		64,677.4	LCY

Structure Dimensions and Volumes

Structure	1	Length	171	ft	Width	218	ft
Intake Bays	3	Height	49	ft			

Foundation						
Depth	=	4.0	FT		Assumed	
Length	=	171.0	FT			
Width	=	218.0	FT			
Volume	=	149,112.0	CF	=	5,522.7	CY
Superstructure						
Number of Piers	=	2.0	EA			
Pier Width	=	2.0	FT		Assumed	
Pier Length	=	136.8	FT		Borrowed from similar	
Pier Height	=	45.0	FT		Structure Height below Control Building	
Volume	=	24,624.0	CF	=	912.0	CY
Abutment Walls	=	2.0	EA			
Abutment Width	=	2.0	FT		Borrowed from similar	
Abutment Length	=	136.8	FT		Borrowed from similar	
Abutment Height	=	45.0	FT		Structure Height below Control Building	
Discharge Wall	=	1.0	EA			
Discharge Wall Width	=	2.0	FT			

Discharge Wall Length	=	218.0	FT				
Discharge Wall Height	=	45.0	FT				
Volume	=	44,244.0	CF	=	1,638.7	CY	
Beam Cross-Section	=	6.0	SF		Borrowed from similar		
Beam Length	=	210.0	FT				
volume of elevated beam	=	1,260.0	CF	=	46.7	CY	
Cross-Section of Bridge and Ctrl Bldg Slab	=	162.0	SF				
Width	=	214.0	FT				
Volume	=	34,668.0	CF	=	1,284.0	CY	
Wing Walls							
Number	=	2.0	EA				
Depth	=	12.5	FT		Average depth		
Length	=	80.0	FT		Borrowed from similar		
Width	=	2.0	FT		Borrowed from similar		
Volume	=	4,000.0	CF	=	148.1		
Control Building							
Building Cross-Section	=	308.5	SF		Borrowed from similar		
Building Length	=	220.0	FT		Borrowed from similar		
Outside Wall Width	=	76.0	FT		Borrowed from similar		
Outside Wall Thickness	=	1.0	FT		Borrowed from similar		
Outside Wall Height	=	40.0	FT		Borrowed from similar		
Volume	=	70,910.0	CF	=	2,626.3		
CONCRETE		TOTAL		=	12,178.4	CY	Concrete
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	146.1	CY	Rebar
					965.9	TONS	

Discharge Piping

6' Dia. Pipes	=	4.0	EA				
Length of Pipes	=	400.0	LF		Assume all pipes equal length to discharge		
Total 6' Dia. Pipes	=	1,600.0	LF		All piping 0.75" thick steel with x4 45 degree bends per pipe run		
s							
Total 8' Dia. Pipes 45 degree bends	=	16.0	EA		x4 per pipe for going over levee		

Pumps

375 CFS Pumps	=	4.0	EA		Per Structure Summary		

RIP RAP

Lengths and depths assumed, and similar on US and DS							
Number	=	1.0	EA				
Length	=	136.0	FT		Assumed width of canal		
Width	=	218.0	FT		Assumed		
Depth	=	3.0	FT		Average depth		
Volume	=	88,944.0	CF	=	3,294.2	CY	Riprap
Geotextile Filter Fabric	=	32,368.0	SF		Fabric		

Boat Barrier

Number	=	1.0	EA				

Piles for Buoys	=	3.0	EA		Assume barrier has 3 points (2 at shore, 1 at canal)
Length	=	170.0	FT/EA		
Total Length	=	170.0	FT		Buoy style barrier
Total Piles	=	3.0	EA		

Station and Building Equipment

Trash Rack Surface Area (total)	=	9,180.0	SF		Assume Trash rake is 60 ft tall and covers the width of the operating floor (153')
Roll Up Garage Door	=	168.0	SF		Assume Roll up garage door 12'x14'
# of Doors	=	4.0	ea		Assume 1 set of double doors and two other doors
# louver openings	=	8.0	ea		Assume 8 louver openings 7'-4" square
Overhead Crane	=	2.0	ea		Assume 2 overhead cranes @ 25 tons each
Power Line Connection	=	2,500.0	LF		Assume power available 2500 lf from site
Septic tank system	=	1.0	ea		Assume 1 septic tank system
Potable water	=	1.0	ea		Assume 1 potable water well will be required
Generator Fuel Tank	=	2000 Gallon	ea		Assume five 2000 gallon fuel tanks required
Fuel Pad dimensions	=	2,000.0	SF		Assume two 100'x20'x8" thick reinforced concrete slab on grade pad
		1,333.3	CF	= 49.4	CY
Floor Steel Grating	=	548.0	SF		Assume Wdith Bay (13'x5+18'x4) by 4'
Ladders	=	342.0	VLF		Assume 38 ft per pump bay (9 bays) of the operating floor
Concrete bollard	=	4.9	CF		8" DIA. Bollard, 56" tall, x1 per bay
Concrete barrier	=	419.6	CF		FDOT Inex 415, N.J. Shape Barrier
	SUM	424.5	CF	= 15.7	CY
CONCRETE		TOTAL		= 65.1	CY Concrete
Chain link Fence	=	2,280.0	LF		Assume Similar to Merritt Pump Station
Silt Fence	=	3,700.0	LF		Assume similar to Merritt Pump Station
Silt Boom	=	600.0	LF		Assume similar to Merritt Pump Station
Conduit Boxes	=	1.0	EA/DOOR		
Lock Boxes	=	1.0	EA/DOOR		
Fire Extinguishers	=	2.0	EA		
20" Exhaust Fan	=	1.0	EA		Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP
12" Exhaust Fan	=	1.0	EA		Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP

Quantities Summary

Coffer dam:	1,200.0	LF	
Coffer dam:	89,964.0	SF	
Excavation:	51,741.9	CY	
Concrete:	12,178.4	CY	
Steel Rebar:	146.1	CY (?)	
Steel Rebar:	965.9	TONS	
Backfill:	64,677.4	LCY	
6' Discharge Pipe	1,600.0	LF	0.75" thick
6' Steel 45-bend	16.0	EA	0.75" thick
375 CFS Pump	4.0	EA	
Rip-rap:	3,294.2	CY	
Geofabric:	32,368.0	SF	
Boat Barrier:	170.0	LF	
Barrier Piles:	3.0	EA	
Control bld.:	65.1	CY	
Trash Rack	9,180.0	SF	
Roll Up Garage Door:	168.0	SF	Concrete
Total Doors	4.0	EA	
Conduit Boxes	1.0	EA/DOOR	12' x 14'
Lock Boxes	1.0	EA/DOOR	Size 4'-0" x 7'-0"
Louver Openings	8.0	EA	
Overhead Crane	2.0	EA	
Power Line Connection	2,500.0	LF	
Generator Fuel Tank	2,000.0	GALLONS	
Septic Tank System	1.0	EA	Assume available 2500LF
Potable Water Well	1.0	EA	
Steel Grate	548.0	SF	
Ladders	9.0	EA	
Concrete:	65.1	CY	
Chainlink Fence	2,280.0	LF	38' EA
Silt Fence	3,700.0	LF	Fuel pad, bollards, barrier
Silt Boom	600.0	LF	
Fire Extinguishers	2.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	

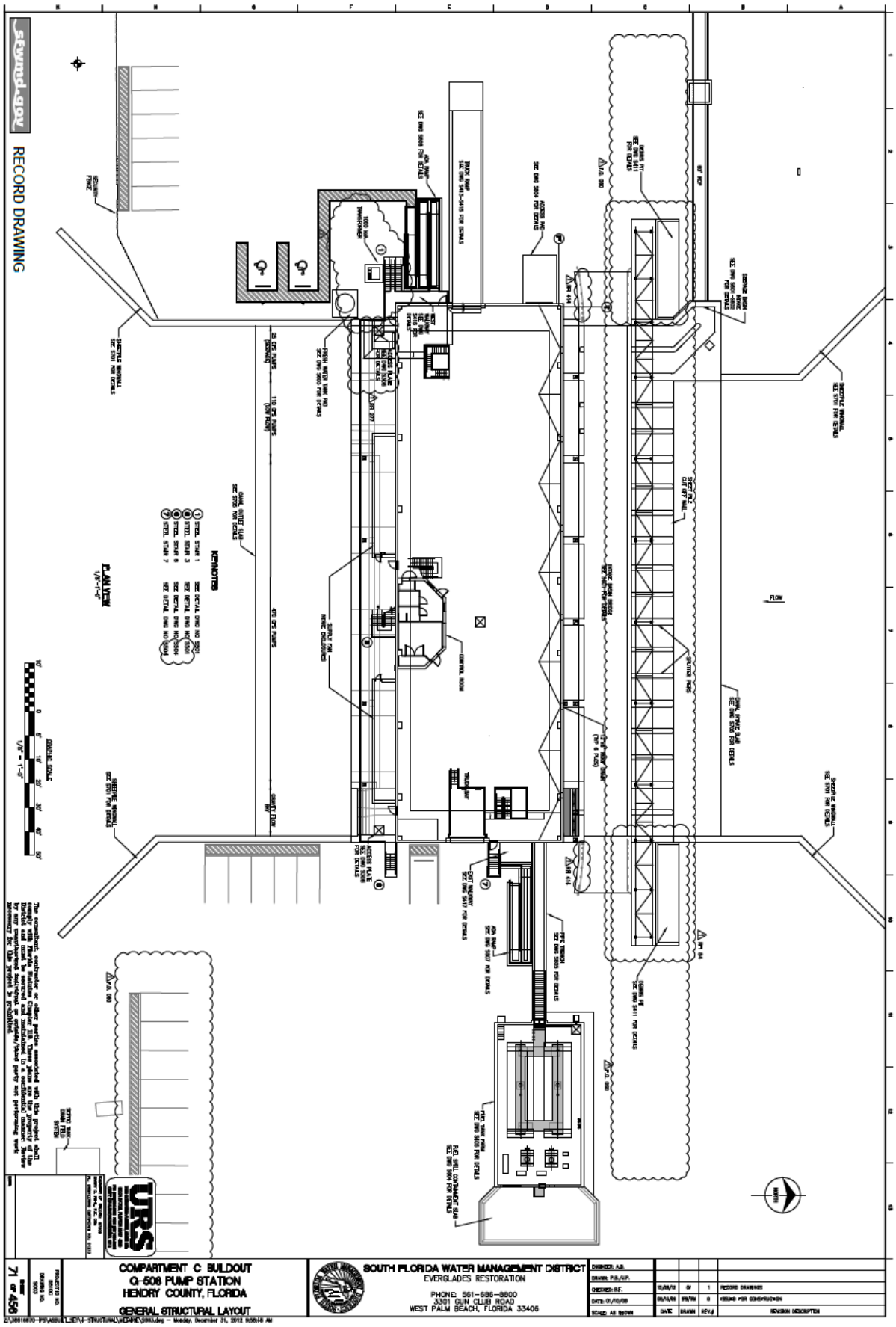
LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

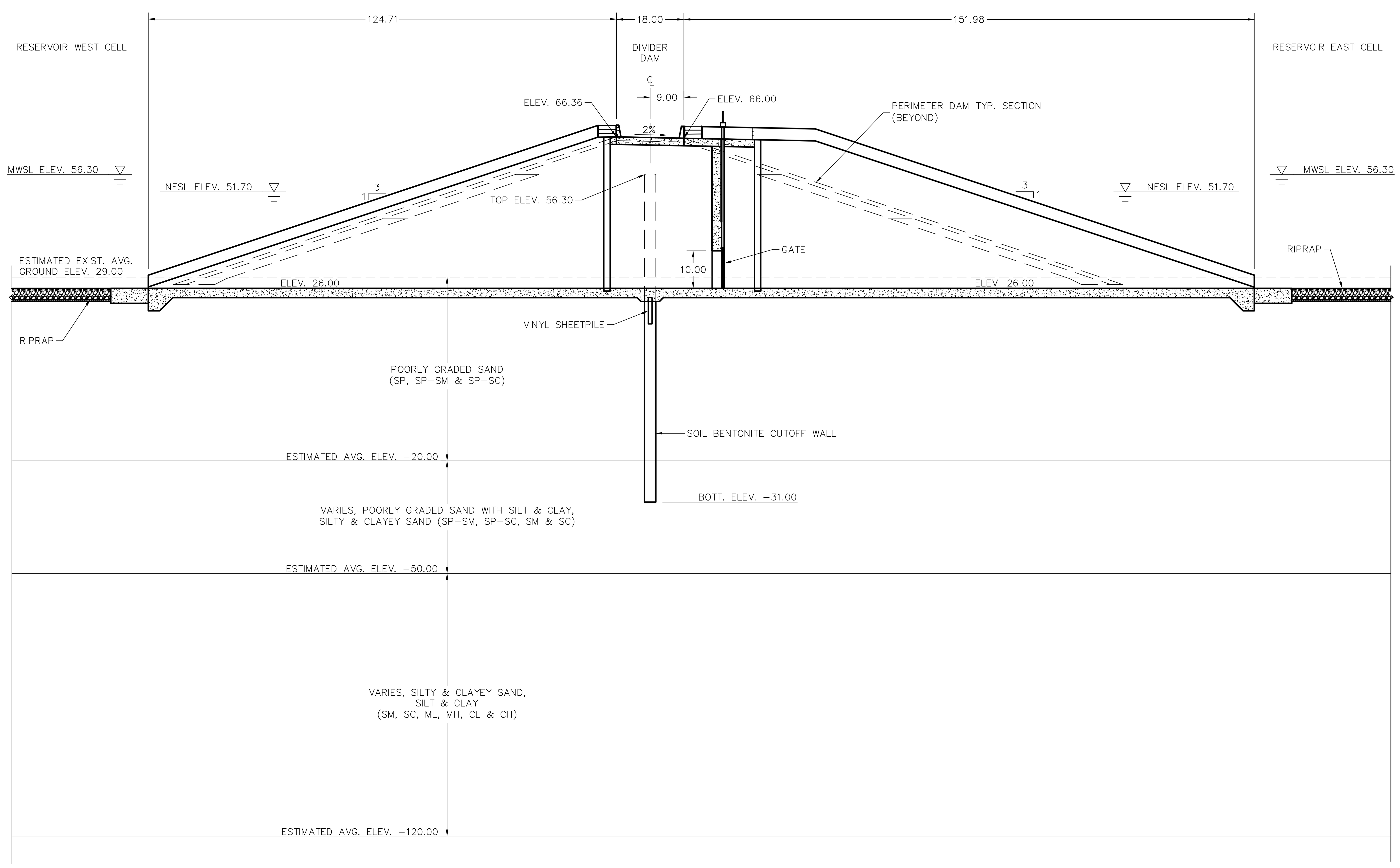
CONTRACT 2 – RESERVOIR INFLOW PUMP STATION SITE

- Construct Pump Station PS-2
- Construct Pump Station SPS-1
- Construct Res. Inflow-Outflow Canal CNL-2
- Construct Gated Outflow Culvert CU-1B
- Construct Canal Overflow Structure PCOS-1

Feature of Work:	STRUCTURE PS-2: 1,500 CFS DIESEL ELECTRIC PUMP STATION
Scope Given:	1,500 CFS diesel pump station (by-pass not required for construction). Pump Station PS-2 will be the inflow pump Station near C-41A to pump water from the Canal into the Reservoir East Cell.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure Pump Station G-508 with a smaller capacity. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume there will be a total of four 375 cfs pumps. – Assume discharge of pumps will be piped by 6-8' diameter pipes. – Assume the discharge structure will consist of a concrete headwall full height of the canal 30 ft wide 18 inch thick reinforced concrete, 20'x30' apron 18 inch thick reinforced concrete, wing walls extending 30ft up and downstream of the discharge point sloping from full height of the canal to bottom of canal 18 inch thick reinforced concrete and riprap lining 136 ft beyond the concrete apron. – Assume the excavation will extend 3 feet below the inflow canal bottom elevation. – Assume pump station will be constructed of reinforced concrete below grade and a combination of cast-in-place columns and reinforced CMU walls. – Assume a fuel pad will be required for storage tanks for the diesel pump and the diesel generator, assumed 2 feet thick reinforced concrete.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length. *Updated with some features shown on site planning documents.
Sequence of Work:	Cap slab will be placed in bottom of excavation. Structure will be built and excavation for the inlet basin will commence. Suction apron will be placed along with excavation for discharge piping and discharge headwall/discharge apron. Excavate out discharge piping and backfill levee.
Key Challenges, Risks, and Opportunities	

Representative Drawings/Photos: PS-2





LEGEND:

- SOIL REMOVAL/EXCAVATION
- 6" THICK TOPSOIL LAYER
- SOIL CEMENT REVETMENT
- EMBANKMENT FILL
- CLEAN SAND
- FILTER SAND (FDOT 902-4)
- LIMEROCK BASE
- RIPRAP
- BEDDING STONE
- CONCRETE

LOCAR RECOMMENDED PLAN

SECTION - DDS-1 DIVIDER DAM STRUCTURE

20 0 20 40 80

(IN FEET)

1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE PS-2: 1,500 CFS DIESEL ELECTRIC PUMP STATION

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	294.0	FT	Assume 20' from top of excavation
Length	=	306.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	1,200.0	LF	Sheetpile perimeter
Area	=	89,964.0	SF	

Pump Station Excavation

Length	=	266.0	FT			Compared to G-508			
Total Depth	=	26.0	FT			Assumed			
Thickness of Organic	=	2.0	FT						
Thickness of Cap Rock	=	8.0	FT						
Thickness of Fort Thompson	=	16.0	FT						
Slope1	=	2.0	:1						
Slope2	=	2.0	:1						
Bottom Width	=	150.0	FT			Compared to G-508			
Top Width	=	254.0	FT						
Cross Section	=	5,252.0	SF						
Cross Section Organic	=	500.0	SF						
Cross Section of Cap Rock	=	1,840.0	SF						
Cross Section of Fort Thompson	=	2,912.0	SF						
Organic Cut Volume	=	133,000.0	CF	=	4,925.9	BCY	=		LCY
Cap Rock Cut Volume	=	489,440.0	CF	=	18,127.4	BCY	=		LCY
Fort Thompson Cut Volume	=	774,592.0	CF	=	28,688.6	BCY	=		LCY
EXCAVATION		TOTAL		=	51,741.9	BCY		64,677.4	LCY

Structure Dimensions and Volumes

Structure	1	Length	171	ft	Width	218	ft
Intake Bays	3	Height	49	ft			

Foundation						
Depth	=	4.0	FT		Assumed	
Length	=	171.0	FT			
Width	=	218.0	FT			
Volume	=	149,112.0	CF	=	5,522.7	CY
Superstructure						
Number of Piers	=	2.0	EA			
Pier Width	=	2.0	FT		Assumed	
Pier Length	=	136.8	FT		Borrowed from similar	
Pier Height	=	45.0	FT		Structure Height below Control Building	
Volume	=	24,624.0	CF	=	912.0	CY
Abutment Walls	=	2.0	EA			
Abutment Width	=	2.0	FT		Borrowed from similar	
Abutment Length	=	136.8	FT		Borrowed from similar	
Abutment Height	=	45.0	FT		Structure Height below Control Building	
Discharge Wall	=	1.0	EA			
Discharge Wall Width	=	2.0	FT			

Discharge Wall Length	=	218.0	FT				
Discharge Wall Height	=	45.0	FT				
Volume	=	44,244.0	CF	=	1,638.7	CY	
Beam Cross-Section	=	6.0	SF		Borrowed from similar		
Beam Length	=	210.0	FT				
volume of elevated beam	=	1,260.0	CF	=	46.7	CY	
Cross-Section of Bridge and Ctrl Bldg Slab	=	162.0	SF				
Width	=	214.0	FT				
Volume	=	34,668.0	CF	=	1,284.0	CY	
Wing Walls							
Number	=	2.0	EA				
Depth	=	12.5	FT		Average depth		
Length	=	80.0	FT		Borrowed from similar		
Width	=	2.0	FT		Borrowed from similar		
Volume	=	4,000.0	CF	=	148.1		
Control Building							
Building Cross-Section	=	308.5	SF		Borrowed from similar		
Building Length	=	220.0	FT		Borrowed from similar		
Outside Wall Width	=	76.0	FT		Borrowed from similar		
Outside Wall Thickness	=	1.0	FT		Borrowed from similar		
Outside Wall Height	=	40.0	FT		Borrowed from similar		
Volume	=	70,910.0	CF	=	2,626.3		
CONCRETE		TOTAL		=	12,178.4	CY	Concrete
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	146.1	CY	Rebar
					965.9	TONS	

Discharge Piping

6' Dia. Pipes	=	4.0	EA				
Length of Pipes	=	400.0	LF		Assume all pipes equal length to discharge		
Total 6' Dia. Pipes	=	1,600.0	LF		All piping 0.75" thick steel with x4 45 degree bends per pipe run		
s							
Total 8' Dia. Pipes 45 degree bends	=	16.0	EA		x4 per pipe for going over levee		

Pumps

375 CFS Pumps	=	4.0	EA		Per Structure Summary		

RIP RAP

Lengths and depths assumed, and similar on US and DS							
Number	=	1.0	EA				
Length	=	136.0	FT		Assumed width of canal		
Width	=	218.0	FT		Assumed		
Depth	=	3.0	FT		Average depth		
Volume	=	88,944.0	CF	=	3,294.2	CY	Riprap
Geotextile Filter Fabric	=	32,368.0	SF		Fabric		

Boat Barrier

Number	=	1.0	EA				

Piles for Buoys	=	3.0	EA		Assume barrier has 3 points (2 at shore, 1 at canal)
Length	=	170.0	FT/EA		
Total Length	=	170.0	FT		Buoy style barrier
Total Piles	=	3.0	EA		

Station and Building Equipment

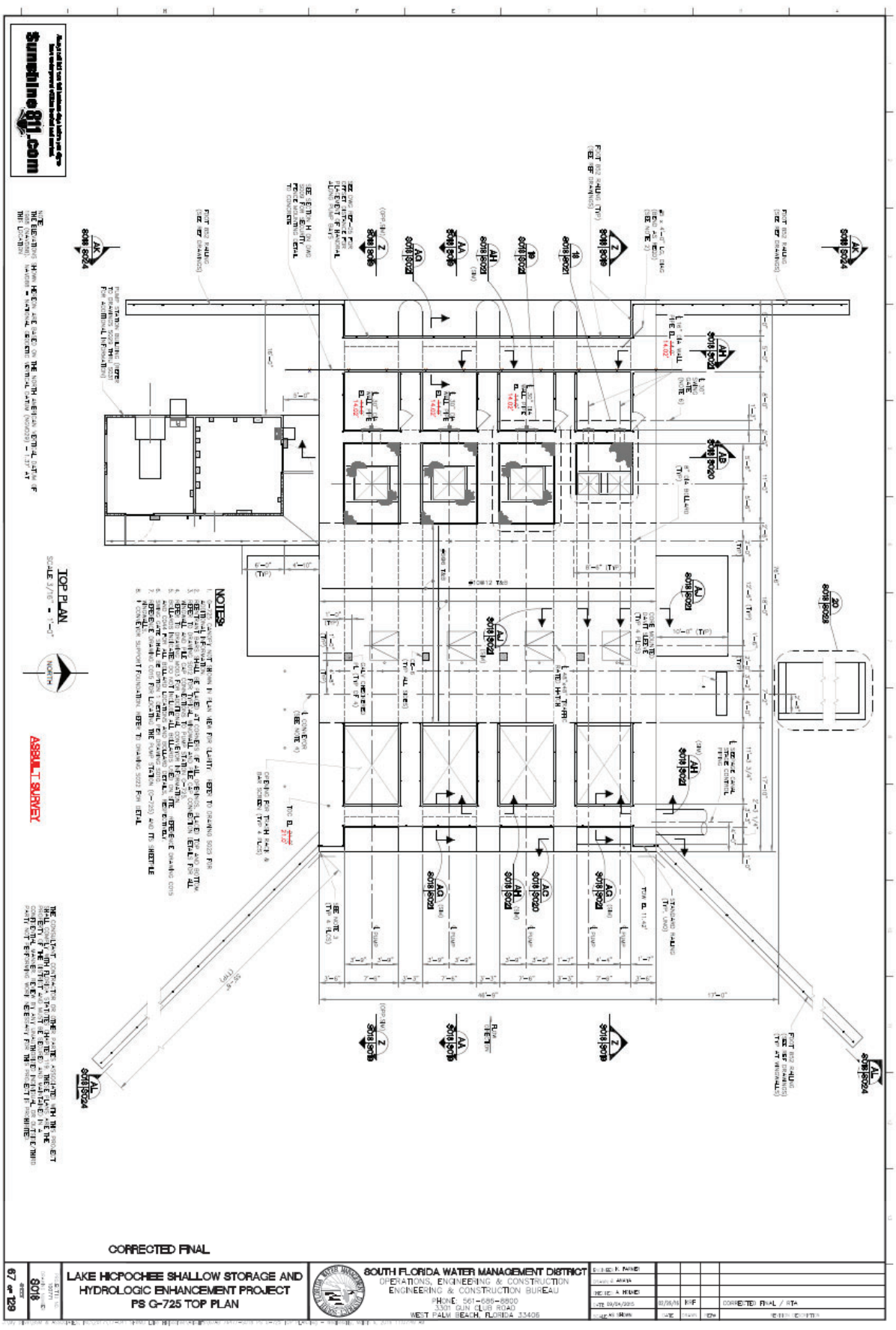
Trash Rack Surface Area (total)	=	9,180.0	SF		Assume Trash rake is 60 ft tall and covers the width of the operating floor (153')
Roll Up Garage Door	=	168.0	SF		Assume Roll up garage door 12'x14'
# of Doors	=	4.0	ea		Assume 1 set of double doors and two other doors
# louver openings	=	8.0	ea		Assume 8 louver openings 7'-4" square
Overhead Crane	=	2.0	ea		Assume 2 overhead cranes @ 25 tons each
Power Line Connection	=	2,500.0	LF		Assume power available 2500 lf from site
Septic tank system	=	1.0	ea		Assume 1 septic tank system
Potable water	=	1.0	ea		Assume 1 potable water well will be required
Generator Fuel Tank	=	2000 Gallon	ea		Assume five 2000 gallon fuel tanks required
Fuel Pad dimensions	=	2,000.0	SF		Assume two 100'x20'x8" thick reinforced concrete slab on grade pad
		1,333.3	CF	= 49.4	CY
Floor Steel Grating	=	548.0	SF		Assume Wdith Bay (13'x5+18'x4) by 4'
Ladders	=	342.0	VLF		Assume 38 ft per pump bay (9 bays) of the operating floor
Concrete bollard	=	4.9	CF		8" DIA. Bollard, 56" tall, x1 per bay
Concrete barrier	=	419.6	CF		FDOT Inex 415, N.J. Shape Barrier
	SUM	424.5	CF	= 15.7	CY
CONCRETE		TOTAL		= 65.1	CY Concrete
Chain link Fence	=	2,280.0	LF		Assume Similar to Merritt Pump Station
Silt Fence	=	3,700.0	LF		Assume similar to Merritt Pump Station
Silt Boom	=	600.0	LF		Assume similar to Merritt Pump Station
Conduit Boxes	=	1.0	EA/DOOR		
Lock Boxes	=	1.0	EA/DOOR		
Fire Extinguishers	=	2.0	EA		
20" Exhaust Fan	=	1.0	EA		Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP
12" Exhaust Fan	=	1.0	EA		Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP

Quantities Summary

Coffer dam:	1,200.0	LF	
Coffer dam:	89,964.0	SF	
Excavation:	51,741.9	CY	
Concrete:	12,178.4	CY	
Steel Rebar:	146.1	CY (?)	
Steel Rebar:	965.9	TONS	
Backfill:	64,677.4	LCY	
6' Discharge Pipe	1,600.0	LF	0.75" thick
6' Steel 45-bend	16.0	EA	0.75" thick
375 CFS Pump	4.0	EA	
Rip-rap:	3,294.2	CY	
Geofabric:	32,368.0	SF	
Boat Barrier:	170.0	LF	
Barrier Piles:	3.0	EA	
Control bld.:	65.1	CY	
Trash Rack	9,180.0	SF	
Roll Up Garage Door:	168.0	SF	Concrete
Total Doors	4.0	EA	
Conduit Boxes	1.0	EA/DOOR	12' x 14'
Lock Boxes	1.0	EA/DOOR	Size 4'-0" x 7'-0"
Louver Openings	8.0	EA	
Overhead Crane	2.0	EA	
Power Line Connection	2,500.0	LF	
Generator Fuel Tank	2,000.0	GALLONS	
Septic Tank System	1.0	EA	Assume available 2500LF
Potable Water Well	1.0	EA	
Steel Grate	548.0	SF	
Ladders	9.0	EA	
Concrete:	65.1	CY	
Chainlink Fence	2,280.0	LF	38' EA
Silt Fence	3,700.0	LF	Fuel pad, bollards, barrier
Silt Boom	600.0	LF	
Fire Extinguishers	2.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	

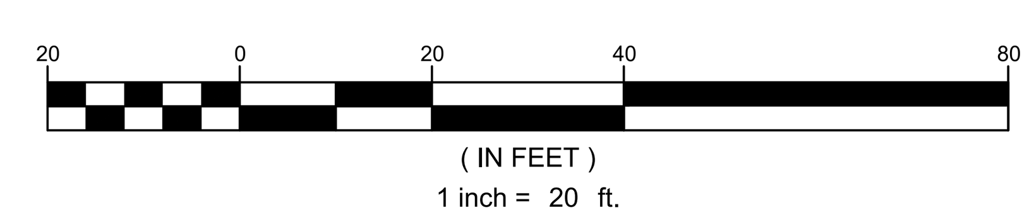
Feature of Work:	STRUCTURE SPS-1: 100 CFS DIESEL ELECTRIC PUMP STATION
Scope Given:	100 CFS diesel pump station (by-pass not required for construction). Seepage Pump Station SPS-1 will function as seepage pump station for the East Cells.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure Pump Station G-725 with a smaller capacity. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume there will be a total of two 50 cfs pumps and one 50 cfs auxiliary pump. – Assume pump station will be constructed of reinforced concrete below grade and a combination of cast-in-place columns and reinforced CMU walls. – Assume a fuel pad will be required for storage tanks for the diesel pump and the diesel generator, assumed 2 feet thick reinforced concrete.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length. *Updated with some features shown on site planning documents
Sequence of Work:	Cap slab will be placed in bottom of excavation. Structure will be built and excavation for the inlet basin will commence. Suction apron will be placed along with excavation for discharge piping and discharge headwall/discharge apron. Excavate out discharge piping and backfill levee.
Key Challenges, Risks, and Opportunities	

Representative Drawings/Photos: SPS-1



LOCAR RECOMMENDED PLAN

SECTION - SPS-1 SEEPAGE PUMP STATION



NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE SPS-1: 370 CFS DIESEL ELECTRIC PUMP STATION

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	204.0	FT	Assume 20' from top of excavation
Length	=	166.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	740.0	LF	Sheetpile perimeter
Area	=	33,864.0	SF	

Pump Station Excavation

Length	=	126.0	FT	Compared to G-725				
Total Depth	=	26.0	FT	Assumed				
Thickness of Organic	=	2.0	FT					
Thickness of Cap Rock	=	8.0	FT					
Thickness of Fort Thompson	=	16.0	FT					
Slope1	=	2.0	:1					
Slope2	=	2.0	:1					
Bottom Width	=	60.0	FT	Compared to G-725				
Top Width	=	164.0	FT					
Cross Section	=	2,912.0	SF					
Cross Section Organic	=	320.0	SF					
Cross Section of Cap Rock	=	1,120.0	SF					
Cross Section of Fort Thompson	=	1,472.0	SF					
Organic Cut Volume	=	40,320.0	CF	=	1,493.3	BCY	=	LCY
Cap Rock Cut Volume	=	141,120.0	CF	=	5,226.7	BCY	=	LCY
Fort Thompson Cut Volume	=	185,472.0	CF	=	6,869.3	BCY	=	LCY
EXCAVATION		TOTAL		=	13,589.3	BCY		16,986.7 LCY

Structure Dimensions and Volumes

Structure	1	Length	84	ft	Width	75 ft
Intake Bays	2	Height	31	ft		

Foundation					
Depth	=	4.0	FT	Assumed	
Length	=	84.0	FT		
Width	=	75.0	FT		
Volume	=	25,200.0	CF	=	933.3 CY
Superstructure					
Number of Piers	=	1.0	EA		
Pier Width	=	2.0	FT	Assumed	
Pier Length	=	48.0	FT	Borrowed from similar	
Pier Height	=	27.0	FT	Structure Height below Control Building	
Volume	=	2,592.0	CF	=	96.0 CY
Abutment Walls	=	2.0	EA		
Abutment Width	=	2.0	FT	Borrowed from similar	
Abutment Length	=	48.0	FT	Borrowed from similar	
Abutment Height	=	27.0	FT	Structure Height below Control Building	
Discharge Wall	=	1.0	EA		
Discharge Wall Width	=	2.0	FT		

Discharge Wall Length	=	75.0	FT				
Discharge Wall Height	=	27.0	FT				
Volume	=	9,234.0	CF	=	342.0	CY	
Beam Cross-Section	=	6.0	SF		Borrowed from similar		
Beam Length	=	69.0	FT				
volume of elevated beam	=	414.0	CF	=	15.3	CY	
Cross-Section of Bridge and Ctrl Bldg Slab	=	162.0	SF				
Width	=	71.0	FT				
Volume	=	11,502.0	CF	=	426.0	CY	
Wing Walls							
Number	=	2.0	EA				
Depth	=	12.5	FT		Average depth		
Length	=	56.0	FT		Borrowed from similar		
Width	=	2.0	FT		Borrowed from similar		
Volume	=	2,800.0	CF	=	103.7		
Control Building							
Building Cross-Section	=	150.0	SF		Borrowed from similar		
Building Length	=	25.0	FT		Borrowed from similar		
Outside Wall Width	=	14.0	FT		Borrowed from similar		
Outside Wall Thickness	=	1.0	FT		Borrowed from similar		
Outside Wall Height	=	10.0	FT		Borrowed from similar		
Volume	=	3,890.0	CF	=	144.1		
CONCRETE		TOTAL		=	2,060.4	CY	Concrete
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	24.7	CY	Rebar
					163.4	TONS	

Discharge Piping

x' Dia. Pipes	=	3.0	EA		
Length of Pipes	=	100.0	LF	Assume all pipes equal length to discharge	
Total x' Dia. Pipes	=	300.0	LF	All piping 0.75" thick steel with x4 45 degree bends per pipe run	
Total x' Dia. Pipes 45 degree bends	=	12.0	EA	x4 per pipe for going over levee	

Pumps

185 CFS Pumps	=	2.0	EA	Per Structure Summary
125 CFS Auxilliary Pumps	=	1.0	EA	Per Structure Summary

RIP RAP

Lengths and depths assumed, and similar on US and DS

Number	=	1.0	EA				
Length	=	136.0	FT		Assumed width of canal		
Width	=	75.0	FT		Assumed		
Depth	=	3.0	FT		Average depth		
Volume	=	30,600.0	CF	=	1,133.3	CY	Riprap
Geotextile Filter Fabric	=	12,920.0	SF		Fabric		

Boat Barrier

Number	=	1.0	EA			
Piles for Buoys	=	3.0	EA	Assume barrier has 3 points (2 at shore, 1 at canal)		
Length	=	170.0	FT/EA			
Total Length	=	170.0	FT	Buoy style barrier		
Total Piles	=	3.0	EA			

Station and Building Equipment

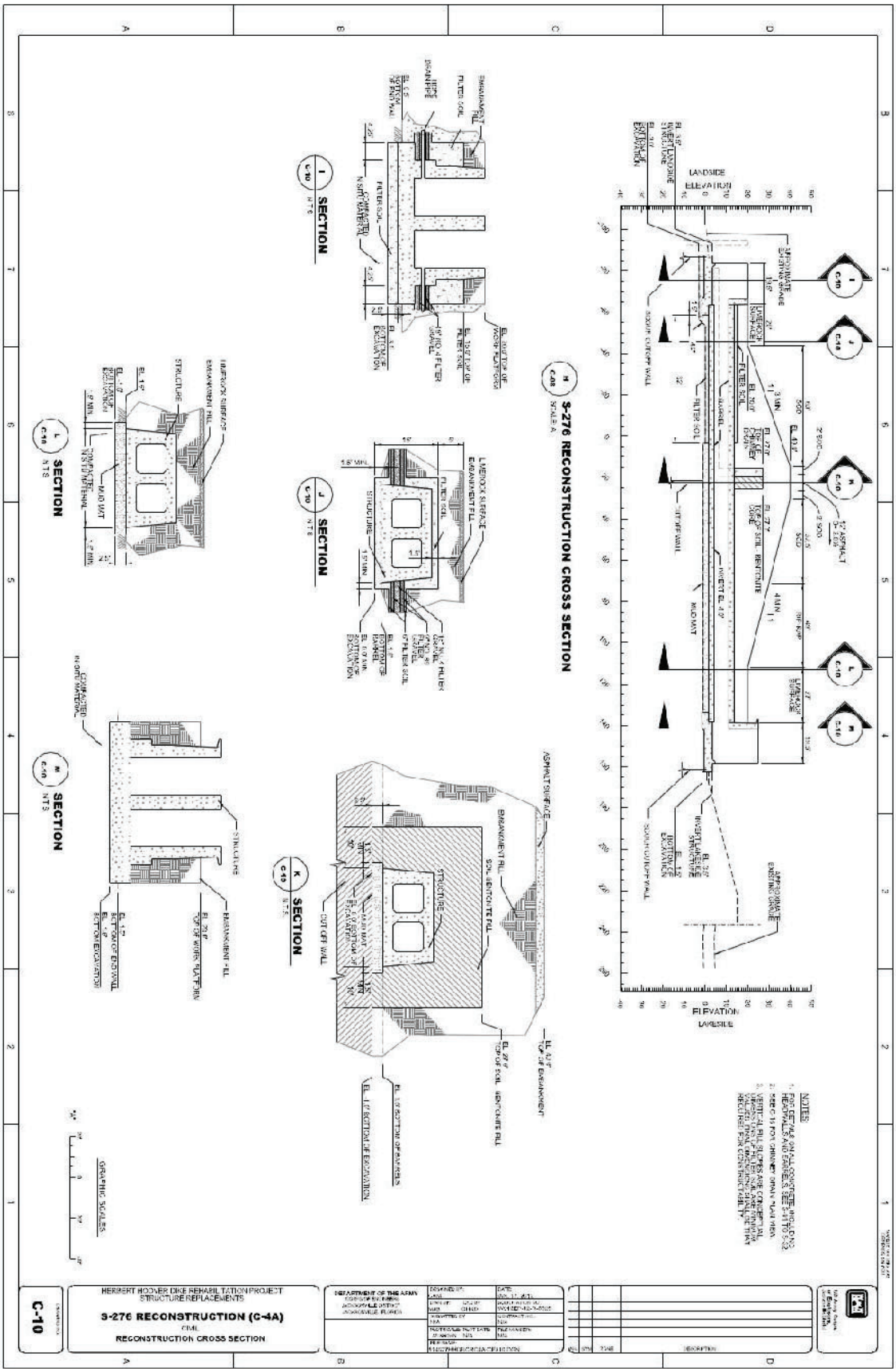
Trash Rack Surface Area (total)	=	9,180.0	SF	Assume Trash rake is 60 ft tall and covers the width of the operating floor (153')		
Roll Up Garage Door	=	168.0	SF	Assume Roll up garage door 12'x14'		
# of Doors	=	4.0	ea	Assume 1 set of double doors and two other doors		
# louver openings	=	8.0	ea	Assume 8 louver openings 7'-4" square		
Overhead Crane	=	2.0	ea	Assume 2 overhead cranes @ 25 tons each		
Power Line Connection	=	2,500.0	LF	Assume power available 2500 lf from site		
Septic tank system	=	1.0	ea	Assume 1 septic tank system		
Potable water	=	1.0	ea	Assume 1 potable water well will be required		
Generator Fuel Tank	=	2000 Gallon	ea	Assume five 2000 gallon fuel tanks required		
Fuel Pad dimensions	=	500.0	SF	Assume two 25'x20'x8" thick reinforced concrete slab on grade pad		
		1,333.3	CF	=	49.4	CY
Floor Steel Grating	=	548.0	SF	Assume Wdith Bay (13'x5+18'x4) by 4'		
Ladders	=	342.0	VLF	Assume 38 ft per pump bay (9 bays) of the operating floor		
Concrete bollard	=	3.3	CF	8" DIA. Bollard, 56" tall, x1 per bay		
Concrete barrier	=	419.6	CF	FDOT Inex 415, N.J. Shape Barrier		
	SUM	422.9	CF	=	15.7	CY
CONCRETE	TOTAL			=	65.0	CY Concrete
Chain link Fence	=	2,280.0	LF	Assume Similar to Merritt Pump Station		
Silt Fence	=	3,700.0	LF	Assume similar to Merritt Pump Station		
Silt Boom	=	600.0	LF	Assume similar to Merritt Pump Station		
Conduit Boxes	=	1.0	EA/DOOR			
Lock Boxes	=	1.0	EA/DOOR			
Fire Extinguishers	=	2.0	EA			
20" Exhaust Fan	=	1.0	EA	Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP		
12" Exhaust Fan	=	1.0	EA	Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP		

Quantities Summary

Coffer dam:	740.0	LF	
Coffer dam:	33,864.0	SF	
Excavation:	13,589.3	CY	
Concrete:	2,060.4	CY	
Steel Rebar:	24.7	CY (?)	
Steel Rebar:	163.4	TONS	
Backfill:	16,986.7	LCY	
x' Discharge Pipe	300.0	LF	0.75" thick
x' Steel 45-bend	12.0	EA	0.75" thick
185 CFS Pump	2.0	EA	
125 CFS Auxilliary Pump	1.0	EA	
Rip-rap:	1,133.3	CY	
Geofabric:	12,920.0	SF	
Boat Barrier:	170.0	LF	
Barrier Piles:	3.0	EA	
Control bld.:	65.0	CY	
Trash Rack	9,180.0	SF	Concrete
Roll Up Garage Door:	168.0	SF	
Total Doors	4.0	EA	12' x 14'
Conduit Boxes	1.0	EA/DOOR	Size 4'-0" x 7'-0"
Lock Boxes	1.0	EA/DOOR	
Louver Openings	8.0	EA	
Overhead Crane	2.0	EA	
Power Line Connection	2,500.0	LF	
Generator Fuel Tank	2,000.0	GALLONS	Assume available 2500LF
Septic Tank System	1.0	EA	
Potable Water Well	1.0	EA	
Steel Grate	548.0	SF	
Ladders	9.0	EA	
Concrete:	65.0	CY	38' EA
Chainlink Fence	2,280.0	LF	Fuel pad, bollards, barrier
Silt Fence	3,700.0	LF	
Silt Boom	600.0	LF	
Fire Extinguishers	2.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	

Feature of Work:	STRUCTURES CU-1B: 280 LF DOUBLE GATED 13'Wx12'H BOX CULVERT WITH ENDWALLS, 12'x24' CONTROL BUILDING
Scope Given:	556 LF double gated 13'x12' box culvert w/ endwalls w/ 12'x24' control building and HW/TW monitoring stations w/ walkways (by-pass not required for construction). Structures CU-1B is a gated box culvert which allows for outflow from the Seepage Canal CNL-1 Reach 7, discharging to the Inflow-Outflow Canal CNL-2.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure S-276 and S-277 as a double barrel culvert. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume Excavation will be to the same depth below finished grade as shown in contract drawings for similar projects with a slope of 1:2 for construction. – Assume material as 2 ft of organic, 8 ft of blastable cap rock, and 10 ft of Fort Thompson layer for the remainder of the excavation – until indicated otherwise. – Assume power will be provided from power lines in the area. – Assume that a diesel generator is needed for backup power.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	Excavation/blasting of limestone rock will be required to allow space for the foundation for the gated culvert structure. Culverts, foundations and structures will then be placed. Control structures for the culverts will be installed and a standalone Control station will be built in the area. An additional backup generator will be required along with local utility power. Apron, wing wall, and riprap placement will occur after Culverts have been placed. Backfill and compaction around the structure will occur, the plugs will be removed.
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: CU-1B



Feature of Work:	STRUCTURE CU-1B: 556 LF DOUBLE GATED 13'Wx12'H BOX CULVERT WITH ENDWALLS, 12'x24' CONTROL BUILDING
Quantity Take Off:	

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	255.7	FT	Assume 20' from top of excavation
Length	=	356.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	1,223.3	LF	Sheetpile perimeter
Area	=	91,017.3	SF	

Culvert excavation

Length	=	316.0	FT					
Total Depth	=	26.0	FT					
Thickness of Organic	=	2.0	FT					
Thickness of Cap Rock	=	8.0	FT					
Thickness of Fort Thompson	=	16.0	FT					
Slope1	=	2.0	:1					
Slope2	=	2.0	:1					
Bottom Width	=	111.7	FT					
Top Width	=	215.7	FT					
Cross Section	=	4,255.3	SF					
Cross Section Organic	=	423.3	SF					
Cross Section of Cap Rock	=	1,533.3	SF					
Cross Section of Fort Thompson	=	2,298.7	SF					
Organic Cut Volume	=	133,773.3	CF	=	4,954.6	BCY	=	LCY
Cap Rock Cut Volume	=	484,533.3	CF	=	17,945.7	BCY	=	LCY
Fort Thompson Cut Volume	=	726,378.7	CF	=	26,902.9	BCY	=	LCY
EXCAVATION		TOTAL		=	49,803.2	BCY	=	62,254.0 LCY

Concrete Culvert Concrete

Culvert Pipes	2		Width	13		Height	18	
Length	=	316.0	FT					
Foundation Concrete Bottom Width	=	31.7	FT					
Bottom Thickness	=	3.0	FT					
Volume	=	30,020.0	CF	=	1,111.9	CY		
Vertical Concrete Height	=	18.0	FT					
Thickness of Edge Walls	=	2.0	FT					
Thickness of Interior Walls	=	1.7	FT					
Volume	=	30,336.0	CF	=	1,123.6	CY		
Elevated Concrete								
Top Width	=	31.7	FT					
Thickness	=	2.0	FT					
Volume	=	20,013.3	CF	=	741.2	CY		

Inlet and Outlet Works

Number	=	2.0	EA	Assumed intake and outlet are the same
Foundation				
Length	=	20.0	FT	
Depth	=	2.0	FT	
Width	=	31.7	FT	

Volume	=	2,533.3	CF	=	93.8	CY	
Culvert Endwall							
Height	=	38.0	FT		Assume x2 (Culvert Height + 1')		
Thickness	=	1.5	FT				
Width	=	31.7	FT				
Openings	=	468.0	SF				
Volume	=	2,206.0	CF	=	81.7	CY	
Needle Beam							
Height	=	2.5	FT				
Width	=	13.0	FT				
Depth	=	3.0	FT				
Volume		390.0	CF	=	14.4	CY	
Exterior Walls							
Edge Wall Height	=	38.0	FT				
Edge Wall Length	=	20.0	FT		total each side		
Edge Wall Thickness	=	2.0	FT				
Interior Wall Height		38.0	FT				
Interior Wall Length		14.0	FT				
Inteiror Wall Thickness		1.7	FT				
Volume	=	7,853.3	CF	=	290.9	CY	
CONCRETE		TOTAL		=	3,457.5	CY	
Steel Rebar					Assumed 1.2% volume of concrete		Culvert referenced as an example used approx. 0.8% steel per volume
STEEL REBAR		TOTAL		=	41.5	CY Rebar	
					274.2	TONS	

Sheetpile Endwalls

Number	=	2.0	EA		x2 Endwalls per opening (HW/TW)		
Width	=	80.0	FT		40 ft off each side of culvert		
Length	=	30.0	FT		Assume PZ27 sheetpile, 30' long sheets		
Sheetpile Area	=	4,800.0	SF		30' Long Sheets, 160' Span	PZ-27	
Concrete Cap	=	4.0	SF		Assume 2'x2' cap with PZ27 sheets		
Concrete Volume	=	640.0	CF	=	23.7	CY Concrete	

MISC METALS

Structure Railing	=	120.0	LF		Per each end		
Endwall Railing	=	82.0	LF		Per each end		
TOTAL RAILING	=	404.0	LF		3'6" Tall Steel Railing		
Ladders	=	2.0	EACH				
height	=	25.5	FT EA	=	51.0	FT TOTAL	
Grating	=	78.0	SF per Gate		Approx. 6' long, width of each bay		
TOTAL Grating	=	312.0	SF		Steel Grating		

NEW GATES

Number of gates	=	2.0	EA		x1 per Culvert Pipe		
Height	=	19.0	FT		Assumed 1' greater than Culvert Height		
Width	=	12.0	FT		Assumed 1' smaller than Culvert Width (frame)		
Total Weight of Gates	=	20,269.2	LB EA		Follows similar weight calculations as S-2, but reduces number of steel channels		
TOTAL STEEL GATE WEIGHT		40,538.3	LB	=	20.3	TONS	
Mechanical Components	=	2.0	EA		All gate component information including frame, stem,		

							motor, yoke, etc. to be provided by manufacturer
	Imbeds for Gate	=	124.0	LF			
	Gate Seal Length	=	124.0	LF			Gate perimeter x # of gates

Backfill

Assume Culvert is backfilled as part of levee construction

RIP RAP

	Assume same on both sides						
	Number of placements	=	2.0	EA			1 each side
	Length	=	136.0	FT			Assume width of new canal
	Width	=	111.7	FT			Assume same as bottom width of excavation
	thickness	=	3.0	FT			Assumed
	Volume	=	45,560.0	CF/EA	=	1,687.4	CY/EA
	RIPRAP		TOTAL		=	3,374.8	CY Riprap
	Geotextile Filter Fabric	=	16,546.7	SF			Fabric

Boat Barrier

	Number	=	2.0	EA			
	Piles for Buoys	=	3.0	EA			Assume barrier has 3 points (2 at shore, 1 at canal)
	Length	=	170.0	FT/EA			
	Total Length	=	340.0	FT			Buoy style barrier
	Total Piles	=	6.0	EA			

SWPPP

	Floating Silt Boom	=	980.0	FT			Assumed
	Silt Fence	=	6,492.0	FT			Assumed

Control Building

	Size	=	288.0	SF			12x24
	Electrical	=	NEEDED				
	Communications	=	NEEDED				
	Modular Precast Concrete Structure						
	Exterior Walls						
	Height	=	12.0	FT			
	Perimeter Length	=	72.0	FT			
	Thickness	=	4.0	IN			
	Volume	=	288.0		=	10.7	CY
	Interior Wall						
	Height	=	12.0	FT			
	Length	=	12.0	FT			
	Thickness	=	4.0	IN			
	Volume	=	48.0		=	1.8	CY
	Floor Slab						
	Thickness	=	6.0	IN			
	Area	=	288.0	SF			
	Volume	=	144.0	CF	=	5.3	CY
	Roof						
	Thickness	=	5.0	IN			
	Area	=	288.0	SF			
	Volume	=	120.0	CF	=	4.4	CY

Fuel Pad	=	96.0	CF	Assume 8'x12'x12" thick reinforced concrete slab on grade pad
	=	3.6	CY	

CONCRETE	TOTAL		=	25.8	CY

Total Doors	=	2.0	EA	
Size	=	4'-0" x 7'-0"		
Conduit Boxes	=	1.0	EA/DOOR	
Lock Boxes	=	1.0	EA/DOOR	
Fire Extinguishers	=	2.0	EA	
26" x 26" Exhaust Hoods	=	1.0	EA	
30" x 30" Exhaust Hoods	=	1.0	EA	
30" x 30"Intake Hoods	=	2.0	EA	
18" x 18" Intake Air Hood	=	1.0	EA	
18" x 18" Exhaust Hood	=	1.0	EA	
20" Exhaust Fan	=	1.0	EA	Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP
12" Exhaust Fan	=	1.0	EA	Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP
Generator Fuel Tank	=	1,000.0	GALLON	
Gravel Pad	=	216.0	CF	Assume 50% greater area than building, 6" thick
	=	8.0	CY	
Filter Fabric		472.0	SF	

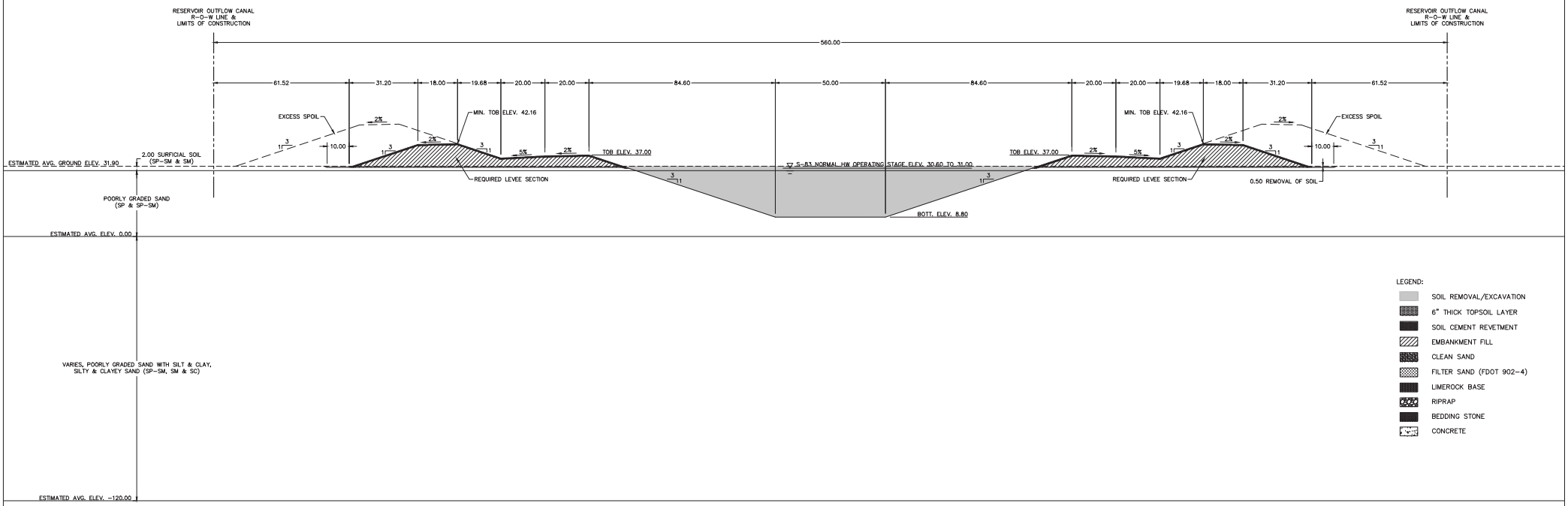
Quantities Summary

Coffer dam:	1,223.3	LF	
Coffer dam:	91,017.3	SF	
Excavation:	49,803.2	CY	
Concrete:	3,457.5	CY	
Steel Rebar:	41.5	CY (?)	
Steel Rebar:	274.2	TONS	
Sheetpile:	4,800.0	SF	PZ27x160LFx30FT
Cap:	23.7	CY	
Railing:	404.0	LF	
Grate:	312.0	SF	
Ladders:	2.0	EA	25' EA
Gates:	2.0	EA	13'x12' w/ mechanical components
Seals:	124.0	LF	
Backfill:	62,254.0	LCY	
Rip-rap:	3,374.8	CY	
Geofabric:	16,546.7	SF	
Boat Barrier:	340.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	980.0	LF	
Silt Fence:	6,492.0	LF	
Control bld.:	25.8	CY	Concrete
Total Doors	2.0	EA	Size 4'-0" x 7'-0"
Conduit Boxes	1.0	EA/DOOR	
Lock Boxes	1.0	EA/DOOR	
Fire Extinguishers	2.0	EA	
26" x 26" Exhaust Hoods	1.0	EA	
30" x 30" Exhaust Hoods	1.0	EA	
30" x 30"Intake Hoods	2.0	EA	
18" x 18" Intake Air Hood	1.0	EA	
18" x 18" Exhaust Hood	1.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	
Generator Fuel Tank:	1,000.0	GALLONS	
CTRL BLDG Gravel Pad	8.0	CY	
CTRL BLDG Pad Fabric	472.0	SF	

TYPICAL SECTION - Reservoir East Inflow-Outflow Canal (CNL-2)

Total Length (feet) of CNL-2 along its C/L 293

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan	Neat Vol. (cuyd)	Neat Area (sqft)	Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Clearing & Grubbing					130,526		3		
Excavation of Top 6" of Topsoil within CNL-2 site				2,417	130,526				
Upper Soil Excavation for CNL-2 (18" below initial 6" topsoil excavation)	351.77		293	4,226					
Remaining Soil Excavation for CNL-2	3,475.77		293	47,684					
6" Thick Topsoil Layer	87.71		329	1,067					
Levee Embankment Fill	471.00		329	5,732					
6" Bedding Stone	130.02		329	1,582					
18" Type B riprap	506.64		329	6,166					
Berm Drain: 15" HDPE Drainage Pipe								122	
Berm Drain: 15" HDPE Flared End Section									2
Berm Drain: 6' x 6' x two layers thick sand cement bag pad									2
Berm Drain: Delineateor on post (one on each side of drain)									4
Sodding		177.16	329				1		
Hydroseeding Beyond levees		40.00	329				0.3		



LOCAR ALTERNATIVE 1

SECTION F - RESERVOIR OUTFLOW CANAL

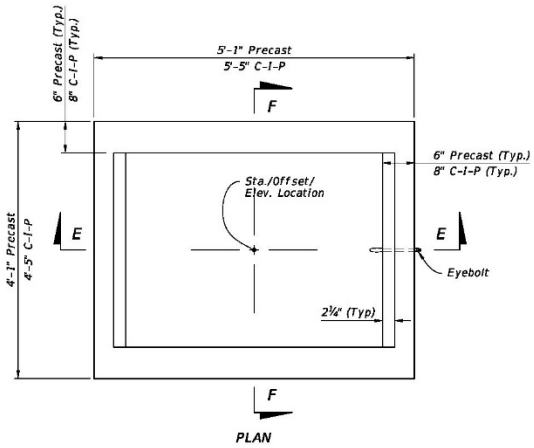
20 0 20 40 80
(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

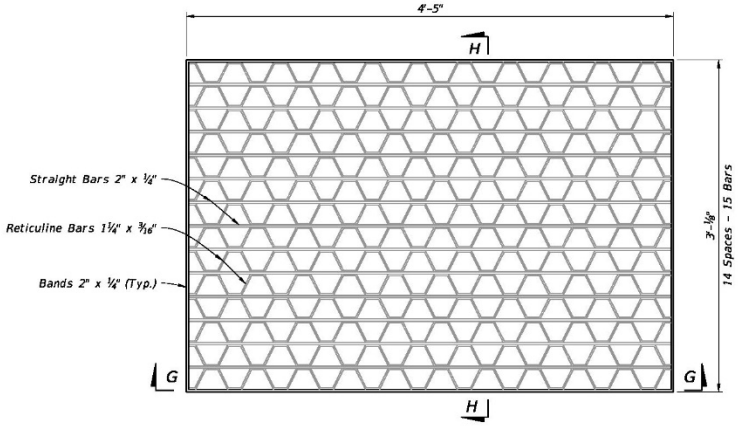
LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

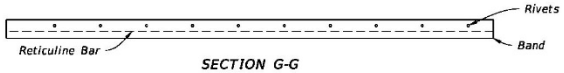
DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
6/19/2023

Feature of Work:	PERIMETER CANAL OUTFALL STRUCTURES (PCOS-1 thru PCOS-4)
Scope Given:	• PCOS-1 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to CNL-2, which in turn will outflow to C-41A. • PCOS-2 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to C-41A. PCOS-2 will replace existing flashboard riser (FBR) structure PC17N. • PCOS-3 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to existing FBR structure PC18N via a ditch, which in turn will outflow to C-41A. • PCOS-4 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to existing FBR structure PC20N via a ditch, which in turn will outflow to C-41A.
Reference for Scope Basis:	
Scope Assumptions:	– Assume Ditch Bottom Inlet structure can be utilized with 36" RCP
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized.
Sequence of Work:	
Key Outstanding Questions/Issues:	

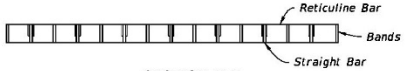


PLAN

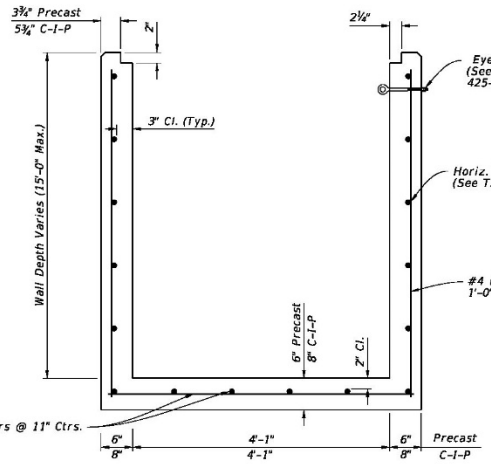




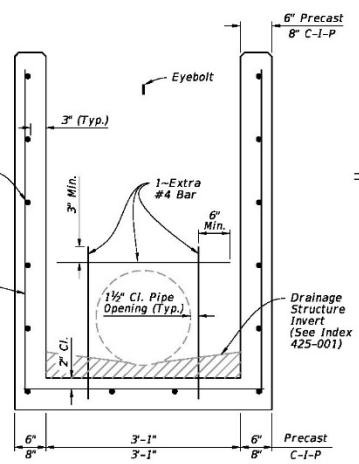
SECTION G-G



SECTION H-H



SECTION E-E
(Pipe Opening Not Shown)



SECTION F-F
(Pipe Opening Shown)

STEEL GRATE DETAIL

(Approx. 190 lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 2
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWR
0' - 6'	A12	0.20	12"	8"
6' - 10'	A6	0.20	6"	5"
10' - 13'	A4	0.20	4"	3"
10' - 15'	B5.5	0.24	5½"	5"

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure details.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
3. Cast Iron Grate is not permitted on inlet Type D.

DIMENSIONAL AND REINFORCING DETAILS

TYPE D - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION	REVISION	DESCRIPTION:				
10/01/20			FY 2023-24 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 3 of 14

10/20/2022 8:14:25 AM

Representative Drawings/Photos: PCOS-1 thru PCOS-4

Feature of Work:	PERIMETER CANAL OUTFALL STRUCTURES (PCOS-1 thru PCOS-4)

Quantity Take Off:

PCOS

Quantity	=	4.0	ea				
FDOT Type D Ditch Bottom Inlet with Bleed Orifice							
Quantity	=	1.0	ea		4.0	ea	Type D Inlet
Depth	=	10.0	FT	Assume 10' deep			
36" RCP pipe to CNL-1							
Length	=	40.0	LF	Assumed	160.0	LF	36" RCP Pipe
Diameter	=	3.0	FT	Assumed 36"			
Excavation							
Depth	=	12.0	FT	Assume Depth +2			
Bottom Width	=	11.0	FT	Dia. + 4' each way			
Top Width	=	59.0	FT	2:1 @ Depth			
Volume	=	16,800.0	CF				
Volume per PCOS	=	622.2	CY		2,488.9	CY	Excavation

Assume part of new construction not requiring additional dewatering

Total all PCOS-1 thru PCOS-4

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

CONTRACT 3 – RESERVOIR DAM FOUNDATION

- Construct Perimeter and Divider Dam Soil Bentonite Wall Below Existing Ground
- Construct Soil Stabilization/Foundation Prep for Perimeter and Divider Dam

SECTION A - West & East Cells

Total Length (feet) of Perimeter Dam C/L Along West & East Cells 96,799

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan (ft)	Neat Vol. (cuyd)	Neat Area (sqft)	Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Temp. Silt Fencing (installed along entire perimeter except along C-41A levee)			13,287						
Clearing & Grubbing		614.42	97,509				1,375		
Excavation of Top 6" of Topsoil	298.41		97,509	1,077,695					
Additional 18" Soil Excavation Below Dam & 50' Beyond Each Toe	530.66		96,764	1,901,820					
Slurry Cutoff Wall	180.00	60.00	96,733	644,884	5,803,959				

SECTION D - Divider Dam Between West & East Cells

Total Length (feet) of Divider Dam C/L Between West & East Cells 14,392

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan (ft)	Neat Vol. (cuyd)	Neat Area (sqft)	Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Clearing & Grubbing		347.88	14,392				115		
24" Soil Excavation Below Dam & 50' Beyond Each Toe	661.76		14,392	352,747					
Slurry Cutoff Wall	150.00	50.00	14,392	79,957	719,609				

LOCAR RECOMMENDED PLAN

SECTION A - RESERVOIR PERIMETER DAM

(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

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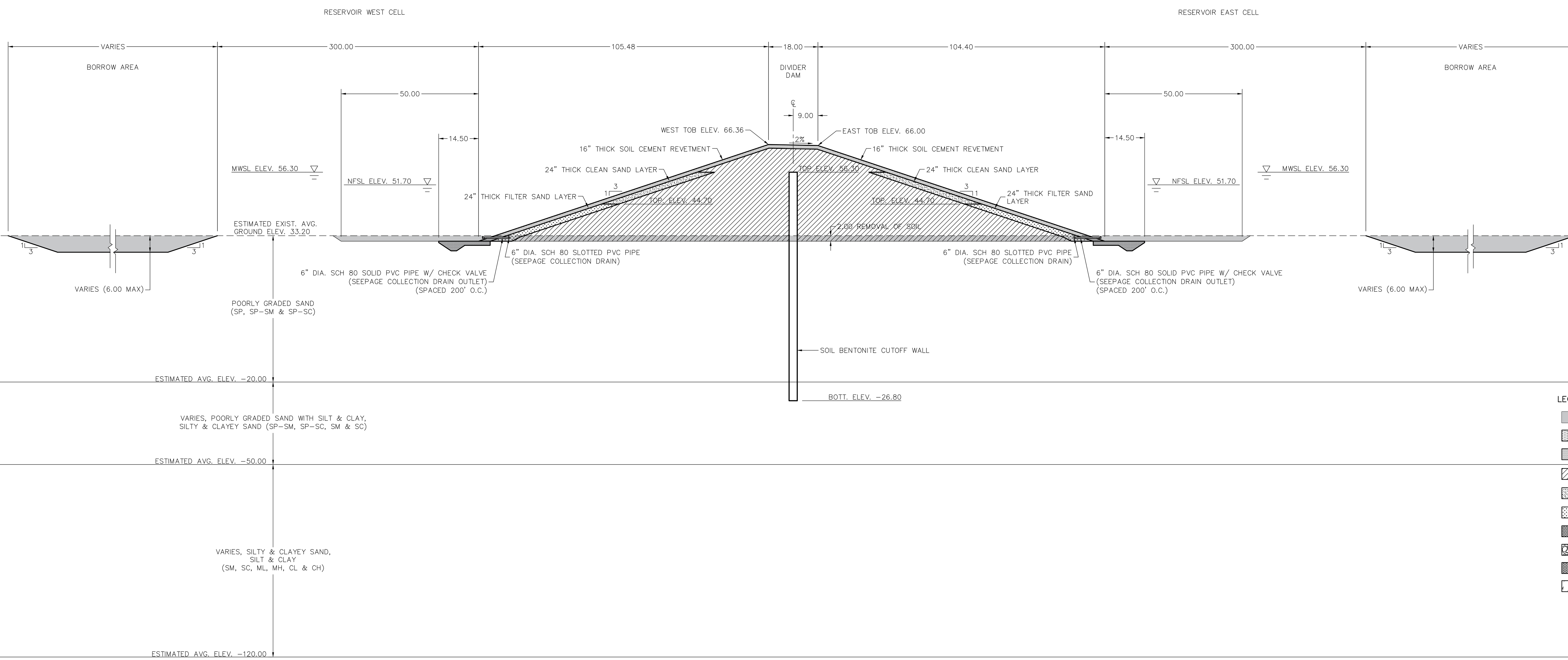
11/3/2023



LEGEND:

- SOIL REMOVAL/EXCAVATION
- 6" THICK TOPSOIL LAYER
- SOIL CEMENT REVETMENT
- EMBANKMENT FILL
- CLEAN SAND
- FILTER SAND (FDOT 902-4)
- LIMEROCK BASE
- RIPRAP
- BEDDING STONE
- CONCRETE

LOCAR RECOMMENDED PLAN

TYPICAL SECTION - RESERVOIR DIVIDER DAM

20 0 20 40 80
(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
11/1/2023

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

CONTRACT 4 – RESERVOIR EARTHWORK

- Construct Perimeter and Divider Dams
- Construct Toe Ditch and Toe Road
- Construct Perimeter Canal CNL-1 and Perimeter Maintenance Road
- Construct Reservoir Outflow Canal CNL-3
- Construct Lykes AGI Earthwork Features (Levee and Borrow Ditch)

SECTION A - West & East Cells

Total Length (feet) of Perimeter Dam C/L Along West & East Cells 96,799

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan (ft)	Neat Vol. (cuyd)	Neat Area (sqft)	Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Barbed Wire Perimeter Fence (installed along entire perimeter except along C-41A)			73,763						
Abandonment of FAS Irrigation Wells									22
Abandonment of Monitoring Wells									2
Soil Inversion Within Former Citrus Groves									
Clearing of Citrus Trees									
Clearing & Grubbing									
Leveling of Planting Beds & Backfilling of Ditches									
Soil Inversion									
Additional Soil Excavation for Soil Cement Toe	37.32		95,942	132,629					
Additional Soil Excavation for Perimeter Canal	1,597.40		98,211	5,811,708					
Excavation for Offsite Drainge Collection Ditch (ODCD) & Access Rd	1,721.08		11,354	723,734					
6" Thick Topsoil Layer - Part 1	73.47		97,309	264,790					
6" Thick Topsoil Layer - Part 2	25.08		98,006	91,043					
6" Thick Topsoil Layer - Part 3	18.98		99,009	69,594					
6" Thick Topsoil Layer - Part 4	9.30		99,338	34,215					
6" Thick Topsoil Layer - Shoulders of Access Rd Along Southwest Side of ODCD	28.28		12,004	12,573					
6" Thick Limerock Base - Toe Road	8.00		97,801	28,984					
6" Thick Limerock Base - Perim. Maint. Road Parallel to Perim. Dam Alignment	12.00		99,203	44,099					
6" Thick Limerock Base - Access Road Along Southwest Side of ODCD	12.00		12,004	5,336					
Additional Embankment Fill for higher toe ditch & roads along Reach 7 of P. Canal	205.44		35,380	269,204					
Toe Road Embankment Fill (no reduction for MESs & culverts)	436.80		97,817	1,582,459					
Perim. Maint. Road Embankment Fill	105.23		99,203	386,639					
ODCD Access Road Embankment Fill	194.30		12,004	86,386					
Dam Embankment Fill	5,023.11		96,799	18,008,538					
Slurry Cutoff Wall	70.50	23.40	96,733	252,580	2,263,544				
24" Thick Clean Sand Layer Beneath Soil Cement	73.36		96,370	261,858					
24" Thick Filter Sand Layer Beneath Soil Cement	88.54		96,131	315,235					
30" Wide Filter Sand Chimney Drain	39.50		96,987	141,889					
18" Thick Filter Sand Blanket Drain	125.57		97,237	452,237					
24" Thick Clean Sand Layer Beneath Blanket Drain	152.10		97,210	547,618					
16" Soil Cement Revetment	194.79	148.95	95,974	692,407		1,588,351			
Soil Cement Toe	37.32		95,942	132,629					
6" Bedding Stone	42.23		980	1,533					
18" Type B riprap	121.13		980	4,397					
24" Drainage Pipe								7,840	
24" Mitered End Section									98
6" Slotted PVC Collector Pipe for Inside Toe Drain								96,044	
6" Solid PVC Discharge Pipe for Inside Toe Drain								3,848	
6" Backflow Preventer for each Inside Toe Drain									481
12" Slotted PVC Collector Pipe for Outside Toe Drain								97,463	
12" Solid PVC Discharge Pipe for Outside Toe Drain								2,196	
12" FDOT U-Type Conc. Endwall for each Outside Toe Drain									488
Sodding - Part 1		146.94	97,309				328		
Sodding - Part 2		50.99	98,006				115		
Sodding - Part 3		38.79	99,009				88		
Sodding - Part 4		18.98	99,338				43		
Sodding - Access Road Along Southwest Side of ODCD		88.76	12,004				24		
Hydroseeding Beyond Perimeter Maintenance Rd.		10.00	99,368				23		

SECTION D - Divider Dam Between West & East Cells

Total Length (feet) of Divider Dam C/L Between West & East Cells 14,392

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan (ft)	Neat Vol. (cuyd)	Neat Area (sqft)	Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Additional Soil Excavation for Soil Cement Toe	71.49		14,392	38,106					
Dam Embankment Fill	3,667.45		14,392	1,954,913					
Slurry Cutoff Wall	99.60	33.20	14,392	53,091	477,821				
24" Thick Clean Sand Layer Beneath Soil Cement	147.99		14,392	78,888					
24" Thick Filter Sand Layer Beneath Soil Cement	173.28		14,392	92,368					
16" Soil Cement Revetment	313.07	239.24	14,392	166,881		382,571			
Soil Cement Toe	71.49		14,392	38,106					
6" Slotted PVC Collector Pipe for Toe Drains								28,784	
6" Solid PVC Discharge Pipe for Toe Drains								1,152	
6" Backflow Preventer for each Toe Drain									144
				2,126,169					

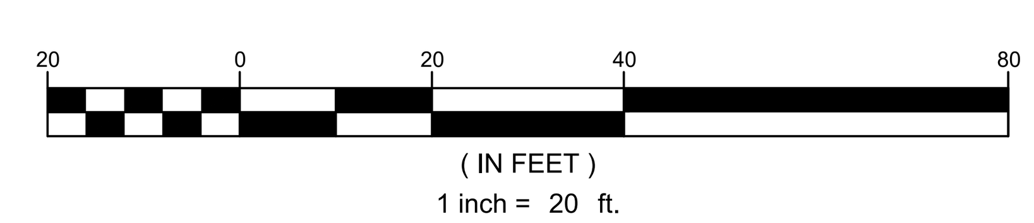
SECTION AGI - Levee for New/Expanded Farm AGI(s)*

Total Length (feet) of C/L of New AGI Levee **14,262**

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan** (ft)	Neat Vol. (cuyd)		Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Clearing & Grubbing		171.80	14,262				56		
6" Soil Excavation Below Levee & Beyond Levee Toe	75.09		14,262	39,663					
Additional Soil Excavation for Borrow Ditch	315.88		14,262	166,851					
Levee Embankment Fill	359.92		14,262	190,114					
Sodding		146.95	14,262				48		

LOCAR RECOMMENDED PLAN

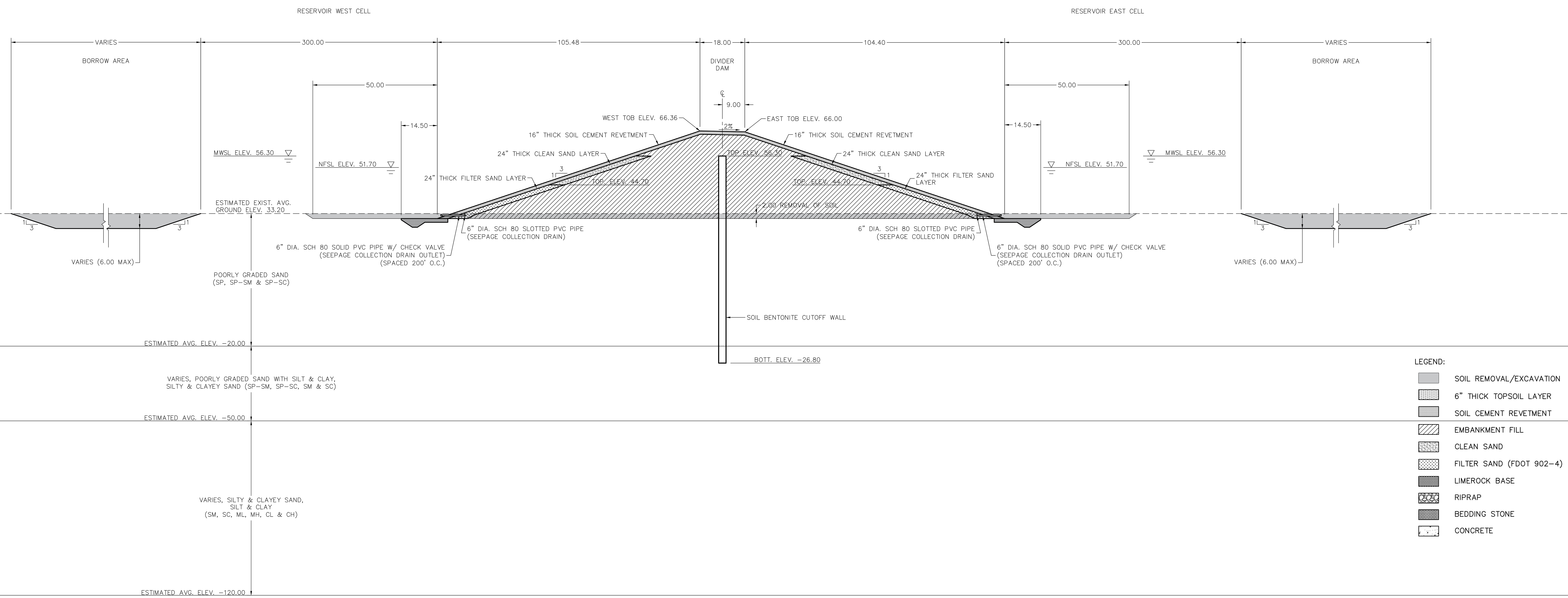
SECTION A - RESERVOIR PERIMETER DAM



NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
11/3/2023



LOCAR RECOMMENDED PLAN

TYPICAL SECTION - RESERVOIR DIVIDER DAM

20 0 20 40 80

(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

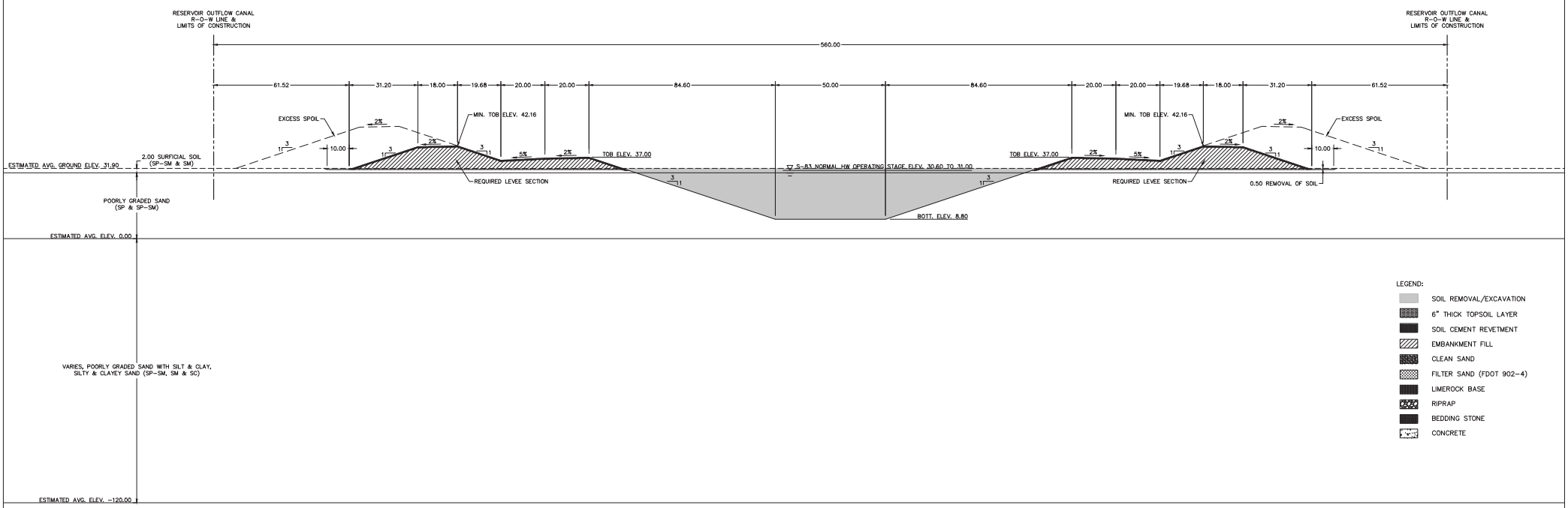
LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
11/1/2023

TYPICAL SECTION - Reservoir West Inflow-Outflow Canal (CNL-3) and ODCD-2

Total Length (feet) of CNL-3 along its C/L **4,411**

Component	Cross Sect. Area (sqft)	Cross Sect. Length (ft)	Length of Component on Site Plan	Neat Vol. (cuyd)	Neat Area (sqft)	Neat Area (sqyd)	Neat Area (acres)	Pipe Quantities (LF)	Structure Quantities (No.)
Clearing & Grubbing along CNL-3		510.00	4,411				52		
Clearing & Grubbing along ODCD-2		80.00	3,016				6		
Excavation of Top 6" of Topsoil for CNL-3	231.72		4,411	37,859					
Upper Soil Excavation for CNL-3 (18" below initial 6" topsoil excavation)	272.91		4,411	44,591					
Remaining Soil Excavation for CNL-3	2,390.63		4,411	396,261					
Excavation of Top 6" of Topsoil for ODCD-2	19.25		3,016	2,150					
Remaining Soil Excavation for ODCD-2	105.75		3,016	11,811					
6" Thick Topsoil Layer	142.98		4,411	23,361					
Levee Embankment Fill	1,501.39		4,411	245,308					
6" Bedding Stone	114.24		1,592	6,737					
18" Type B riprap	335.05		1,592	19,758					
Berm Drain: 15" HDPE Drainage Pipe								1,062	
Berm Drain: 15" HDPE Flared End Section									18
Berm Drain: 6' x 6' x two layers thick sand cement bag pad									18
Berm Drain: Delineateor on post (one on each side of drain)									36
Sodding		270.88	4,411				27		
Hydroseeding Beyond levees along CNL-3		40.00	4,411				4.1		
Hydroseeding Beyond levees along ODCD-2		80.00	3,016				5.5		



LOCAR ALTERNATIVE 1

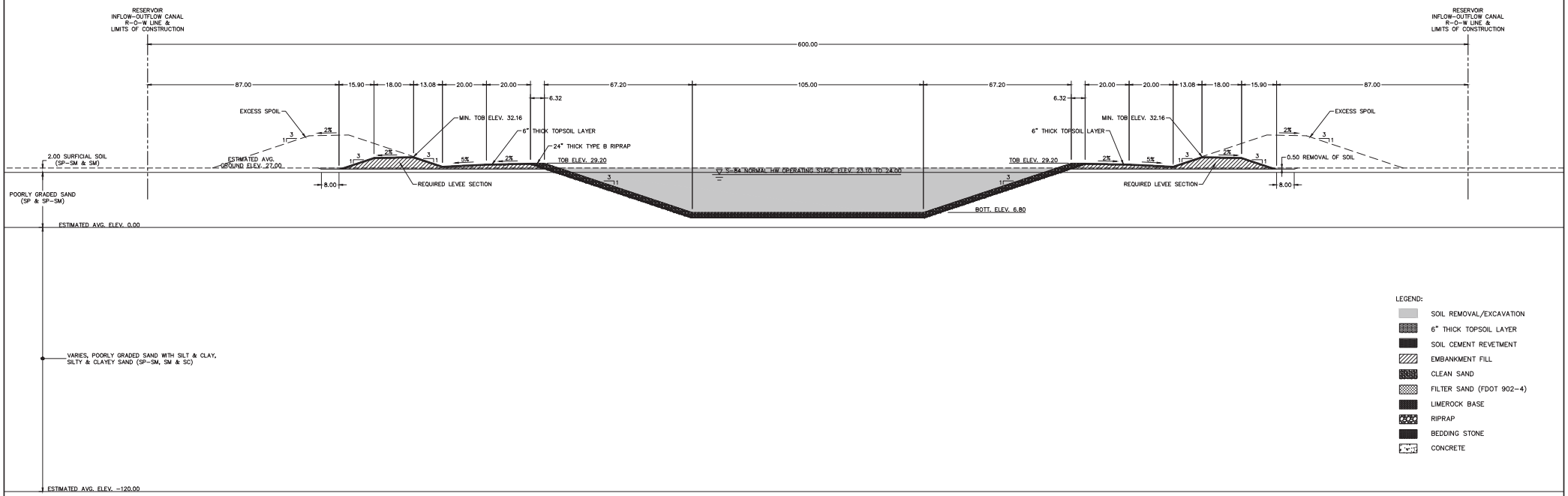
SECTION F - RESERVOIR OUTFLOW CANAL

20 0 20 40 80
(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
6/19/2023



LOCAR ALTERNATIVE 1

SECTION G - RESERVOIR INFLOW-OUTFLOW CANAL

20 0 20 40 80

(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

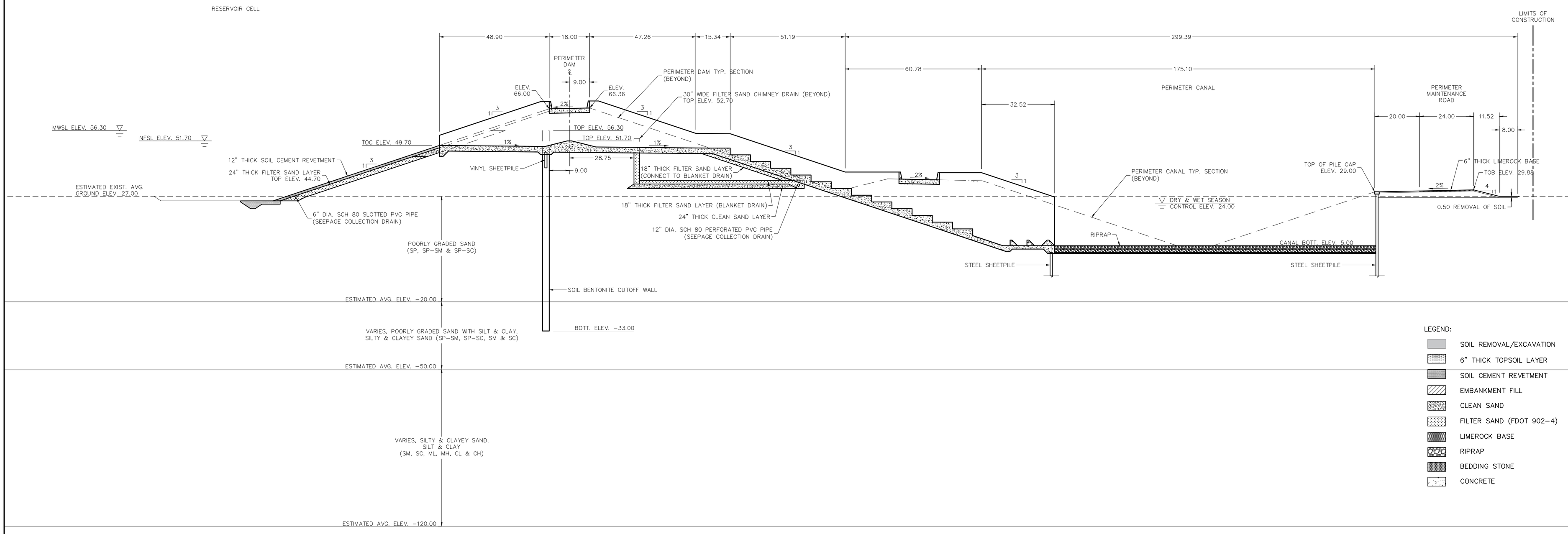
DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
7/25/2023

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

CONTRACT 5 – RESERVOIR DAM STRUCTURES

- Construct Overflow Spillways OS-1 and OS-2
- Construct Gated Outflow Culvert CU-1A
- Construct Gated Outflow Culvert CU-2
- Construct Divider Dam Structure DDS-1

Feature of Work:	STRUCTURES OS-1: EMERGENCY OVERFLOW UN-GATED WEIR/SPILLWAY
Scope Given:	Emergency overflow weir/spillway (by-pass not required for construction). Structure OS-1 is an overflow spillway for the East Cell, once it reaches the maximum crest EL = 50.6-ft NAVD being utilized as the reservoir storage limit.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure plans and cross-sections provided as part of site planning documents. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Reservoir is not operational prior to overflow weir being constructed. – Assumed that levee is constructed to design grade of overflow weir. Minimal excavation is needed prior to placement of concrete. – Assumed that the weir will start at the toe of the levee then rise at a constant slope up to top of canal, be 14 ft wide, then back down to the opposite toe of the levee.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	– Site survey and stake entire area of Emergency Overflow Weir. – Silt Fence the entire site. Silt fence maintenance will be ongoing during construction of the overflow weir. – Excavate site for keyed ends near the toe of the levee and the intersection of the levee crown and the weir. – Place filter fabric below future holes, set and tie reinforcing. Form, place, finish, and cure concrete. Saw cut joints. Strip forms backfill and compact at edges of concrete.
Key Outstanding Questions/Issues:	



LOCAR RECOMMENDED PLAN

SECTION - OS-1 UNGATED OVERFLOW SPILLWAY

SECTION - OS-2 UNGATED OVERFLOW SPILLWAY

20 0 20 40 80

(IN FEET)

1 inch = 20 ft.

NOTE:
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LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE OS-1: EMERGENCY OVERFLOW UN-GATED WEIR/SPILLWAY

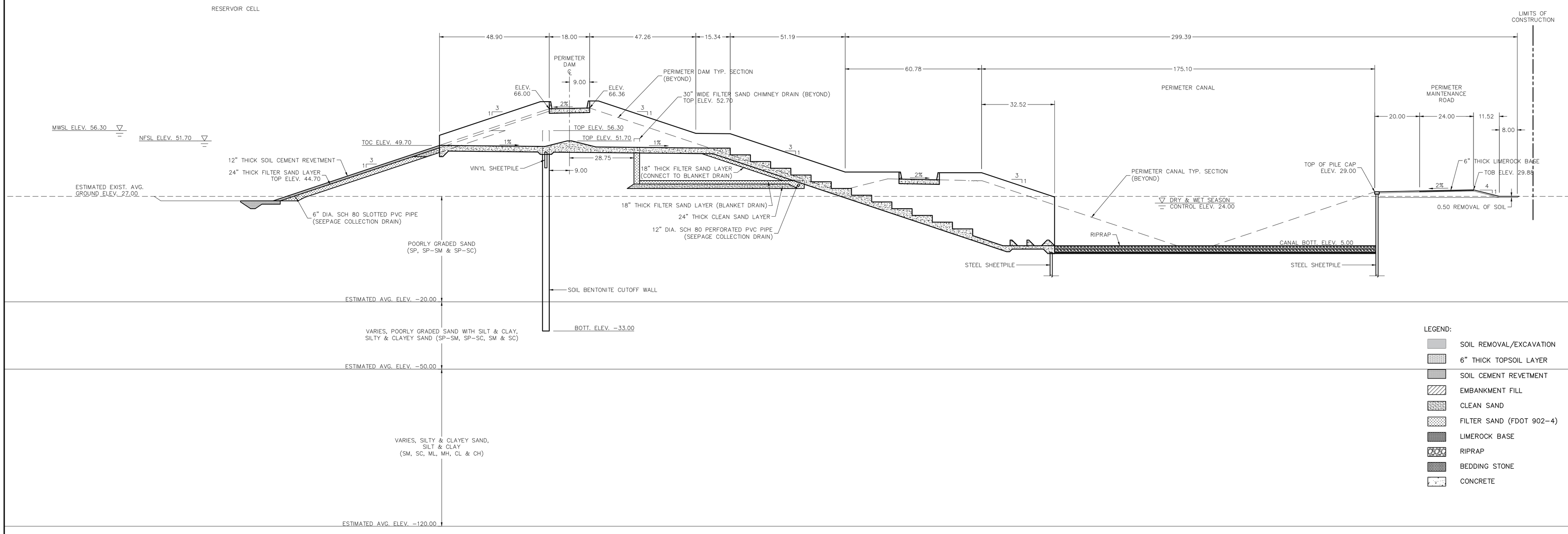
Quantity Take Off:

	User Input		Row Calculation			Sum of Values above		
Concrete								
	Spillway Length	=	309.9	FT		Across canal - measured from Typical		
	Spillway Foundation Width	=	33.1	FT		Across Levee - measured from Plan		
	Foundation Cross-Section Area	=	953.2	SF		Measured from Typical		
	Foundation Volume	=	31,550.3	CF	=	1,168.5	CY	
	Sidewall Width	=	2.0	FT		Measured from Plan		
	Sidewall Cross-Section Area	=	7,595.7	SF		Measured from Typical - minus foundation		
	4" Thick Concrete Volume	=	30,382.9	CF	=	1,125.3	CY	
	Structure Corssings	=	2.0	EA				
	Crossings Length		53.1	FT		Measured from Plan		
	Crossings Cross-Section Area	=	45.2	SF		Measured from Typical		
	Structure Crossings Volume	=	4,804.5	CF	=	177.9	CY	
	TOTAL CONCRETE	=	74,435.7	CF	=	2,471.8	CY	
	Steel Rebar					Assumed 1.2% volume of concrete		
	STEEL REBAR		TOTAL		=	29.7	CY	Rebar
						196.0	TONS	
Site Prep								
	Perimeter	=	686.0	LF				
	Area of work	=	10,257.7	SF	=	0.2	Acres	
Silt Fence								
	Silt Fence	=	857.5	LF		Assumed 125% longer than the perimeter of the work area		

Quantities Summary

Concrete:	2,471.8	CY
Steel Rebar:	29.7	CY (?)
Steel Rebar:	196.0	TONS
Silt Fence:	857.5	LF

Feature of Work:	STRUCTURES OS-2: EMERGENCY OVERFLOW UN-GATED WEIR/SPILLWAY
Scope Given:	Emergency overflow weir/spillway (by-pass not required for construction). Structure OS-2 is an overflow spillway for the West Cell, once it reaches the maximum crest EL = 50.6-ft NAVD being utilized as the reservoir storage limit.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure plans and cross-sections provided as part of site planning documents. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Reservoir is not operational prior to overflow weir being constructed. – Assumed that levee is constructed to design grade of overflow weir. Minimal excavation is needed prior to placement of concrete. – Assumed that the weir will start at the toe of the levee then rise at a constant slope up to top of canal, be 14 ft wide, then back down to the opposite toe of the levee.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	– Site survey and stake entire area of Emergency Overflow Weir. – Silt Fence the entire site. Silt fence maintenance will be ongoing during construction of the overflow weir. – Excavate site for keyed ends near the toe of the levee and the intersection of the levee crown and the weir. – Place filter fabric below future holes, set and tie reinforcing. Form, place, finish, and cure concrete. Saw cut joints. Strip forms backfill and compact at edges of concrete.
Key Outstanding Questions/Issues:	



LOCAR RECOMMENDED PLAN

SECTION - OS-1 UNGATED OVERFLOW SPILLWAY

SECTION - OS-2 UNGATED OVERFLOW SPILLWAY

20 0 20 40 80

(IN FEET)

1 inch = 20 ft.

NOTE:
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LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE OS-2: WIDE EMERGENCY OVERFLOW UN-GATED WEIR/SPILLWAY

Quantity Take Off:

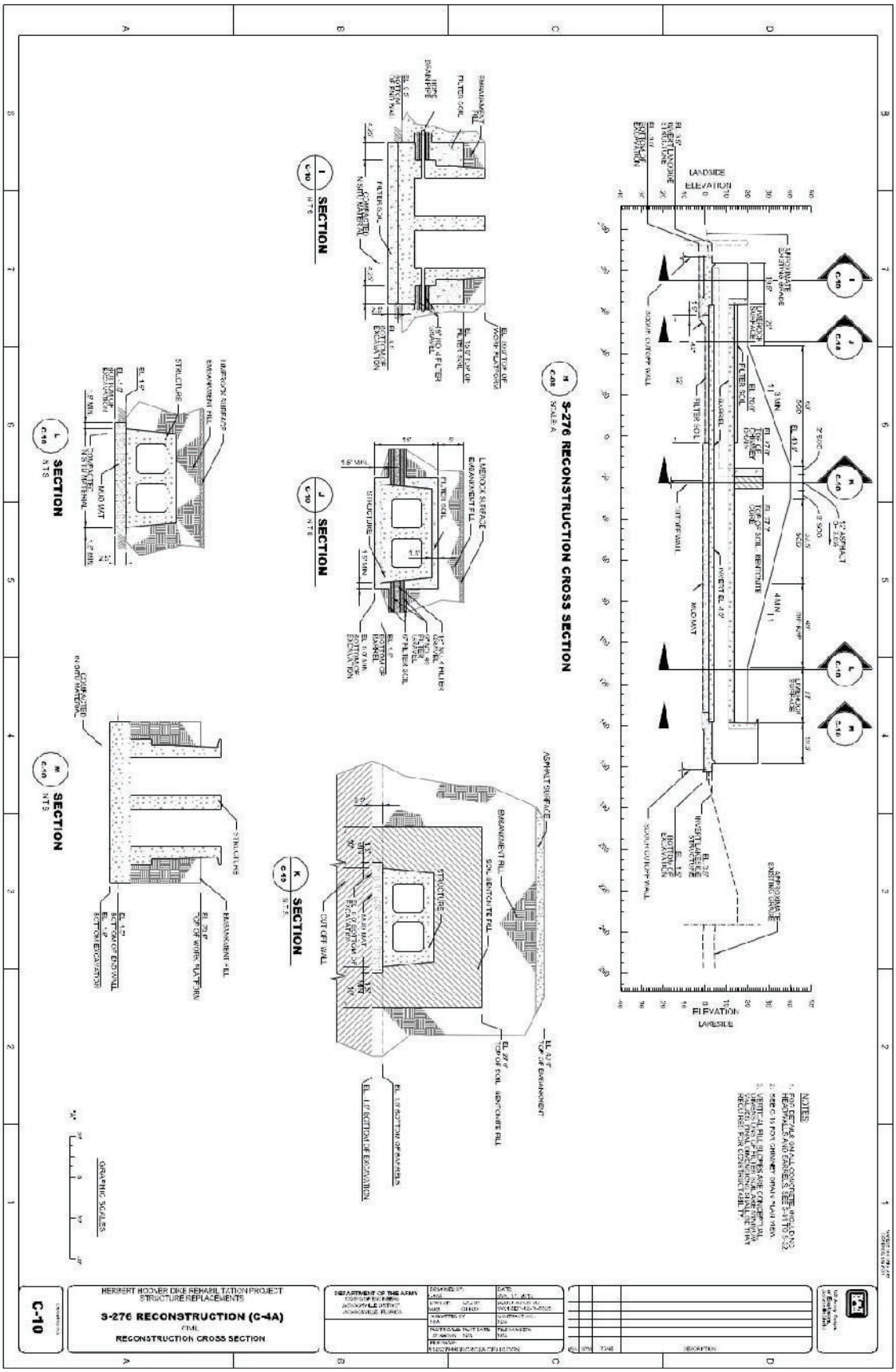
	User Input		Row Calculation			Sum of Values above		
Concrete								
	Spillway Length	=	309.9	FT		Across canal - measured from Typical		
	Spillway Foundation Width	=	33.1	FT		Across Levee - measured from Plan		
	Foundation Cross-Section Area	=	953.2	SF		Measured from Typical		
	Foundation Volume	=	31,550.3	CF	=	1,168.5	CY	
	Sidewall Width	=	2.0	FT		Measured from Plan		
	Sidewall Cross-Section Area	=	7,595.7	SF		Measured from Typical - minus foundation		
	4" Thick Concrete Volume	=	30,382.9	CF	=	1,125.3	CY	
	Structure Corssings	=	2.0	EA				
	Crossings Length		53.1	FT		Measured from Plan		
	Crossings Cross-Section Area	=	45.2	SF		Measured from Typical		
	Structure Crossings Volume	=	4,804.5	CF	=	177.9	CY	
	TOTAL CONCRETE	=	74,435.7	CF	=	2,471.8	CY	
	Steel Rebar					Assumed 1.2% volume of concrete		
	STEEL REBAR		TOTAL		=	29.7	CY	Rebar
						196.0	TONS	
Site Prep								
	Perimeter	=	686.0	LF				
	Area of work	=	10,257.7	SF	=	0.2	Acres	
Silt Fence								
	Silt Fence	=	857.5	LF		Assumed 125% longer than the perimeter of the work area		

Quantities Summary

Concrete:	2,471.8	CY
Steel Rebar:	29.7	CY (?)
Steel Rebar:	196.0	TONS
Silt Fence:	857.5	LF

Feature of Work:	STRUCTURES CU-1A: 556 LF DOUBLE GATED 13'Wx12'H BOX CULVERT WITH ENDWALLS, 12'x24' CONTROL BUILDING
Scope Given:	556 LF double gated 13'x12' box culvert w/ endwalls w/ 12'x24' control building and HW/TW monitoring stations w/ walkways (by-pass not required for construction). Structure CU-1A is a gated box culvert which allows for outflow from the East Cell, discharging to the Seepage Canal CNL-1 Reach 7.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure S-276 and S-277 as a double barrel culvert. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume Excavation will be to the same depth below finished grade as shown in contract drawings for similar projects with a slope of 1:2 for construction. – Assume material as 2 ft of organic, 8 ft of blastable cap rock, and 10 ft of Fort Thompson layer for the remainder of the excavation – until indicated otherwise. – Assume power will be provided from power lines in the area. – Assume that a diesel generator is needed for backup power.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	Excavation/blasting of limestone rock will be required to allow space for the foundation for the gated culvert structure. Culverts, foundations and structures will then be placed. Control structures for the culverts will be installed and a standalone Control station will be built in the area. An additional backup generator will be required along with local utility power. Apron, wing wall, and riprap placement will occur after Culverts have been placed. Backfill and compaction around the structure will occur, the plugs will be removed.
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: CU-1A



LEGEND:

- SOIL REMOVAL/EXCAVATION
- 6" THICK TOPSOIL LAYER
- SOIL CEMENT REVETMENT
- EMBANKMENT FILL
- CLEAN SAND
- FILTER SAND (FDOT 902-4)
- LIMEROCK BASE
- RIPRAP
- BEDDING STONE
- CONCRETE

LOCAR RECOMMENDED PLAN

SECTION - CU-1A GATED OUTFLOW CULVERT

20 0 20 40 80
(IN FEET)
1 inch = 20 ft.

NOTE:
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LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE CU-1A: 556 LF DOUBLE GATED 13'Wx12'H BOX CULVERT WITH ENDWALLS, 12'x24' CONTROL BUILDING

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	255.7	FT	Assume 20' from top of excavation
Length	=	632.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	1,775.3	LF	Sheetpile perimeter
Area	=	161,581.3	SF	

Culvert excavation

Length	=	592.0	FT				Assumed from drawings	
Total Depth	=	26.0	FT				Invert Elev. Minus Foundation Depth	
Thickness of Organic	=	2.0	FT				Assume - 2ft thick	
Thickness of Cap Rock	=	8.0	FT				Assume - 4ft thick	
Thickness of Fort Thompson	=	16.0	FT				Assume - 24ft thick	
Slope1	=	2.0	:1					
Slope2	=	2.0	:1					
Bottom Width	=	111.7	FT				Assumes 40' endwalls both ways	
Top Width	=	215.7	FT					
Cross Section	=	4,255.3	SF					
Cross Section Organic	=	423.3	SF					
Cross Section of Cap Rock	=	1,533.3	SF					
Cross Section of Fort Thompson	=	2,298.7	SF					
Organic Cut Volume	=	250,613.3	CF	=	9,282.0	BCY	=	LCY
Cap Rock Cut Volume	=	907,733.3	CF	=	33,619.8	BCY	=	LCY
Fort Thompson Cut Volume	=	1,360,810.7	CF	=	50,400.4	BCY	=	LCY
EXCAVATION		TOTAL		=	93,302.1	BCY	=	116,628 LCY

Concrete Culvert Concrete

Culvert Pipes 2 | Width 13 | Height 18

Length	=	592.0	FT			
Foundation Concrete Bottom Width	=	31.7	FT			
Bottom Thickness	=	3.0	FT			
Volume	=	56,240.0	CF	=	2,083.0	CY
Vertical Concrete Height	=	18.0	FT			
Thickness of Edge Walls	=	2.0	FT			
Thickness of Interior Walls	=	1.7	FT			
Volume	=	56,832.0	CF	=	2,104.9	CY
Elevated Concrete						
Top Width	=	31.7	FT			
Thickness	=	2.0	FT			
Volume	=	37,493.3	CF	=	1,388.6	CY

Inlet and Outlet Works

Number	=	2.0	EA	Assumed intake and outlet are the same
Foundation				
Length	=	20.0	FT	
Depth	=	2.0	FT	
Width	=	31.7	FT	

Volume	=	2,533.3	CF	=	93.8	CY	
Culvert Endwall							
Height	=	38.0	FT		Assume x2 (Culvert Height + 1')		
Thickness	=	1.5	FT				
Width	=	31.7	FT				
Openings	=	468.0	SF				
Volume	=	2,206.0	CF	=	81.7	CY	
Needle Beam							
Height	=	2.5	FT				
Width	=	13.0	FT				
Depth	=	3.0	FT				
Volume		390.0	CF	=	14.4	CY	
Exterior Walls							
Edge Wall Height	=	38.0	FT				
Edge Wall Length	=	20.0	FT		total each side		
Edge Wall Thickness	=	2.0	FT				
Interior Wall Height		38.0	FT				
Interior Wall Length		14.0	FT				
Inteiror Wall Thickness		1.7	FT				
Volume	=	7,853.3	CF	=	290.9	CY	
CONCRETE		TOTAL		=	6,057.3	CY	
Steel Rebar					Assumed 1.2% volume of concrete		Culvert referenced as an example used approx. 0.8% steel per volume
STEEL REBAR		TOTAL		=	72.7	CY Rebar	
					480.4	TONS	

Sheetpile Endwalls

Number	=	2.0	EA		x2 Endwalls per opening (HW/TW)		
Width	=	80.0	FT		40 ft off each side of culvert		
Length	=	30.0	FT		Assume PZ27 sheetpile, 30' long sheets		
Sheetpile Area	=	4,800.0	SF		30' Long Sheets, 160' Span	PZ-27	
Concrete Cap	=	4.0	SF		Assume 2'x2' cap with PZ27 sheets		
Concrete Volume	=	640.0	CF	=	23.7	CY Concrete	

MISC METALS

Structure Railing	=	120.0	LF		Per each end		
Endwall Railing	=	82.0	LF		Per each end		
TOTAL RAILING	=	404.0	LF		3'6" Tall Steel Railing		
Ladders	=	2.0	EACH				
height	=	25.5	FT EA	=	51.0	FT TOTAL	
Grating	=	78.0	SF per Gate		Approx. 6' long, width of each bay		
TOTAL Grating	=	312.0	SF		Steel Grating		

NEW GATES

Number of gates	=	2.0	EA		x1 per Culvert Pipe		
Height	=	19.0	FT		Assumed 1' greater than Culvert Height		
Width	=	12.0	FT		Assumed 1' smaller than Culvert Width (frame)		
Total Weight of Gates	=	20,269.2	LB EA		Follows similar weight calculations as S-2, but reduces number of steel channels		
TOTAL STEEL GATE WEIGHT		40,538.3	LB	=	20.3	TONS	
Mechanical Components	=	2.0	EA		All gate component information including frame, stem,		

								motor, yoke, etc. to be provided by manufacturer
	Imbeds for Gate	=	124.0	LF				
	Gate Seal Length	=	124.0	LF				Gate perimeter x # of gates

Backfill

Assume Culvert is backfilled as part of levee construction

RIP RAP

	Assume same on both sides							
	Number of placements	=	2.0	EA				1 each side
	Length	=	136.0	FT				Assume width of new canal
	Width	=	111.7	FT				Assume same as bottom width of excavation
	thickness	=	3.0	FT				Assumed
	Volume	=	45,560.0	CF/EA	=	1,687.4	CY/EA	
	RIPRAP		TOTAL		=	3,374.8	CY	Riprap
	Geotextile Filter Fabric	=	16,546.7	SF				Fabric

Boat Barrier

	Number	=	2.0	EA				
	Piles for Buoys	=	3.0	EA				Assume barrier has 3 points (2 at shore, 1 at canal)
	Length	=	170.0	FT/EA				
	Total Length	=	340.0	FT				Buoy style barrier
	Total Piles	=	6.0	EA				

SWPPP

	Floating Silt Boom	=	980.0	FT				Assumed
	Silt Fence	=	6,492.0	FT				Assumed

Control Building

	Size	=	288.0	SF				12x24
	Electrical	=	NEEDED					
	Communications	=	NEEDED					
	Modular Precast Concrete Structure							
	Exterior Walls							
	Height	=	12.0	FT				
	Perimeter Length	=	72.0	FT				
	Thickness	=	4.0	IN				
	Volume	=	288.0		=	10.7	CY	
	Interior Wall							
	Height	=	12.0	FT				
	Length	=	12.0	FT				
	Thickness	=	4.0	IN				
	Volume	=	48.0		=	1.8	CY	
	Floor Slab							
	Thickness	=	6.0	IN				
	Area	=	288.0	SF				
	Volume	=	144.0	CF	=	5.3	CY	
	Roof							
	Thickness	=	5.0	IN				
	Area	=	288.0	SF				
	Volume	=	120.0	CF	=	4.4	CY	

Fuel Pad	=	96.0	CF	Assume 8'x12'x12" thick reinforced concrete slab on grade pad
	=	3.6	CY	

CONCRETE	TOTAL		=	25.8	CY

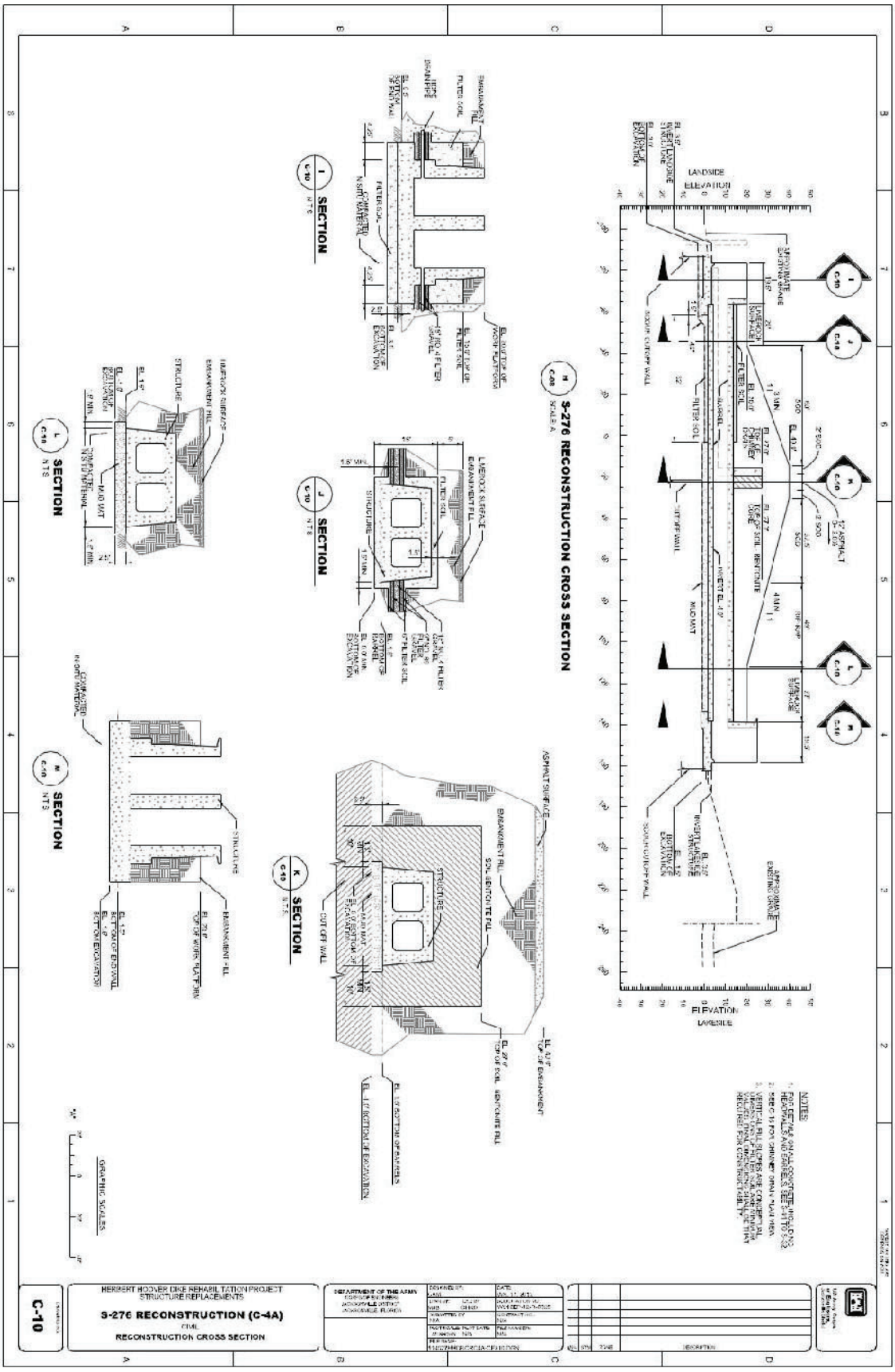
Total Doors	=	2.0	EA	
Size	=	4'-0" x 7'-0"		
Conduit Boxes	=	1.0	EA/DOOR	
Lock Boxes	=	1.0	EA/DOOR	
Fire Extinguishers	=	2.0	EA	
26" x 26" Exhaust Hoods	=	1.0	EA	
30" x 30" Exhaust Hoods	=	1.0	EA	
30" x 30"Intake Hoods	=	2.0	EA	
18" x 18" Intake Air Hood	=	1.0	EA	
18" x 18" Exhaust Hood	=	1.0	EA	
20" Exhaust Fan	=	1.0	EA	Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP
12" Exhaust Fan	=	1.0	EA	Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP
Generator Fuel Tank	=	1,000.0	GALLON	
Gravel Pad	=	216.0	CF	Assume 50% greater area than building, 6" thick
	=	8.0	CY	
Filter Fabric		472.0	SF	

Quantities Summary

Coffer dam:	1,775.3	LF	
Coffer dam:	161,581.3	SF	
Excavation:	93,302.1	CY	
Concrete:	6,057.3	CY	
Steel Rebar:	72.7	CY (?)	
Steel Rebar:	480.4	TONS	
Sheetpile:	4,800.0	SF	PZ27x160LFx30FT
Cap:	23.7	CY	
Railing:	404.0	LF	
Grate:	312.0	SF	
Ladders:	2.0	EA	25' EA
Gates:	2.0	EA	13'x12' w/ mechanical components
Seals:	124.0	LF	
Backfill:	116,627.7	LCY	
Rip-rap:	3,374.8	CY	
Geofabric:	16,546.7	SF	
Boat Barrier:	340.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	980.0	LF	
Silt Fence:	6,492.0	LF	
Control bld.:	25.8	CY	Concrete
Total Doors	2.0	EA	Size 4'-0" x 7'-0"
Conduit Boxes	1.0	EA/DOOR	
Lock Boxes	1.0	EA/DOOR	
Fire Extinguishers	2.0	EA	
26" x 26" Exhaust Hoods	1.0	EA	
30" x 30" Exhaust Hoods	1.0	EA	
30" x 30"Intake Hoods	2.0	EA	
18" x 18" Intake Air Hood	1.0	EA	
18" x 18" Exhaust Hood	1.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	
Generator Fuel Tank:	1,000.0	GALLONS	
CTRL BLDG Gravel Pad	8.0	CY	
CTRL BLDG Pad Fabric	472.0	SF	

Feature of Work:	STRUCTURES CU-2: 556 LF DOUBLE GATED 13'Wx12'H BOX CULVERT WITH ENDWALLS, 12'x24' CONTROL BUILDING
Scope Given:	556 LF double gated 13'x12' box culvert w/ endwalls w/ 12'x24' control building and HW/TW monitoring stations w/ walkways (by-pass not required for construction). Structure CU-2 is a gated box culvert which allows for outflow from the West Cell, discharging to the Seepage Canal CNL-3.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure S-276 and S-277 as a double barrel culvert. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume Excavation will be to the same depth below finished grade as shown in contract drawings for similar projects with a slope of 1:2 for construction. – Assume material as 2 ft of organic, 8 ft of blastable cap rock, and 10 ft of Fort Thompson layer for the remainder of the excavation – until indicated otherwise. – Assume power will be provided from power lines in the area. – Assume that a diesel generator is needed for backup power.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	Excavation/blasting of limestone rock will be required to allow space for the foundation for the gated culvert structure. Culverts, foundations and structures will then be placed. Control structures for the culverts will be installed and a standalone Control station will be built in the area. An additional backup generator will be required along with local utility power. Apron, wing wall, and riprap placement will occur after Culverts have been placed. Backfill and compaction around the structure will occur, the plugs will be removed.
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: CU-2



LOCAR RECOMMENDED PLAN

SECTION - CU-2 GATED OUTFLOW CULVERT

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE CU-2A: 556 LF DOUBLE GATED 13'Wx12'H BOX CULVERT WITH ENDWALLS, 12'x24' CONTROL BUILDING

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	255.7	FT	Assume 20' from top of excavation
Length	=	632.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	1,775.3	LF	Sheetpile perimeter
Area	=	161,581.3	SF	

Culvert excavation

Length	=	592.0	FT				Assumed from drawings	
Total Depth	=	26.0	FT				Invert Elev. Minus Foundation Depth	
Thickness of Organic	=	2.0	FT				Assume - 2ft thick	
Thickness of Cap Rock	=	8.0	FT				Assume - 4ft thick	
Thickness of Fort Thompson	=	16.0	FT				Assume - 24ft thick	
Slope1	=	2.0	:1					
Slope2	=	2.0	:1					
Bottom Width	=	111.7	FT				Assumes 40' endwalls both ways	
Top Width	=	215.7	FT					
Cross Section	=	4,255.3	SF					
Cross Section Organic	=	423.3	SF					
Cross Section of Cap Rock	=	1,533.3	SF					
Cross Section of Fort Thompson	=	2,298.7	SF					
Organic Cut Volume	=	250,613.3	CF	=	9,282.0	BCY	=	LCY
Cap Rock Cut Volume	=	907,733.3	CF	=	33,619.8	BCY	=	LCY
Fort Thompson Cut Volume	=	1,360,810.7	CF	=	50,400.4	BCY	=	LCY
EXCAVATION		TOTAL		=	93,302.1	BCY	=	116,628 LCY

Concrete Culvert Concrete

Culvert Pipes 2 | Width 13 | Height 18

Length	=	592.0	FT			
Foundation Concrete Bottom Width	=	31.7	FT			
Bottom Thickness	=	3.0	FT			
Volume	=	56,240.0	CF	=	2,083.0	CY
Vertical Concrete Height	=	18.0	FT			
Thickness of Edge Walls	=	2.0	FT			
Thickness of Interior Walls	=	1.7	FT			
Volume	=	56,832.0	CF	=	2,104.9	CY
Elevated Concrete						
Top Width	=	31.7	FT			
Thickness	=	2.0	FT			
Volume	=	37,493.3	CF	=	1,388.6	CY

Inlet and Outlet Works

Number	=	2.0	EA	Assumed intake and outlet are the same
Foundation				
Length	=	20.0	FT	
Depth	=	2.0	FT	
Width	=	31.7	FT	

Volume	=	2,533.3	CF	=	93.8	CY	
Culvert Endwall							
Height	=	38.0	FT		Assume x2 (Culvert Height + 1')		
Thickness	=	1.5	FT				
Width	=	31.7	FT				
Openings	=	468.0	SF				
Volume	=	2,206.0	CF	=	81.7	CY	
Needle Beam							
Height	=	2.5	FT				
Width	=	13.0	FT				
Depth	=	3.0	FT				
Volume		390.0	CF	=	14.4	CY	
Exterior Walls							
Edge Wall Height	=	38.0	FT				
Edge Wall Length	=	20.0	FT		total each side		
Edge Wall Thickness	=	2.0	FT				
Interior Wall Height		38.0	FT				
Interior Wall Length		14.0	FT				
Inteiror Wall Thickness		1.7	FT				
Volume	=	7,853.3	CF	=	290.9	CY	
CONCRETE		TOTAL		=	6,057.3	CY	
Steel Rebar					Assumed 1.2% volume of concrete		Culvert referenced as an example used approx. 0.8% steel per volume
STEEL REBAR		TOTAL		=	72.7	CY Rebar	
					480.4	TONS	

Sheetpile Endwalls

Number	=	2.0	EA		x2 Endwalls per opening (HW/TW)		
Width	=	80.0	FT		40 ft off each side of culvert		
Length	=	30.0	FT		Assume PZ27 sheetpile, 30' long sheets		
Sheetpile Area	=	4,800.0	SF		30' Long Sheets, 160' Span	PZ-27	
Concrete Cap	=	4.0	SF		Assume 2'x2' cap with PZ27 sheets		
Concrete Volume	=	640.0	CF	=	23.7	CY Concrete	

MISC METALS

Structure Railing	=	120.0	LF		Per each end		
Endwall Railing	=	82.0	LF		Per each end		
TOTAL RAILING	=	404.0	LF		3'6" Tall Steel Railing		
Ladders	=	2.0	EACH				
height	=	25.5	FT EA	=	51.0	FT TOTAL	
Grating	=	78.0	SF per Gate		Approx. 6' long, width of each bay		
TOTAL Grating	=	312.0	SF		Steel Grating		

NEW GATES

Number of gates	=	2.0	EA		x1 per Culvert Pipe		
Height	=	19.0	FT		Assumed 1' greater than Culvert Height		
Width	=	12.0	FT		Assumed 1' smaller than Culvert Width (frame)		
Total Weight of Gates	=	20,269.2	LB EA		Follows similar weight calculations as S-2, but reduces number of steel channels		
TOTAL STEEL GATE WEIGHT		40,538.3	LB	=	20.3	TONS	
Mechanical Components	=	2.0	EA		All gate component information including frame, stem,		

							motor, yoke, etc. to be provided by manufacturer
	Imbeds for Gate	=	124.0	LF			
	Gate Seal Length	=	124.0	LF			Gate perimeter x # of gates

Backfill

Assume Culvert is backfilled as part of levee construction

RIP RAP

	Assume same on both sides						
	Number of placements	=	2.0	EA			1 each side
	Length	=	136.0	FT			Assume width of new canal
	Width	=	111.7	FT			Assume same as bottom width of excavation
	thickness	=	3.0	FT			Assumed
	Volume	=	45,560.0	CF/EA	=	1,687.4	CY/EA
	RIPRAP		TOTAL		=	3,374.8	CY Riprap
	Geotextile Filter Fabric	=	16,546.7	SF			Fabric

Boat Barrier

	Number	=	2.0	EA			
	Piles for Buoys	=	3.0	EA			Assume barrier has 3 points (2 at shore, 1 at canal)
	Length	=	170.0	FT/EA			
	Total Length	=	340.0	FT			Buoy style barrier
	Total Piles	=	6.0	EA			

SWPPP

	Floating Silt Boom	=	980.0	FT			Assumed
	Silt Fence	=	6,492.0	FT			Assumed

Control Building

	Size	=	288.0	SF			12x24
	Electrical	=	NEEDED				
	Communications	=	NEEDED				
	Modular Precast Concrete Structure						
	Exterior Walls						
	Height	=	12.0	FT			
	Perimeter Length	=	72.0	FT			
	Thickness	=	4.0	IN			
	Volume	=	288.0		=	10.7	CY
	Interior Wall						
	Height	=	12.0	FT			
	Length	=	12.0	FT			
	Thickness	=	4.0	IN			
	Volume	=	48.0		=	1.8	CY
	Floor Slab						
	Thickness	=	6.0	IN			
	Area	=	288.0	SF			
	Volume	=	144.0	CF	=	5.3	CY
	Roof						
	Thickness	=	5.0	IN			
	Area	=	288.0	SF			
	Volume	=	120.0	CF	=	4.4	CY

Fuel Pad	=	96.0	CF	Assume 8'x12'x12" thick reinforced concrete slab on grade pad
	=	3.6	CY	

CONCRETE	TOTAL		=	25.8	CY

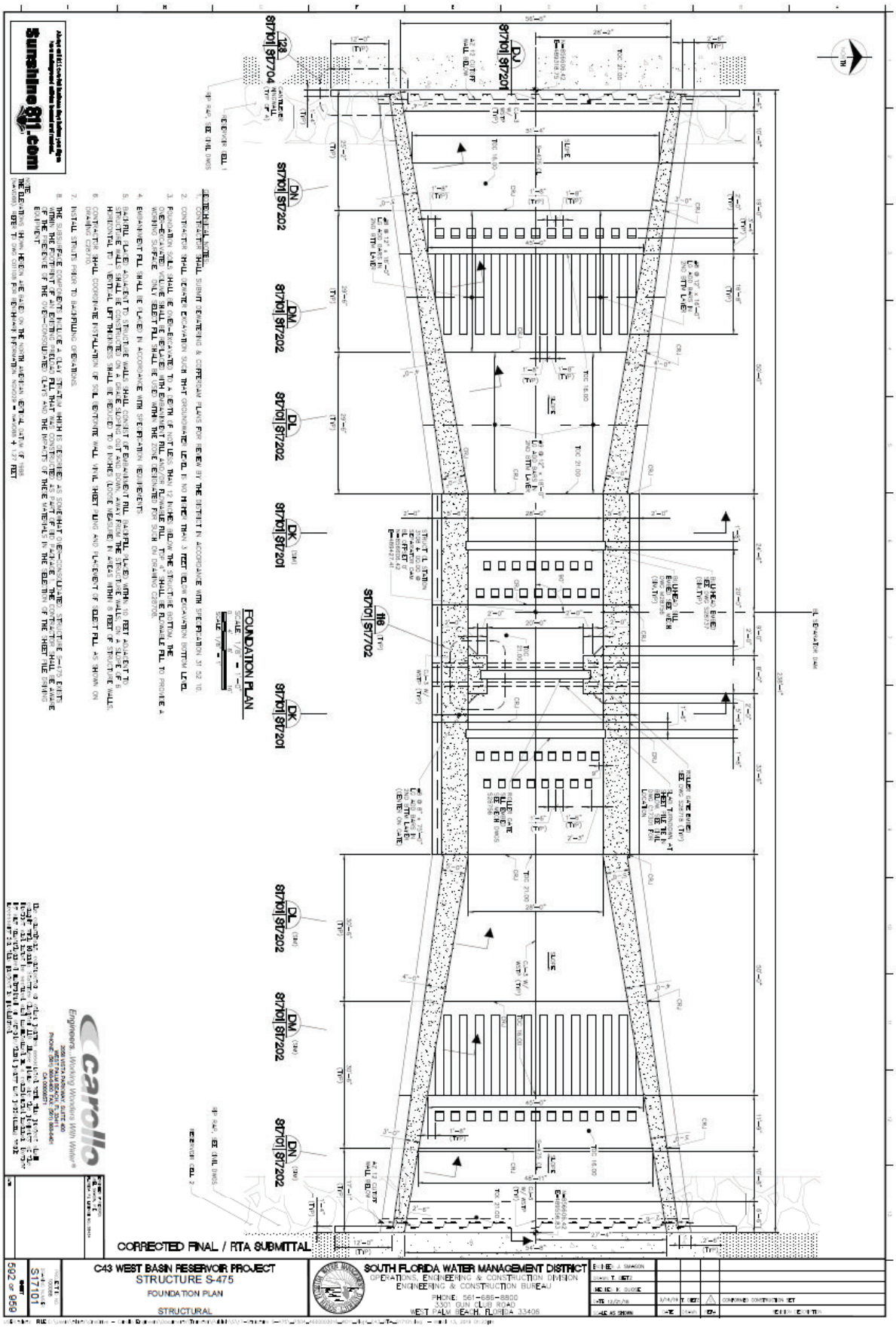
Total Doors	=	2.0	EA	
Size	=	4'-0" x 7'-0"		
Conduit Boxes	=	1.0	EA/DOOR	
Lock Boxes	=	1.0	EA/DOOR	
Fire Extinguishers	=	2.0	EA	
26" x 26" Exhaust Hoods	=	1.0	EA	
30" x 30" Exhaust Hoods	=	1.0	EA	
30" x 30"Intake Hoods	=	2.0	EA	
18" x 18" Intake Air Hood	=	1.0	EA	
18" x 18" Exhaust Hood	=	1.0	EA	
20" Exhaust Fan	=	1.0	EA	Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP
12" Exhaust Fan	=	1.0	EA	Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP
Generator Fuel Tank	=	1,000.0	GALLON	
Gravel Pad	=	216.0	CF	Assume 50% greater area than building, 6" thick
	=	8.0	CY	
Filter Fabric		472.0	SF	

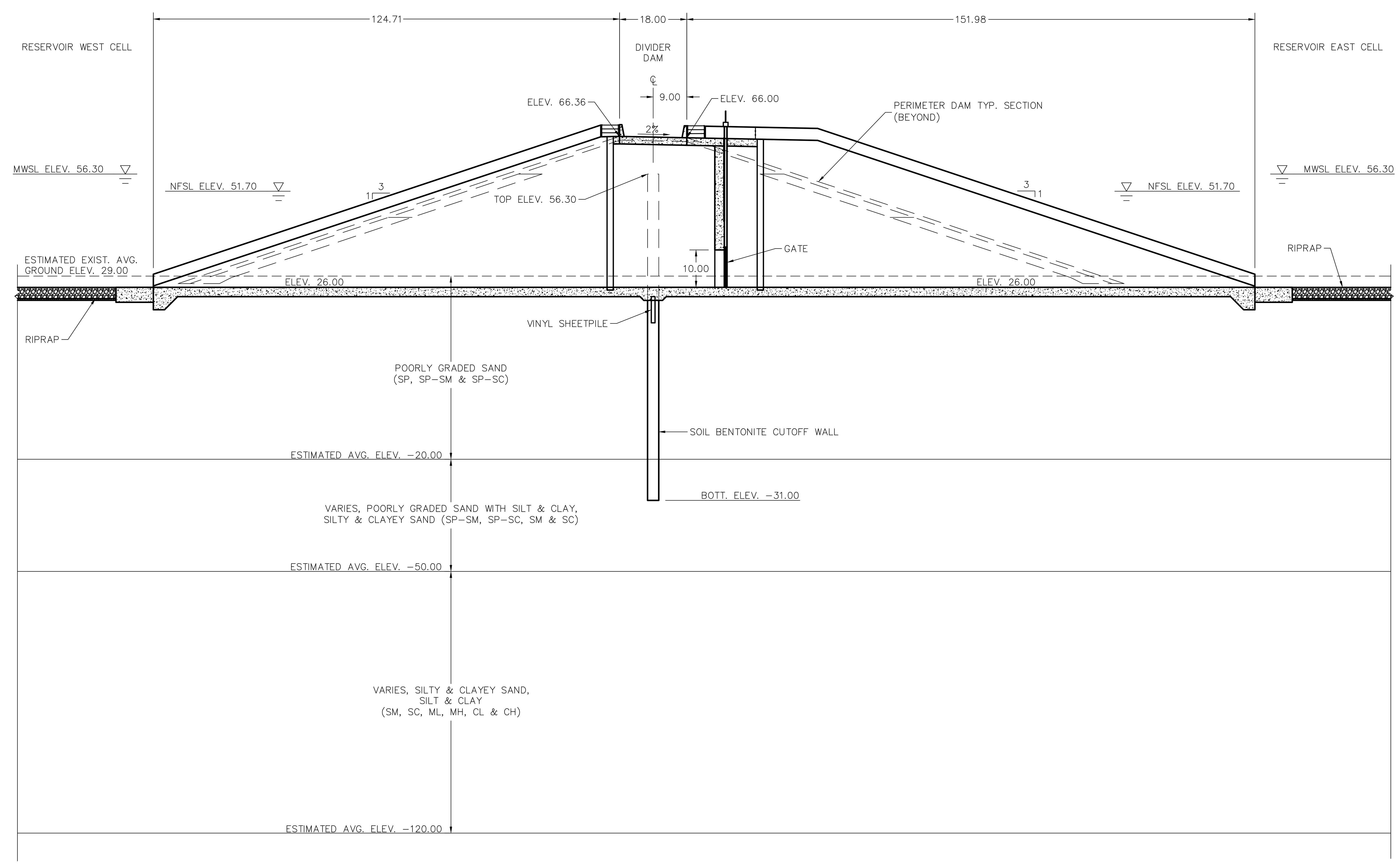
Quantities Summary

Coffer dam:	1,775.3	LF	
Coffer dam:	161,581.3	SF	
Excavation:	93,302.1	CY	
Concrete:	6,057.3	CY	
Steel Rebar:	72.7	CY (?)	
Steel Rebar:	480.4	TONS	
Sheetpile:	4,800.0	SF	PZ27x160LFx30FT
Cap:	23.7	CY	
Railing:	404.0	LF	
Grate:	312.0	SF	
Ladders:	2.0	EA	25' EA
Gates:	2.0	EA	13'x12' w/ mechanical components
Seals:	124.0	LF	
Backfill:	116,627.7	LCY	
Rip-rap:	3,374.8	CY	
Geofabric:	16,546.7	SF	
Boat Barrier:	340.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	980.0	LF	
Silt Fence:	6,492.0	LF	
Control bld.:	25.8	CY	Concrete
Total Doors	2.0	EA	Size 4'-0" x 7'-0"
Conduit Boxes	1.0	EA/DOOR	
Lock Boxes	1.0	EA/DOOR	
Fire Extinguishers	2.0	EA	
26" x 26" Exhaust Hoods	1.0	EA	
30" x 30" Exhaust Hoods	1.0	EA	
30" x 30"Intake Hoods	2.0	EA	
18" x 18" Intake Air Hood	1.0	EA	
18" x 18" Exhaust Hood	1.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	
Generator Fuel Tank:	1,000.0	GALLONS	
CTRL BLDG Gravel Pad	8.0	CY	
CTRL BLDG Pad Fabric	472.0	SF	

Feature of Work:	STRUCTURE DDS-1: DIVIDER DAM TWO-WAY FLOW GATED SPILLWAY 1,500 CFS
Scope Given:	Gated spillway w/ (2) 10'Wx10'H Gates w/ 12'x24' Control Bldg. & HW/TW Monitoring Stations w/ Walkways (by-pass not required for construction). Allows for flow between the East and West Cells through the Divider Dam.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure S-475. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume aprons are in addition to the concrete structure shown in the provided drawings. – Assume power for the structure will be provided from local power lines. – Assume that a diesel generator is needed for backup power. – Assume 50 KW Diesel Generator with 1000 gallon above ground tank.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	Excavation of materials to allow for construction of the foundation of the cross canal gate structure and the canal apron/wingwall. Concrete work for structure followed by apron and wingwalls. Backfill suitable material around the structure and import riprap. Construct control station, diesel generator, and fuel storage. Place gates and other associated closure devices for the gate structure.
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: DDS-1





LEGEND:

- SOIL REMOVAL/EXCAVATION
- 6" THICK TOPSOIL LAYER
- SOIL CEMENT REVETMENT
- EMBANKMENT FILL
- CLEAN SAND
- FILTER SAND (FDOT 902-4)
- LIMEROCK BASE
- RIPRAP
- BEDDING STONE
- CONCRETE

LOCAR RECOMMENDED PLAN

SECTION - DDS-1 DIVIDER DAM STRUCTURE

20 0 20 40 80

(IN FEET)
1 inch = 20 ft.

NOTE:
1. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). NGVD29 = NAVD88 + 1.2 FEET FOR THE LOCAR PROJECT LIMITS OF CONSTRUCTION.

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)

DRAWING PREPARED BY J-TECH
TYPICAL SECTION SHEET LAYOUTS.DWG
9/24/2023

Feature of Work:	STRUCTURE DDS-1: DIVIDER DAM TWO-WAY FLOW GATED SPILLWAY 1,500 CFS

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	152.5	FT	Assume 20' from top of excavation
Length	=	394.0	FT	Assume 20' from length of excavation
Depth	=	46.0	FT	Assumed
Total Perimeter	=	1,093.0	LF	Sheetpile perimeter
Area	=	60,085.0	SF	

Spillway Excavation

Assume Spillway Excavation will be partially performed during canal excavation, if no canal exists

Length	=	354.0	FT	Add'l 40' assumed for wingwall installation each way
Total Depth	=	26.0	FT	15' below crest elevation for crest, footer, and tremie
Thickness of Organic	=	2.0	FT	
Thickness of Cap Rock	=	8.0	FT	
Thickness of Fort Thompson	=	16.0	FT	
Canal Slope		2.5	:1	From Typical Sections
				Canal bottom: 55' wide, Canal top: 127.5' wide
Bottom Width	=	112.5	FT	Assumes 20' past canal excavation (minus canal width)
Top Width	=	112.5	FT	Assumes slope same as canal

Cross Section	=	2,925.0	SF					
Cross Section Organic	=	225.0	SF					
Cross Section of Cap Rock	=	900.0	SF					
Cross Section of Fort Thompson	=	1,800.0	SF					
Organic Cut Volume	=	79,650.0	CF	=	2,950.0	BCY	=	LCY
Cap Rock Cut Volume	=	318,600.0	CF	=	11,800.0	BCY	=	LCY
Fort Thompson Cut Volume	=	637,200.0	CF	=	23,600.0	BCY	=	LCY
EXCAVATION		TOTAL		=	38,350.0	BCY	=	47,937.5 LCY

Structure Dimensions and Volumes

Units	=	1.0	EA	For use only if existing canal is located where structure is to be placed, tremie pour below area of structure, approx. 20 ft past structure dimensions, 5 ft thick		
Underwater Concrete Seal Volume (Unreinforced concrete)	=	157,000.0	CF			
Tremie Volume	=	157,000.0	CF	=	5,814.8	CY Tremie Concrete

Structure	1		Length	274	ft	Width	60	ft
Gate Openings	1		Height	10	ft	Width	20	ft
Number of Gates	=	1.0	EA					

Superstructure/Gate Structure						
Number of Towers	=	2.0	EA			
Tower Cross-Section	=	160.0	SF	Assume from similar		
Tower Width	=	3.0	FT			
Volume	=	960.0	CF	=	35.6	CY
Number of Piers	=	-	EA			
Pier Cross-Section	=	126.0	SF	Assume from similar		
Pier Height	=	32.0	FT	Assume from similar		
Volume	=	-	CF	=	-	CY
Abutment Walls	=	2.0	EA			

Cross-Section of Abutment Wall	=	150.0	SF		Assume from similar		
Wall Height	=	32.0	FT		Assume from similar		
Volume	=	9,600.0	CF	=	355.6	CY	
Beam Cross-Section	=	15.0	SF				
Beam Length	=	55.0	FT		Assume from similar		
volume of elevated beam	=	825.0	CF	=	30.6	CY	
Cross-Section of Platform, Bridge, Brestwall	=	46.5	SF				
Width	=	55.0	FT				
Volume	=	2,557.5	CF	=	94.7	CY	
OGEE volume							
Cross section	=	143.9	SF		Assume from similar		
Width	=	55.0	FT		Assume from similar		
OGEE Spillway volume	=	7,914.5	CF	=	293.1	CY	
Approach apron					Assume 12' long, 60' wide. 5' thick per S-65EX design		
Length	=	80.0	FT				
Thickness	=	5.0	FT				
Volume	=	24,000.0	CF	=	888.9	CY	
Stilling Basin					Assume 22' long, 60' wide. 5' thick per S-65EX design		
Length	=	80.0	FT				
Thickness	=	5.0	FT				
Volume	=	24,000.0	CF	=	888.9	CY	
CONCRETE		TOTAL		=	2,587.3	CY	Concrete
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	31.0	CY	Rebar
					205.2	TONS	

Wing Walls and Cutoff

Assume same for US and DS sides							
Wingwalls							
Number	=	4.0	EA				
Length	=	50.0	FT		Length to reach past riprap banks		
Depth	=	43.0	FT		Past bottom of structure of slab		
Area of Sheet Pile	=	8,600.0	SF				
Pile Cap					x4		
Height	=	2.0	FT				
Width	=	2.0	FT				
Volume	=	800.0	CF	=	29.6	CY	Concrete
Cutoff Walls							
Number	=	2.0	EA		US & DS		
Depth	=	15.0	FT		Min. 10' required		
Width	=	60.0	FT				
Area of Sheet Pile	=	1,800.0	SF				
TOTAL SHEETPILE		10,400.0	SF		Steel Sheetpile Wall		
Anchor Rod Length	=	60.0	FT				
spacing	=	4.0	FT				
number of rods	=	96.0	EA				

RIP RAP

Lengths and depths assumed, and similar on US and DS

Number	=	2.0	EA			
Length	=	30.0	FT		Assume riprap will extend 30' from structure	
Width	=	167.5	FT		Assume canal width plus excavation width	
Depth	=	3.0	FT		Average depth	
Volume	=	30,150.0	CF	=	1,116.7 CY	Riprap
Geotextile Filter Fabric	=	5,625.0	SF		Fabric	

NEW GATES

Assumptions borrowed from a similar design

Gate weight calculations

Height	=	12.0			Assume 2' taller than opening	
Width	=	20.0				
3/8" Plate steel	=	15.3	lb/sq ft		Given	
1/2" Plate steel	=	20.4	lb/sq ft		Given	
1" Plate Steel	=	40.8	lb/sq ft		Given	
Gate Skin 3/8" Plate Steel	=	240.0	sq ft		Same size as gate dimensions above	
3/8" Plate stiffeners and seal angles	=	87.0	sq ft		Assume 5 sq ft for seal angles and 82 for stiffeners	
Horizontal C-Channels (1/2")	=	541.7	sq ft		Assume ea. channel is equivalent to 26"x25' (10 Channels).	
Vertical C-Channels (1/2")	=	346.7	sq ft		Assume each vertical channel is 26"x16' (10 Channels).	
Pull Pad eyes (1")	=	4.0	sq ft		Assume 4 pad eyes per gate @ 1 sq ft each	
Total 3/8" Plus 10% for misc. items	=	359.7	sq ft	=	5,503.4 lbs	
Total 1/2" plus 15% for misc items	=	1,021.6	sq ft	=	20,840.3 lbs	
Total 1" steel	=	4.0	sq ft	=	163.2 lbs	
lbs/sq ft for 28'x14' gate	=	110.4	lb/sq ft			
Area of single gate	=	240.0	sq ft		assumed 3 ft bigger then opening in each direction	
Approximate weight of gate	=	26,506.9	lb			
Overweight factor for larger gates (10%)	=	29,157.6	LB EA	=	29,157.6 LB Total	
Total Steel Gate Weight				=	14.6 Tons	

Gate embeds/seal lengths

Gate Dimensions					
Width	=	20.0	FT		
Height	=	12.0	FT		
Gate Well Height	=	42.0	FT		
Gate Well Embed	=	119.0	FT		
Total Embed Length	=	119.0	FT		1 gate
Seal Length	=	44.0	FT		seal length is the perimeter of bottom and both sides
Total Seal Length	=	44.0	FT		total of 1 gates
US and DS Bulkhead Slot	=	312.0	FT		6 times vertical plus width of new gate per slot
Bulkheads	=	29,157.6	LB EA		Assume same size as gates
Number	=	2.0	EA		x2 per gate needed
Total Length of imbeds	=	431.0	FT		
Total Weight of Stoplogs	=	58,315.2	LB	=	29.2 Tons
TOTAL J BULB for GATES AND STOP LOGS	=	567.0	FT		

Backfill

Assume structure/wingwalls are backfilled as part of levee constructi

Railings and Ladders

Railing					
Length	=	1,108.0	FT		Assumed 4 time the length of a wing wall and 6 times the
Height	=	3.5	FT		width of the structure and twice the length
Ladders					
Count	=	6.0	EA		Assumed ladders on each side of the structure
Height	=	17.5	FT		average of all three types
Total Height	=	105.0	FT		

Boat Barrier

Number	=	2.0	EA		
Piles for Buoys	=	3.0	EA		Assume barrier has 3 points (2 at shore, 1 at canal)
Length	=	170.0	FT/EA		Assumed
Total Length	=	340.0	FT		Buoy style barrier
Total Piles	=	6.0	EA		

Site Fencing

Length	=	1,000.0	FT		Approx. chainlink fence required ~600', assume 1,000'
Gates	=	4.0	EA		Assumed

SWPPP

Length	=	1,000.0	LF		Assumed
Floating Silt Boom	=	250.0	LF		Assumed

Control Building

Size	=	288.0	SF		12x24
Electrical	=	NEEDED			
Communications	=	NEEDED			
Modular Precast Concrete Structure					
Exterior Walls					
Height	=	12.0	FT		
Perimeter Length	=	72.0	FT		
Thickness	=	4.0	IN		
Volume	=	288.0		=	10.7 CY
Interior Wall					
Height	=	12.0	FT		
Length	=	12.0	FT		
Thickness	=	4.0	IN		
Volume	=	48.0		=	1.8 CY
Floor Slab					
Thickness	=	6.0	IN		
Area	=	288.0	SF		
Volume	=	144.0	CF	=	5.3 CY
Roof					
Thickness	=	5.0	IN		
Area	=	288.0	SF		
Volume	=	120.0	CF	=	4.4 CY
Fuel Pad	=	96.0	CF		Assume 8'x12'x12" thick reinforced concrete slab on grade

	=	3.6	CY	pad	
CONCRETE	TOTAL		=	25.8	CY
Total Doors	=	2.0	EA		
Size	=	4'-0" x 7'-0"			
Conduit Boxes	=	1.0	EA/DOOR		
Lock Boxes	=	1.0	EA/DOOR		
Fire Extinguishers	=	2.0	EA		
26" x 26" Exhaust Hoods	=	1.0	EA		
30" x 30" Exhaust Hoods	=	1.0	EA		
30" x 30"Intake Hoods	=	2.0	EA		
18" x 18" Intake Air Hood	=	1.0	EA		
18" x 18" Exhaust Hood	=	1.0	EA		
20" Exhaust Fan	=	1.0	EA	Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP	
12" Exhaust Fan	=	1.0	EA	Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP	
Generator Fuel Tank	=	1,000.0	GALLON		
Gravel Pad	=	216.0	CF	Assume 50% greater area than building, 6" thick	
	=	8.0	CY		
Filter Fabric		472.0	SF		

Quantities Summary

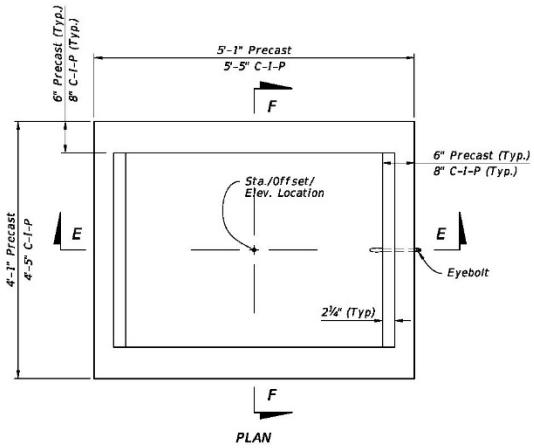
Coffer dam:	1,093.0	LF	
Coffer dam:	60,085.0	SF	
Tremie Concrete:	5,814.8	CY	
Excavation:	38,350.0	CY	
Concrete:	2,587.3	CY	
Steel Rebar:	31.0	CY (?)	
Steel Rebar:	205.2	TONS	
Sheetpile:	10,400.0	SF	160' Wall length x 30' Long sheets
Cap:	29.6	CY	
Railing:	1,108.0	LF	
Ladders:	6.0	EA	
Gates:	1.0	EA	18'x25'
Total steel gate wt	14.6	Tons	
Stoplogs	2.0	EA	
Total stoplog wt	29.16	Tons	
Seals:	44.0	LF	
Backfill:	-	LCY	
Rip-rap:	1,116.7	CY	
Geofabric:	5,625.0	SF	
Boat Barrier:	340.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	250.0	LF	
Silt Fence:	1,000.0	LF	
Control bldg.:	25.8	CY	Concrete
Total Doors	2.0	EA	Size 4'-0" x 7'-0"
Conduit Boxes	1.0	EA/DOOR	
Lock Boxes	1.0	EA/DOOR	
Fire Extinguishers	2.0	EA	
26" x 26" Exhaust Hoods	1.0	EA	
30" x 30" Exhaust Hoods	1.0	EA	
30" x 30"Intake Hoods	2.0	EA	
18" x 18" Intake Air Hood	1.0	EA	
18" x 18" Exhaust Hood	1.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	
CTRL BLDG Gravel Pad	8.0	CY	
CTRL BLDG Pad Fabric	472.0	SF	

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

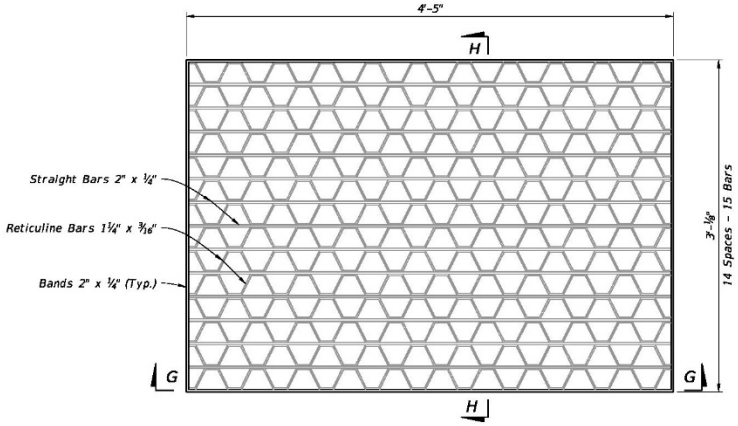
CONTRACT 6 – RESERVOIR PERIMETER CANAL & OUTFALL CANAL STRUCTURES

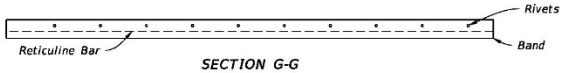
- Construct Perimeter Canal Overflow Structures PCOS-2 thru PCOS-4
- Construct Perimeter Canal Ungated Culvert PCCU-1 thru PCCU-4
- Construct Perimeter Canal (Manually) Adjustable Weir PCW-1 thru PCW-7
- Construct Ungated Outflow Culvert CU-3
- Construct Offsite Outfall Structures OOS-1 thru OOS-8
- Construct Lykes AGI Structures AGI-OS-1 and AGI-PS-1
- Demo 2 Lykes AGI R12 Pump Station
- Construct ODCD-OS-1

Feature of Work:	PERIMETER CANAL OUTFALL STRUCTURES (PCOS-1 thru PCOS-4)
Scope Given:	• PCOS-1 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to CNL-2, which in turn will outflow to C-41A. • PCOS-2 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to C-41A. PCOS-2 will replace existing flashboard riser (FBR) structure PC17N. • PCOS-3 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to existing FBR structure PC18N via a ditch, which in turn will outflow to C-41A. • PCOS-4 will be a fixed weir overflow structure for CNL-1 Reach 7 that will outflow to existing FBR structure PC20N via a ditch, which in turn will outflow to C-41A.
Reference for Scope Basis:	
Scope Assumptions:	– Assume Ditch Bottom Inlet structure can be utilized with 36" RCP
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized.
Sequence of Work:	
Key Outstanding Questions/Issues:	

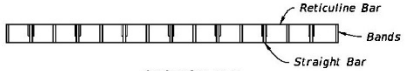


PLAN

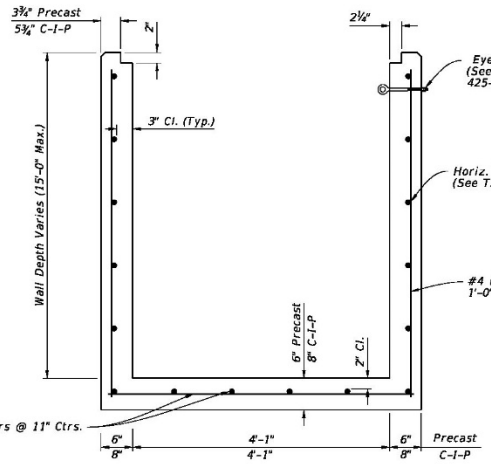




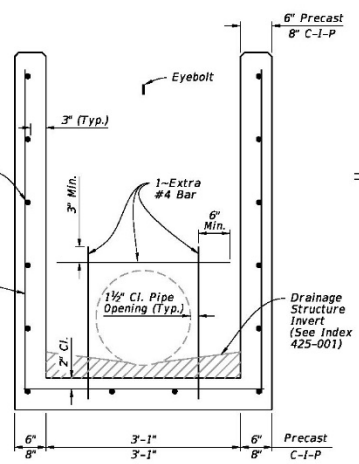
SECTION G-G



SECTION H-H



SECTION E-E
(Pipe Opening Not Shown)



SECTION F-F
(Pipe Opening Shown)

STEEL GRATE DETAIL

(Approx. 190 lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 2
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWR
0' - 6'	A12	0.20	12"	8"
6' - 10'	A6	0.20	6"	5"
10' - 13'	A4	0.20	4"	3"
10' - 15'	B5.5	0.24	5½"	5"

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure details.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
3. Cast Iron Grate is not permitted on inlet Type D.

DIMENSIONAL AND REINFORCING DETAILS

TYPE D - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION	REVISION	DESCRIPTION:				
10/01/20			FY 2023-24 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 3 of 14

10/20/2022 8:14:25 AM

Representative Drawings/Photos: PCOS-1 thru PCOS-4

Feature of Work:	PERIMETER CANAL OUTFALL STRUCTURES (PCOS-1 thru PCOS-4)

Quantity Take Off:

PCOS

Quantity	=	4.0	ea				
FDOT Type D Ditch Bottom Inlet with Bleed Orifice							
Quantity	=	1.0	ea		4.0	ea	Type D Inlet
Depth	=	10.0	FT	Assume 10' deep			
36" RCP pipe to CNL-1							
Length	=	40.0	LF	Assumed	160.0	LF	36" RCP Pipe
Diameter	=	3.0	FT	Assumed 36"			
Excavation							
Depth	=	12.0	FT	Assume Depth +2			
Bottom Width	=	11.0	FT	Dia. + 4' each way			
Top Width	=	59.0	FT	2:1 @ Depth			
Volume	=	16,800.0	CF				
Volume per PCOS	=	622.2	CY		2,488.9	CY	Excavation

Assume part of new construction not requiring additional dewatering

Total all PCOS-1 thru PCOS-4

Feature of Work:	PERIMETER CANAL CULVERT UNGATED (PCCU-1 thru PCCU-4)
Scope Given:	• PCCU-1 supports the unpaved roadway crossing of CNL-1 Reach 2, to be located near the Divider Dam crest road north access ramp. • PCCU-2 will be located under the reservoir perimeter maintenance road and will connect CNL-1 Reach 7 to the east end of the ODCD. • PCCU-3 supports the unpaved roadway crossing of CNL-1 Reach 7, to be located near the Divider Dam crest road south access ramp. • PCCU-4 will be located under the reservoir perimeter maintenance road and will connect CNL-1 Reach 7 to the west end of the ODCD.
Reference for Scope Basis:	
Scope Assumptions:	– Assume 48" RCP under site roads
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized.
Sequence of Work:	
Key Outstanding Questions/Issues:	

Feature of Work:	PERIMETER CANAL CULVERT UNGATED (PCCU-1 thru PCCU-4)

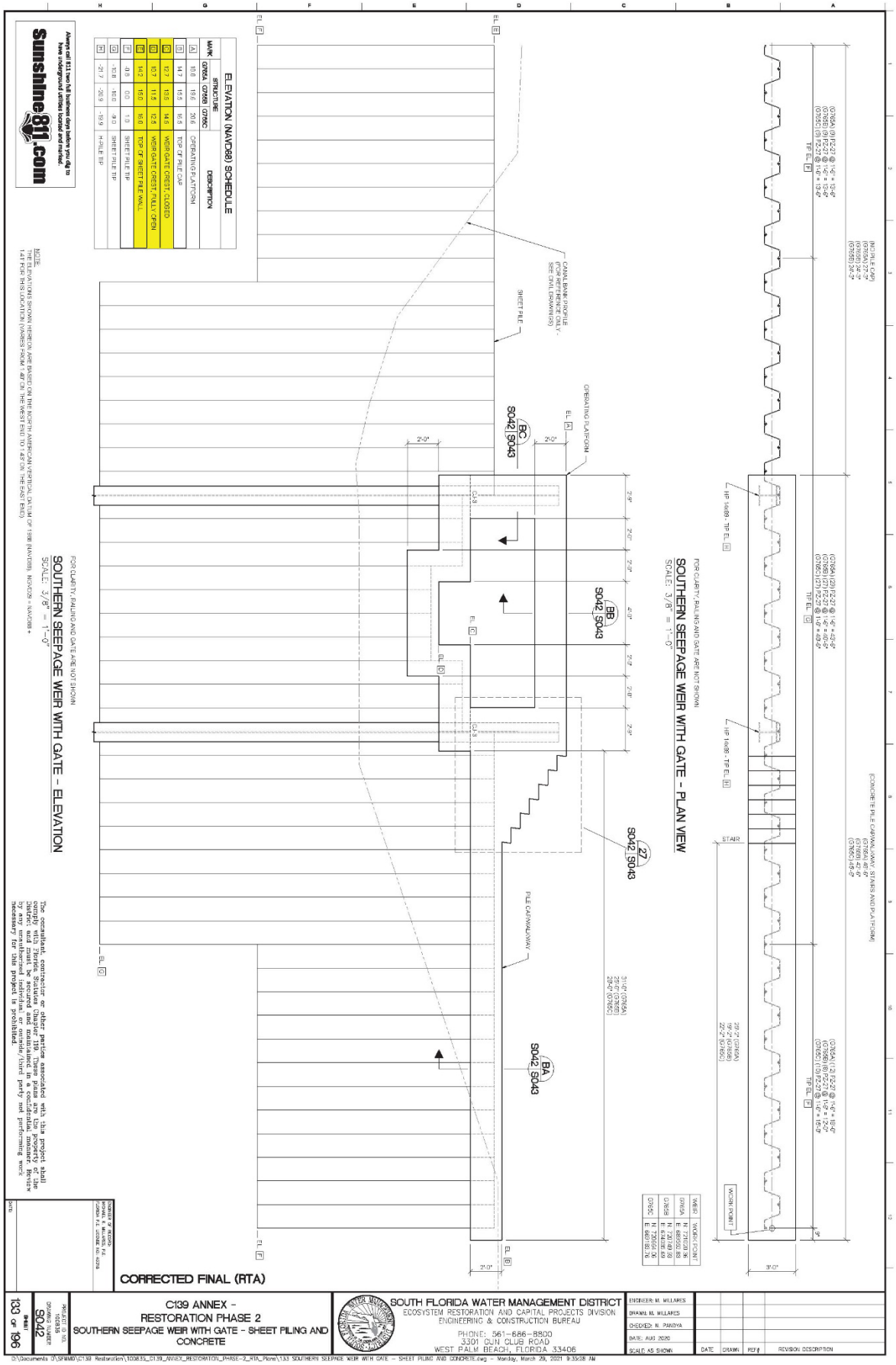
Quantity Take Off:

PCCU	Quantity	=	4.0	ea		**Total all PCCU-1 thru PCCU-4**		
PCCU (each)	48" RCP pipe to CNL-1							
	Length	=	40.0	LF	Assumed for road	160.0	LF	48"RCP Pipe
	Diameter	=	4.0	FT	Assumed 48"			
	Excavation							
	Depth	=	8.0	FT	Assume Depth			
	Bottom Width	=	12.0	FT	Dia. + 4' each way			
	Top Width	=	44.0	FT	2:1 @ Depth			
	Volume	=	8,960.0	CF				
	Volume per OOS	=	331.9	CY		1,327.4	CY	Excavation

Assume part of new construction not requiring additional dewatering

Feature of Work:	PERIMETER CANAL WEIR (PCW-1 thru PCW-7) - MANUALLY ADJUSTABLE WEIR
Scope Given:	• PCW-1: Manually adjustable weir located at downstream end of CNL-1 Reach 1. • PCW-2: Manually adjustable weir located at downstream end of CNL-1 Reach 2. • PCW-3: Manually adjustable weir located at upstream end of CNL-1 Reach 3. PCW-3 weir crest elevation to be set sufficiently higher than PCW-4 weir crest elevation to ensure that PCW-4 is the outfall weir for Reach 3 under design conditions (i.e., design storm peak flow and seepage peak flow to Reach 3). • PCW-4: Manually adjustable weir located at downstream end of CNL-1 Reach 3. • PCW-5: Manually adjustable weir located at downstream end of CNL-1 Reach 4. • PCW-6: Manually adjustable weir located at downstream end of CNL-1 Reach 5. • PCW-7: Manually adjustable weir located at downstream end of CNL-1 Reach 6. • Allowable range for adjustment of weir crest to be determined during the PED phase.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to manually adjustable weir structure proposed at C139 Annex, Structure G765A-C
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized.
Sequence of Work:	
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: PCW-1 thru PCW-7



Feature of Work:	PERIMETER CANAL WEIR (PCW-1 thru PCW-7) - MANUALLY ADJUSTABLE WEIR

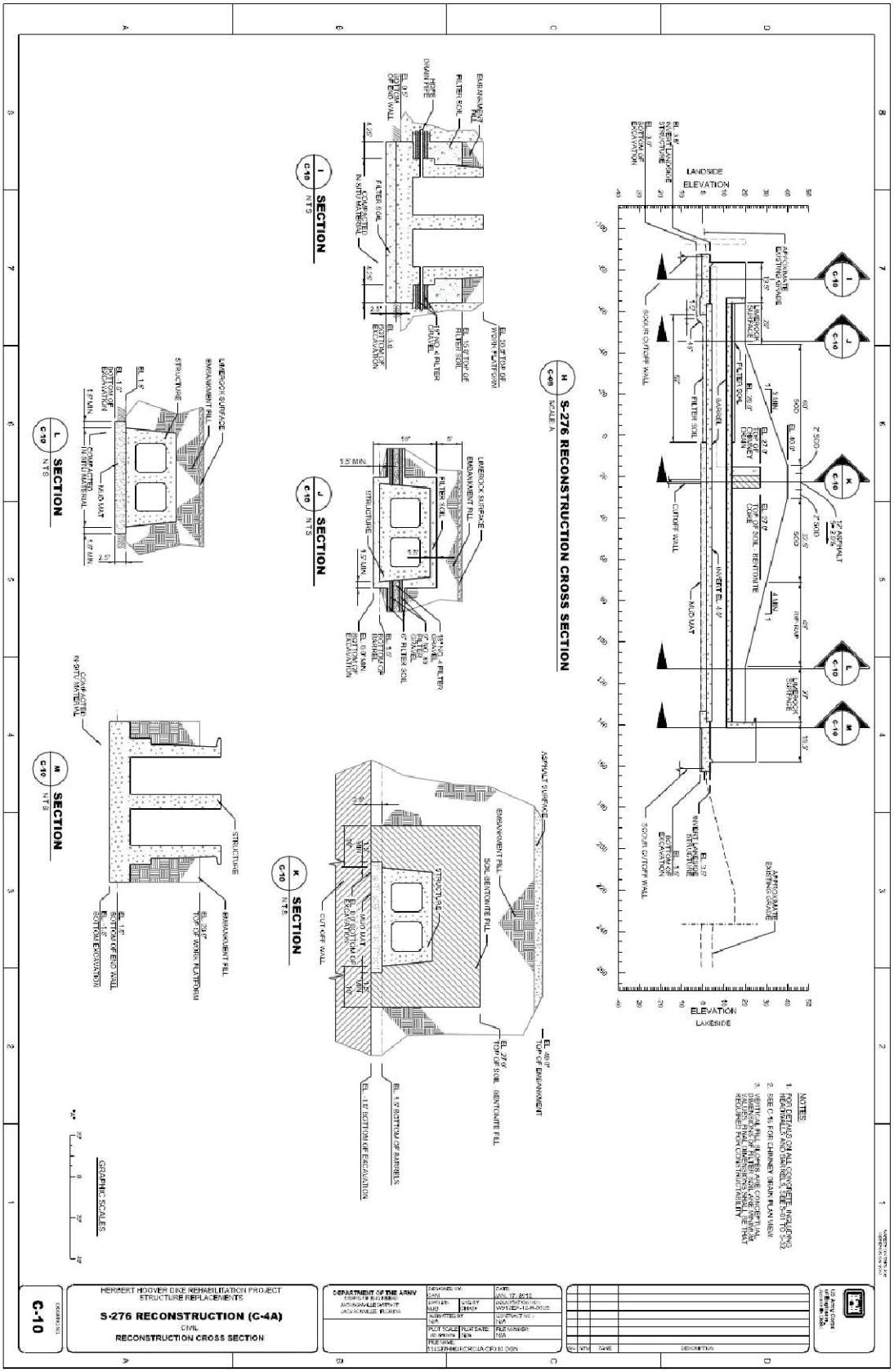
Quantity Take Off:

PCW Total	Quantity	=	7.0	ea				
PCW (Each)	Weir Slide Gate	=	1.0	ea	Assume 4'x4' Gate with Frame/Embeds/Seals			
	Sheetpile across Canal							
	Perimeter Canal Width	=	150.0	FT	Approx. from Sections Perimeter Canal			
	Sheetpile Width	=	160.0	FT	Assume 5-ft past bank			
	Sheetpile Length	=	20.0	FT	Assume from similar - average			
	Sheeptile Area	=	3,200.0	SF	Assume PZ-27			
	Pile Cap Walkway							
	Pile Cap Width	=	3.0	FT				
	Pile Cap Depth	=	2.0	FT				
	Walkway Length	=	75.0	FT	Assume 1/2 width of canal			
	Concrete Volume	=	16.7	CY				
	Steel Rebar	=	0.2	CY	Assumed 1.2% volume of concrete			
	Steel Rebar	=	1.3	TONS				
	Gate Opening Concrete Frame (borrowed from similar concept)							
	Pile Cap Width	=	3.0	FT				
	2.75'x4' Risers x2	=	22.0	SF	Borrowed from similar concept			
	12'x2' Top Slab	=	24.0	SF	Borrowed from similar concept			
	Stairs 4'x4'	=	8.0	SF	Borrowed from similar concept			
	Concrete Volume	=	6.0	CY				
	Steel Rebar	=	0.1	CY	Assumed 1.2% volume of concrete			
	Steel Rebar	=	0.5	TONS				
	Handrail							
	Length	=	150.0	FT	Assume x2 Length of Walkway			
	Riprap							
	Length	=	75.0	FT	Assume 1/2 width of canal			
	Width	=	6.0	FT	Assumed			
	Depth	=	2.5	FT	2-ft Type B and 0.5-ft bedding			
	Volume	=	1,125.0	CF	=	41.7	CY	Riprap
	Geotextile Filter Fabric	=	1,950.0	SF	Fabric			

Total all PCW-1 thru PCW-7					
	Sheetpile Area	=	22,400.0	SF	Assume PZ-27
	Concrete Volume	=	158.7	CY	
	Steel Rebar	=	12.6	TONS	
	Weir Slide Gates	=	7.0	ea	Assume 4'x4' Gate with Frame/Embeds/Seals
	Riprap	=	291.7	CY	Type B
	Geotextile Fabric	=	13,650.0	SF	

Feature of Work:	STRUCTURES CU-3: 280 LF DOUBLE 16'Wx14'H BOX CULVERT WITH ENDWALLS (UNGATED), 12'x24' CNTRL BUILDING
Scope Given:	280 LF double 13'x12' box culvert w/ endwalls w/ 12'x24' control building and HW/TW monitoring stations w/ walkways (by-pass not required for construction). Structure CU-3 is an ungated box culvert which allows for discharge from the Seepage Canal, previously from West Cell, discharging into the C-41A Canal Upstream of the existing S-83 structure via an Outflow Canal and Diversion Canal, respectively.
Reference for Scope Basis:	
Scope Assumptions:	– Assume similar to structure S-276 and S-277 as a double barrel culvert. – Assume given dimensions in the engineering appendix govern over provided design documents for similar structure if no dimensions are given in the engineering appendix all dimensions will come from the similar structure. – Assume Excavation will be to the same depth below finished grade as shown in contract drawings for similar projects with a slope of 1:2 for construction. – Assume material as 2 ft of organic, 8 ft of blastable cap rock, and 10 ft of Fort Thompson layer for the remainder of the excavation – until indicated otherwise. – Assume power will be provided from power lines in the area. – Assume that a diesel generator is needed for backup power.
Supporting Documentation: (by Cost Team)	Quantity Takeoff, Material Quotes
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature. The scope and assumptions were documented and sent to the design team for review. After reaching consensus on the scope and major assumptions, the labor, equipment, materials, and production rates were developed for the estimate. *As part of an RFI, the structures heights were increased by 6-ft, also changing the estimated length.
Sequence of Work:	Construction will be performed after the canal plugs are installed up and downstream of the proposed culvert location. Dewatering will be needed. Dewatering pumps used as needed throughout construction. Excavation/blasting of limestone rock will be required to allow space for the foundation for the gated culvert structure. Culverts, foundations and structures will then be placed. Control structures for the culverts will be installed and a standalone Control station will be built in the area. An additional backup generator will be required along with local utility power. Apron, wing wall, and riprap placement will occur after Culverts have been placed. Backfill and compaction around the structure will occur, the plugs will be removed.
Key Outstanding Questions/Issues:	

Representative Drawings/Photos: CU-3



Feature of Work:	STRUCTURE CU-3: 280 LF DOUBLE 16'Wx14'H BOX CULVERT WITH ENDWALLS (UNGATED), 12'x24' CONTROL BUILDING

Quantity Take Off:

User Input | Row Calculation | Sum of Values above

Sheetpile Dewatering

Dewatering Pumps	=	TBD	EA	Size to be determined
Width	=	237.7	FT	Assume 20' from top of excavation
Length	=	320.0	FT	Assume 20' from length of excavation
Depth	=	40.0	FT	Assumed
Total Perimeter	=	1,115.3	LF	Sheetpile perimeter
Area	=	76,053.3	SF	

Culvert excavation

Length	=	280.0	FT					
Total Depth	=	20.0	FT					
Thickness of Organic	=	2.0	FT					
Thickness of Cap Rock	=	8.0	FT					
Thickness of Fort Thompson	=	10.0	FT					
Slope1	=	2.0	:1					
Slope2	=	2.0	:1					
Bottom Width	=	117.7	FT					
Top Width	=	197.7	FT					
Cross Section	=	3,153.3	SF					
Cross Section Organic	=	387.3	SF					
Cross Section of Cap Rock	=	1,389.3	SF					
Cross Section of Fort Thompson	=	1,376.7	SF					
Organic Cut Volume	=	108,453.3	CF	=	4,016.8	BCY	=	LCY
Cap Rock Cut Volume	=	389,013.3	CF	=	14,407.9	BCY	=	LCY
Fort Thompson Cut Volume	=	385,466.7	CF	=	14,276.5	BCY	=	LCY
EXCAVATION		TOTAL		=	32,701.2	BCY	=	40,876.5 LCY

Concrete Culvert Concrete

Culvert Pipes 2 | Width 16 | Height 14

Length	=	280.0	FT			
Foundation Concrete Bottom Width	=	37.7	FT			
Bottom Thickness	=	3.0	FT			
Volume	=	31,640.0	CF	=	1,171.9	CY
Vertical Concrete Height	=	14.0	FT			
Thickness of Edge Walls	=	2.0	FT			
Thickness of Interior Walls	=	1.7	FT			
Volume	=	20,906.7	CF	=	774.3	CY
Elevated Concrete						
Top Width	=	37.7	FT			
Thickness	=	2.0	FT			
Volume	=	21,093.3	CF	=	781.2	CY

Inlet and Outlet Works

Number	=	2.0	EA	Assumed intake and outlet are the same
Foundation				
Length	=	20.0	FT	
Depth	=	2.0	FT	
Width	=	37.7	FT	

Volume	=	3,013.3	CF	=	111.6	CY	
Culvert Endwall							
Height	=	30.0	FT		Assume x2 (Culvert Height + 1')		
Thickness	=	1.5	FT				
Width	=	37.7	FT				
Openings	=	448.0	SF				
Volume	=	2,046.0	CF	=	75.8	CY	
Needle Beam							
Height	=	2.5	FT				
Width	=	16.0	FT				
Depth	=	3.0	FT				
Volume		480.0	CF	=	17.8	CY	
Exterior Walls							
Edge Wall Height	=	30.0	FT				
Edge Wall Length	=	20.0	FT		total each side		
Edge Wall Thickness	=	2.0	FT				
Interior Wall Height		30.0	FT				
Interior Wall Length		14.0	FT				
Inteiror Wall Thickness		1.7	FT				
Volume	=	6,200.0	CF	=	229.6	CY	
CONCRETE		TOTAL		=	3,162.2	CY	
Steel Rebar					Assumed 1.2% volume of concrete		
STEEL REBAR		TOTAL		=	37.9	CY	Rebar
					250.8	TONS	

Culvert referenced as an example used approx. 0.8% steel per volume

Sheetpile Endwalls

Number	=	2.0	EA		x2 Endwalls per opening (HW/TW)		
Width	=	80.0	FT		40 ft off each side of culvert		
Height	=	30.0	FT		Assume PZ27 sheetpile, 30' long sheets		
Sheetpile Area	=	4,800.0	SF		30' Long Sheets, 160' Span		PZ-27
Concrete Cap	=	4.0	SF		Assume 2'x2' cap with PZ27 sheets		
Concrete Volume	=	640.0	CF	=	23.7	CY	Concrete

MISC METALS

Structure Railing	=	120.0	LF		Per each end		
Endwall Railing	=	82.0	LF		Per each end		
TOTAL RAILING	=	404.0	LF		3'6" Tall Steel Railing		
Ladders	=	2.0	EACH				
height	=	25.5	FT EA	=	51.0	FT TOTAL	
Grating	=	96.0	SF per Gate		Approx. 6' long, width of each bay		
TOTAL Grating	=	384.0	SF		Steel Grating		

NEW GATES

No gates at this structure

Backfill

Assume Culvert is backfilled as part of levee construction

RIP RAP

common both sides							
number of placements	=	2.0	EA		1 each side		

Length	=	136.0	FT			Assume width of new canal		
Width	=	2.0	FT			Assume same as bottom width of excavation		
thickness	=	3.0	FT			Assumed		
Volume	=	816.0	CF/EA	=	30.2	CY/EA		
RIPRAP		TOTAL		=	60.4	CY	Riprap	
Geotextile Filter Fabric	=	1,632.0	SF			Fabric		

Boat Barrier

Number	=	2.0	EA			
Piles for Buoys	=	3.0	EA			Assume barrier has 3 points (2 at shore, 1 at canal)
Length	=	170.0	FT/EA			
Total Length	=	340.0	FT			Buoy style barrier
Total Piles	=	6.0	EA			

SWPPP

Floating Silt Boom	=	980.0	FT			Assumed
Silt Fence	=	6,492.0	FT			Assumed

Control Building

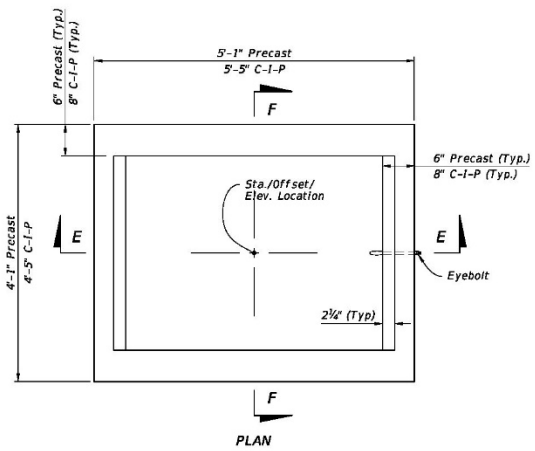
Size	=	288.0	SF			12x24
Electrical	=	NEEDED				
Communications	=	NEEDED				
Modular Precast Concrete Structure						
Exterior Walls						
Height	=	12.0	FT			
Perimeter Length	=	72.0	FT			
Thickness	=	4.0	IN			
Volume	=	288.0		=	10.7	CY
Interior Wall						
Height	=	12.0	FT			
Length	=	12.0	FT			
Thickness	=	4.0	IN			
Volume	=	48.0		=	1.8	CY
Floor Slab						
Thickness	=	6.0	IN			
Area	=	288.0	SF			
Volume	=	144.0	CF	=	5.3	CY
Roof						
Thickness	=	5.0	IN			
Area	=	288.0	SF			
Volume	=	120.0	CF	=	4.4	CY
Fuel Pad	=	96.0	CF			Assume 8'x12'x12" thick reinforced concrete slab on grade pad
	=	3.6	CY			
CONCRETE		TOTAL		=	25.8	CY
Total Doors	=	2.0	EA			
Size	=	4'-0" x 7'-0"				
Conduit Boxes	=	1.0	EA/DOOR			
Lock Boxes	=	1.0	EA/DOOR			

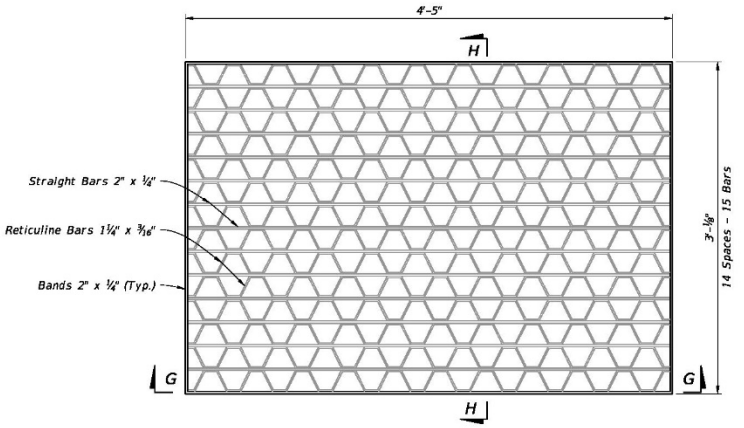
Fire Extinguishers	=	2.0	EA	
26" x 26" Exhaust Hoods	=	1.0	EA	
30" x 30" Exhaust Hoods	=	1.0	EA	
30" x 30"Intake Hoods	=	2.0	EA	
18" x 18" Intake Air Hood	=	1.0	EA	
18" x 18" Exhaust Hood	=	1.0	EA	
20" Exhaust Fan	=	1.0	EA	Coolair CBA20L, 1 HP, 4702 CFM @ 3/8" SP
12" Exhaust Fan	=	1.0	EA	Coolair CDU12F17, 1/6 HP, 1210 CFM @ 1/4" SP
Generator Fuel Tank	=	1,000.0	GALLON	
Gravel Pad	=	216.0	CF	Assume 50% greater area than building, 6" thick
	=	8.0	CY	
Filter Fabric		472.0	SF	

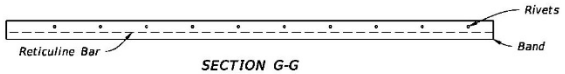
Quantities Summary

Coffer dam:	1,115.3	LF	
Coffer dam:	76,053.3	SF	
Excavation:	32,701.2	CY	
Concrete:	3,162.2	CY	
Steel Rebar:	37.9	CY (?)	
Steel Rebar:	250.8	TONS	
Sheetpile:	4,800.0	SF	PZ27x160LFx30FT
Cap:	23.7	CY	
Railing:	404.0	LF	
Grate:	384.0	SF	
Ladders:	2.0	EA	25' EA
Gates:	0	EA	
Seals:	0.0	LF	
Backfill:	40,876.5	LCY	
Rip-rap:	60.4	CY	
Geofabric:	1,632.0	SF	
Boat Barrier:	340.0	LF	
Barrier Piles:	6.0	EA	
Floating Curtain:	980.0	LF	
Silt Fence:	6,492.0	LF	
Control bld.:	25.8	CY	Concrete
Total Doors	2.0	EA	Size 4'-0" x 7'-0"
Conduit Boxes	1.0	EA/DOOR	
Lock Boxes	1.0	EA/DOOR	
Fire Extinguishers	2.0	EA	
26" x 26" Exhaust Hoods	1.0	EA	
30" x 30" Exhaust Hoods	1.0	EA	
30" x 30"Intake Hoods	2.0	EA	
18" x 18" Intake Air Hood	1.0	EA	
18" x 18" Exhaust Hood	1.0	EA	
20" Exhaust Fan	1.0	EA	
12" Exhaust Fan	1.0	EA	
Generator Fuel Tank:	1,000.0	GALLONS	
CTRL BLDG Gravel Pad	8.0	CY	
CTRL BLDG Pad Fabric	472.0	SF	

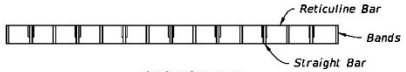
Feature of Work:	OFFSITE OUTFALL STRUCTURES (OOS-1 thru OOS-8)
Scope Given:	• OOS-1 thru OOS-8 will be a fixed weir outfall control structure with a bleeder. Invert elevation of bleeder will be equal to the estimated SHWT elevation of the existing wetland that will drain to OOS-1 thru OOS-8.
Reference for Scope Basis:	
Scope Assumptions:	– Assume Ditch Bottom Inlet structure can be utilized with 36" RCP across a property line
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized.
Sequence of Work:	
Key Outstanding Questions/Issues:	



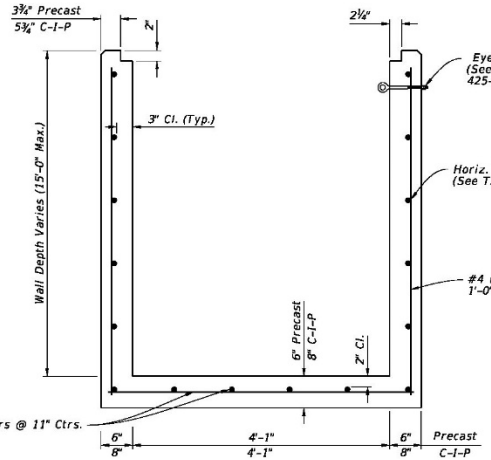




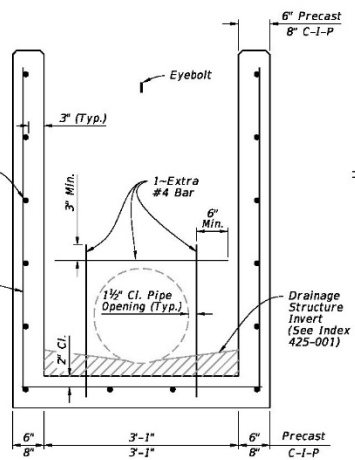
SECTION G-G



SECTION H-H



SECTION E-E
(Pipe Opening Not Shown)



SECTION F-F
(Pipe Opening Shown)

STEEL GRATE DETAIL

(Approx. 190 lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 2
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWR
0' - 6'	A12	0.20	12"	8"
6' - 10'	A6	0.20	6"	5"
10' - 13'	A4	0.20	4"	3"
10' - 15'	B5.5	0.24	5½"	5"

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure details.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
3. Cast Iron Grate is not permitted on inlet Type D.

DIMENSIONAL AND REINFORCING DETAILS

TYPE D - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
10/01/20			FY 2023-24 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	425-052	3 of 14

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Representative Drawings/Photos: OOS-1 thru OOS-5

Feature of Work:	OFFSITE OUTFALL STRUCTURES (OOS-1 thru OOS-8)

Quantity Take Off:

OOS

Quantity	=	8.0	ea		**Total all OOS-1 thru OOS-5**		
FDOT Type D Ditch Bottom Inlet with Bleed Orifice							
Quantity	=	1.0	ea		8.0	ea	Type D Inlet
Depth	=	10.0	FT	Assume 10' deep			
36" RCP pipe to CNL-1							
Length	=	100.0	LF	Assumed	800.0	LF	36" RCP Pipe
Diameter	=	3.0	FT	Assumed 36"			
Excavation							
Depth	=	12.0	FT	Assume Depth +2			
Bottom Width	=	11.0	FT	Dia. + 4' each way			
Top Width	=	59.0	FT	2:1 @ Depth			
Volume	=	42,000.0	CF				
Volume per OOS	=	1,555.6	CY		12,444.4	CY	Excavation
Dewatering							
Area	=	9,480.0	SF		75,840.0	SF	Dewatering
		Assume Top Width x Length and 10' each way					

Feature of Work:	STRUCTURE AGI-PS-1: RELOCATED AGI INFLOW PUMP STATIONS (REPLACES DEMO'D PUMP STATION AT AGI R12)
Scope Given:	Demo'd Pump Station AGI-PS-1 needs to be replaced at AGI R12.
Reference for Scope Basis:	
Scope Assumptions:	– Assume farm/agricultural pump station requiring installing existing pumps at new platform.
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized. Plans and specifications for recent similar work were utilized to capture the necessary scope and assumptions to construct the feature.
Sequence of Work:	
Key Outstanding Questions/Issues:	

Feature of Work:	STRUCTURES AGI PS-1: AGRICTULTURAL PUMP STATION (DEMOLITION AND RE-CONSTRUCTION)
Quantity Take Off:	

Assume similar to Pump Station 356

Seepage Pump Station Excavation

Length	=	105.0	FT						
Total Depth	=	21.5	FT						
Thickness of Organic	=	7.0	FT						
Thickness of Rippable Rock	=	14.5	FT						
Slope1	=	1.0	:1						
Slope2	=	1.0	:1						
Bottom Width	=	15.0	FT						
Top Width	=	58.0	FT						
Cross Section	=	784.8	SF						
Cross Section Organic	=	357.0	SF						
Cross Section of Cap Rock	=	427.8	SF						
Organic Volume	=	37,485.0	CF	=	1,388.3	BCY	=	1,735.4	LCY
Cap Rock Volume	=	44,913.8	CF	=	1,663.5	BCY	=	2,495.2	LCY
Backfill	=	8,239.9	CF	=	305.2	BCY	=	423.1	LCY
Assume Backfill is 10% of excavated quantity.									
Assume Clear and Grub similar to work area for the Merritt Pumping Station	=	18.0	ACRE	=	87,120.0	SY			

Inflow and Outflow Canal Excavation

Length	=	700.0	FT						
Total Depth	=	17.0	FT						
Thickness of Organic	=	7.0	FT						
Thickness of Common	=	-	FT						
Thickness of Cap Rock	=	10.0	FT						
Slope1	=	2.0	:1						
Slope2	=	2.0	:1						
Bottom Width	=	40.0	FT						
Top Width	=	108.0	FT						
Surface Area of Canal	=	75,600.0	SF	=	1.7	ACRE	=	8,400.0	SY
Organic Volume	=	460,600.0	CF	=	17,059.3	BCY	=	21,324.1	LCY
Cap Rock Volume	=	420,000.0	CF	=	15,555.6	BCY	=	23,333.3	LCY

Levee Degrade

Length		730.0	FT	Assume Degrade of levee required due to location of new pump station					
Height		10.4	FT						
Slope1		2.0	:1						
Slope2		2.0	:1						
Top width		10.0	FT						
Bottom width		51.6	FT						
Cross Section	=	320.3	SF						
Surface Area of Levee	=	39,946.6	SF	=	0.9	ACRE			
Volume	=	233,833.6	CF	=	8,660.5	BCY	=	9,786.4	LCY
base area of levee	=	37,668.0	SF	=	4,185.3	SY	=	0.9	Acre
side slopes of levee	=	32,646.6	SF	=	3,627.4	SY	=	0.7	Acre
roadway area	=	7,300.0	SF	=	811.1	SY	=	0.2	Acre

Removal of existing S-356 Temporary Pump Station and backfill of Temporary Pump Station Intake

Excavation volume for removal of Piping	=	67,240.0	CF	Assume excavation area is 6,724 SF and excavation is 10 ft deep.						
	=	2,490.4	BCY	=	3,113.0	LCY				
Intake Backfill										
Length	=	142.5	FT	Assume averaged length is 142.5 ft						
Height	=	10.0	FT	Assume average depth is 10 ft						
Slope1	=	2.0	:1	assume side slope of 2:1						
Slope2	=	2.0	:1							
Bottom Width	=	30.0	FT	Assume Bottom width of 30 ft with top width at 70 ft.						
Top Width	=	70.0	FT							
Cross Section	=	500.0	SF							
Backfill Volume	=	71,250.0	CF	=	2,638.9	ECY	=	2,981.9	LCY	
new surface area of backfill	=	9,975.0	SF	=	1,108.3	SY	=	0.2	Acre	
Total Backfill removed temp. pump station	=	5,642.2	ECY	=	6,375.7	LCY				

Care and Diversion of Water

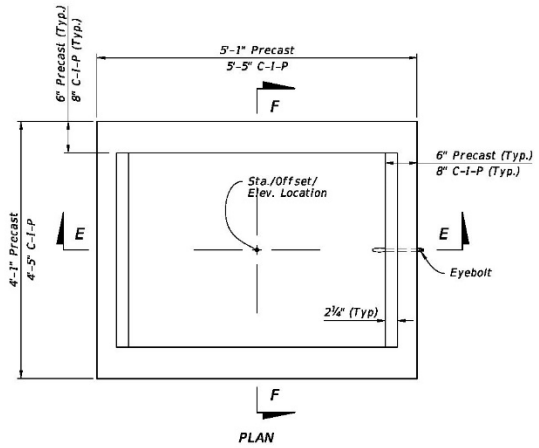
Construction Sequence:

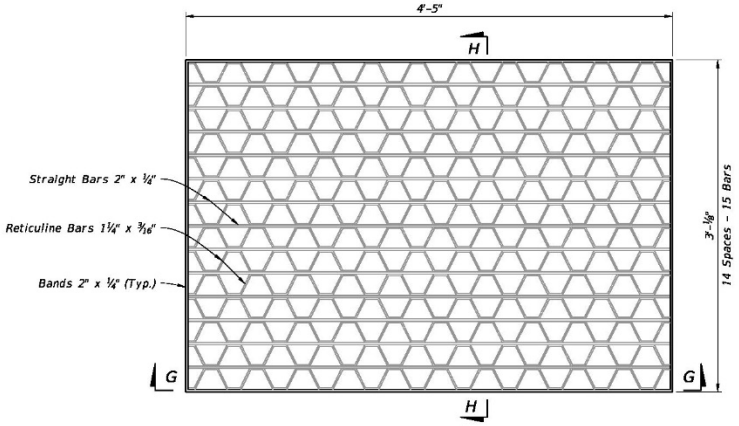
1 Construct perimeter concrete ring beam and rock anchors.
2 Place Sheet piling and connect piling to concrete ring beam. Excavate. Assume sheet pile length of 36 ft
3 3Install rock anchors for concrete seal slab. Anchor length 17'-6" slab rock anchor.
4 Place Concrete Seal slab. 6'-0" thick and dimensions of sheet pile
5 Dewater cofferdam and prepare top of concrete base mat slab
6 Place concrete walls to elevation 9'-0" at pump structure monolith prior to abandoning or removing in place cofferdam sheet piles. Remove ring beams in inlet and outlet.
7 install lateral bracing for walls.
8 Construct service bridge slab. Remainder of walls and operating floor slab.
9 Install sheet pile wing walls.

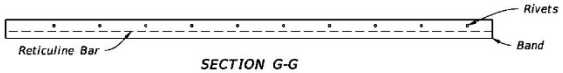
# of pump station Bays	=	4.0								
Cofferdam width per pump station bay	=	15.0	ft	Assume Per S-101						
Total width length	=	60.0	ft							
Length (Up and downstream) of Cofferdam	=	90.0	ft	Assume per S-101						
Area of Cofferdam sheet pile to remain in place	=	10,800.0	SF							
Area of cofferdam to be removed	=	7,200.0	SF							
Total Perimeter Length										
(length of sheet pile/ring beam)	=	300.0	ft							
Length of Sheet pile to Be utilized as wing wall	=	186.0	ft							
Volume of ring beam (Reinforced Concrete	=	70.4	CY	Per detail S-103						
# of 54' ring beam anchors @ 10' OC	=	30.0	ea	Per detail S-101						
# of 17'-6" uplift slab rock anchors	=	54.0	ea							
Volume of Concrete seal/uplift slab	=	1,200.0	CY	Assume 6' thick						
Width of each Bay	=	15.0	ft	Assumed per similar PS-357						
Length of Operating Floor	=	45.0	ft							
Width of Operating Floor	=	60.0	ft							
Horizontal concrete volume	=	800.0	CY							
Vertical Concrete	=	1,500.0	CY							
Service Bridge Elevated Flatwork	=	190.1	CY	Total Elevated Flatwork	=	446.4 CY				
Operating Floor (Elevated Flatwork	=	225.0	CY							
Elevated Vertical Work										
(Operating floor to service bridge)	=	31.3	CY							
Roof slab / Metal Deck	=	220.0	CY							
Loading Truck Ramp (horizontal Concrete)	=	4,903.0	SF	=	272.4	CY	Assumed From Merritt Pump Station			
SF of Generator, Electric and Office/Control	=	900.0	SF	Assume Gen/Elec/Office room is 20ftx45ft						

Volume of Concrete for Gen, Elec and Office	=	1,500.0	CF	=	55.6 CY	Assume 1.67 ft thick
Assume 10 18"x18"x26" Tall Columns	=	43.3	CY			
Tilt Up 7-1/2" Thick Precast Panels	=	5,250.0	SF		Assume similar to Merritt Pump Station	
CMU Wall Dimension (Exterior Surface Area)	=	8,500.0	SF			
Roof 32" Double tee units 56 ft long required	=	8.0	each			
Intake Basin Concrete	=	89.0	CY			
Discharge Basin Concrete Apron	=	133.3	CY	Assume 36" thick concrete		
Stone Protection Riprap discharge	=	1,688.9	CY	Assume 5 ft thick layer of riprap lining the C-625W canal upstream 60 ft and downstream 60 ft		
Stone Protection inlet	=	750.0	CY	Assume 36" thick layer of riprap lining the sides and bottom for 150' upstream		
Trash Rack Surface Area (total)	=	1,680.0	SF	Assume Trash rake is 28 ft tall and covers the width of the operating floor each individual covers the width of the bays (14 ft)		
Roll Up Garage Door	=	168.0	SF	Assume Roll up garage door 12'x14'		
# of Doors	=	4.0	ea	Assume 1 set of double doors and two other doors		
# louver openings	=	8.0	ea	Assume 8 louver openings 7'-4" square		
Overhead Crane	=	2.0	ea	Assume 2 overhead cranes @ 25 tons each		
Power Line Connection	=	2,500.0	LF	Assume power available 2500 lf from site		
Septic tank system	=	1.0	ea	Assume 1 septic tank system		
Potable water	=	1.0	ea	Assume 1 potable water well will be required		
Generator Fuel Tank	=	2000 Gallon	ea	Assume five 2000 gallon fuel tanks required		
Fuel Pad dimensions	=	2,000.0	SF	Assume two 100'x20'x8" thick reinforced concrete slab on grade pad		
		49.4	CY			
Discharge Piping						
48" discharge pipe		15.0	LF/ea	Assume Pumps will have a 48" Discharge Pipe		
Concrete Encasement		146.6	CY	Assume 2 ft of concrete to encase piping		
Floor Grating	=	240.0	SF	Assume 14' x4 ft wide for each pump bay.		
Ladders	=	120.0	VLF	Assume 30 ft per pump bay		
Railings	=	180.0	LF	Assume a handrail on the up and downstream side and one a width of the operating floor		
Haul road length	=	21,120.0	FT			
Haul road width	=	14.0	FT			
Haul road thickness	=	1.0	FT			
Area	=	295,680.0	SF	=	32,853.3 SY	
Chain link Fence	=	2,280.0	LF	Assume Similar to Merritt Pump Station		
Silt Fence	=	3,700.0	LF	Assume similar to Merritt Pump Station		
Silt Boom	=	600.0	LF	Assume similar to Merritt Pump Station		

Feature of Work:	OFFSITE DRAINAGE COLLECTION DITCH OUTFALL STRUCTURE (ODCD-OS-1)
Scope Given:	ODCD-OS-1 will be a fixed weir overflow structure for the ODCD and CNL-1 Reach 7 that will outflow to existing FBR structure PC15N via a ditch, which in turn will outflow to C-41A.
Reference for Scope Basis:	
Scope Assumptions:	– Assume Ditch Bottom Inlet structure can be utilized with 36" RCP
Class of Estimate	Class 3 -Baseline (Feasibility/DPR/LRR)
Estimate Methodology:	When possible a corollary approach to the estimate development was utilized.
Sequence of Work:	
Key Outstanding Questions/Issues:	

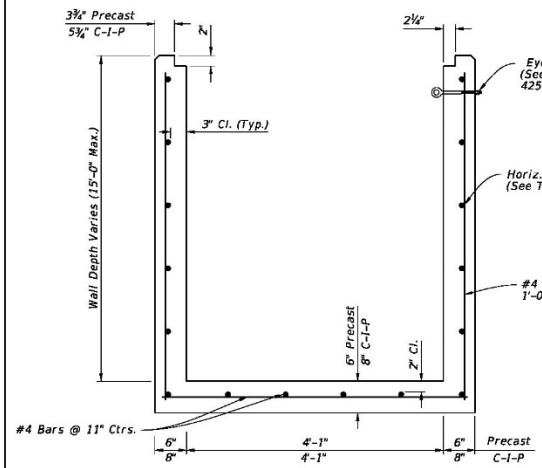




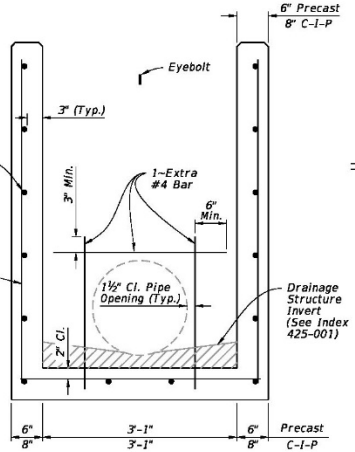


SECTION G-G

SECTION H-H



SECTION E-E
(Pipe Opening Not Shown)



SECTION F-F
(Pipe Opening Shown)

STEEL GRATE DETAIL

(Approx. 190 lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 2
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWR
0' - 6'	A12	0.20	12"	8"
6' - 10'	A6	0.20	6"	5"
10' - 13'	A4	0.20	4"	3"
10' - 15'	B5.5	0.24	5½"	5"

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure details.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
3. Cast Iron Grate is not permitted on inlet Type D.

DIMENSIONAL AND REINFORCING DETAILS

TYPE D - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
10/01/20			FY 2023-24 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	425-052	3 of 14

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Representative Drawings/Photos: ODCD-OS-1

Feature of Work:	OFFSITE DRAINAGE COLLECTION DITCH OUTFALL STRUCTURE (ODCD-OS-1)

Quantity Take Off:

ODCD-OS

FDOT Type D Ditch Bottom Inlet with Bleed Orifice

Quantity	=	1.0	ea		1.0	ea	Type D Inlet
Depth	=	10.0	FT	Assume 10' deep			
36" RCP pipe to CNL-1							
Length	=	100.0	LF	Assumed	100.0	LF	36" RCP Pipe
Diameter	=	3.0	FT	Assumed 36"			
Excavation							
Depth	=	12.0	FT	Assume Depth +2			
Bottom Width	=	11.0	FT	Dia. + 4' each way			
Top Width	=	59.0	FT	2:1 @ Depth			
Volume	=	42000.0	CF				
Volume per OS	=	1,555.6	CY		1,555.6	CY	Excavation
Dewatering							
Area	=	9,480.0	SF		9,480.0	SF	Dewatering
		Assume Top Width x Length and 10' each way					

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR) FEASIBILITY STUDY

CONTRACT 7 – RESERVOIR RECREATION AMENITIES

- Construct Recreation Amenities

ATTACHMENT 2

PRODUCTION RATE CALCULATIONS

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

EXCAVATE, PUSH MUCK TO STOCKPILE
[Dozer]

Excavate Muck Crew

PRODUCTION

3	cy bucket
0.85	% fill
55	min/hr
0.68	cycle/min

96 cy/crew hr

CSI TASK:

EXCAVATE BLASTED ROCK TO STOCKPILE, LEVEES
[3.5-cy Hydraul. Excav.]

Excavate Blasted Rock Large Levee Crew

PRODUCTION

3.5	cy bucket
0.90	% fill
55	min/hr
0.80	cycle/min
5	no. of excavators

695 cy/crew hr

CSI TASK:

LOAD AND HAUL ROCK, TO/FROM PROCESS PLANT
[on site, 10-mile]

Load and Haul Blasted Rock On-Site Cew

PRODUCTION

31.5	cy truck
0.95	% fill
7.2	min. for loading
5	mi. to disposal location
18	mph haul speed
3.6	min. dump time
55	min/hr
4	no. of trucks

QUANTITY PER TRUCK 29.9 cy/truck

DURATION OF HAULING 0.80 hr

149 cy/hr

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

PUSH MUCK TO PLACE, FROM STOCKPILE
[Dozer]

Excavate Muck Crew

PRODUCTION

3	cy bucket
0.85	% fill
55	min/hr
0.70	cycle/min

99 cy/crew hr →

CSI TASK:

CANAL/CULVERT EXCAVATION TO STOCKPILE
[3.5-cy Hydraul. Excav.]

Excavate Canals Crew

PRODUCTION

3.5	cy bucket
0.85	% fill
55	min/hr
0.75	cycle/min
3	no. of excavators

369 cy/crew hr →

CSI TASK:

FILL AND COMPACT RANDOM FILL, CANALS
[Dozer, Compactors]

Fill and Compact Crew [Canals]

PRODUCTION

4	cy bucket
0.85	% fill
55	min/hr
0.63	cycle/min

116 cy/crew hr →

CSI TASK:

FILL AND COMPACT ROAD STONE

Fill and Compact Road Base Crew

PRODUCTION

3	cy bucket
0.85	% fill
55	min/hr
1.25	cycle/min

175 cy/crew hr →

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

MATERIAL HANDLING BETWEEN LOCAL STOCKPILE, LEVEES
[Dozer]

Material Handling/Push Large Crew

PRODUCTION

5	cy per cycle
0.85	% fill
55	min/hr
0.43	cycle/min
3	no. of dozers

300 cy/crew hr →

CSI TASK:

CANAL CLEANING CREW
[Dozers]

Canal Cleaning Crew

PRODUCTION

0.3	min/lf to clean out

200.00 lf/hr →

CSI TASK:

PLACE BLANKET DRAIN, SAND
[Front End Loader, Compactor]

Sand Blanket Crew

PRODUCTION

3	cy per cycle
0.85	% fill
55	min/hr
0.85	cycle/min
1	no. of loaders

120 cy/crew hr →

CSI TASK:

EXCAVATE AND LOAD BORROW MATERIAL
[3.5-cy hydraul. Excavators]

Excavate Canal Crew

PRODUCTION

3.5	cy per cycle
0.90	% fill
55	min/hr
1.7	cycle/min
1	no. of loaders

300 cy/crew hr →

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

HAUL BORROW, TO/FROM STOCKPILE
[on-site]

On-Site Haul Crew

PRODUCTION

31.5	cy truck
0.95	% fill
8.0	min. for loading
1	mi. to disposal location
8.5	mph haul speed
4.0	min. dump time
55	min/hr
4	no. of trucks

QUANTITY PER TRUCK 29.9 cy/truck

DURATION OF HAULING 0.47 hr

250 cy/hr →

CSI TASK:

FILL AND COMPACT BORROW FILL, DAM EMBANKMENT
[Front End Loader, Compactor]

Fill and Compact Random Fill Crew

PRODUCTION

3	cy bucket
0.85	% fill
55	min/hr
0.93	cycle/min
2	no. of loaders

260 cy/crew hr →

CSI TASK:

PLACE TOP SOIL
[Front End Loader, Compactor]

Sand Blanket Crew

PRODUCTION

3	cy bucket
0.85	% fill
55	min/hr
1.00	cycle/min
2	no. of loaders

280 cy/crew hr →

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

MATERIAL SPREADING
[Dozer]

Material Handling/Push Crew

PRODUCTION

4	cy per trip
0.85	% fill
55	min/hr
0.43	cycle/min
2	no. of loaders

160 cy/crew hr

CSI TASK:

EXCAVATE RIPRAP

Riprap Crew

PRODUCTION

4	cy bucket
0.70	% fill
50	min/hr
0.30	cycle/min
1	no. of loaders

40 cy/crew hr

CSI TASK:

OUTFALL EXCAVATION
[3.5-cy hydraul. Excavators]

Excavate Canal Crew

PRODUCTION

3.5	cy per cycle
0.85	% fill
55	min/hr
0.5	cycle/min
1	no. of excavators

85 cy/crew hr

CSI TASK:

SOIL EXCAVATION
[3.5-cy hydraul. Excavators]

Hydraulic Excavation Crew

PRODUCTION

3.5	cy per cycle
0.90	% fill
55	min/hr
0.7	cycle/min
1	no. of excavators

120 cy/crew hr

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

PIPE EXCAVATION
[3.5-cy hydraul. Excavators]

Excavate Canals Crew

PRODUCTION

3.5	cy per cycle
0.80	% fill
50	min/hr
0.6	cycle/min
1	no. of excavators

82 cy/crew hr →

CSI TASK:

PUMP STATION EXCAVATION
[4-cy hydraul. Excavators]

Pump Station Excavation Crew

PRODUCTION

4.0	cy per cycle
0.90	% fill
55	min/hr
0.8	cycle/min
1	no. of excavators

160 cy/crew hr →

CSI TASK:

FILL AND COMPACT, COFFERDAM
[Front End Loader, Compactor]

Earthen Fill Crew

PRODUCTION

5.0	cy per cycle
0.95	% fill
55	min/hr
1.1	cycle/min
1	no. of excavators

292 cy/crew hr →

CSI TASK:

COFFERDAM EXCAVATION
[Hydraul. Excavator]

Excavate Canals Crew

PRODUCTION

3.5	cy per cycle
0.90	% fill
55	min/hr
1.1	cycle/min
1	no. of excavators

187 cy/crew hr →

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

HAUL COFFERDAM MATERIAL TO NEXT SITE
[2-mile approx.]

Off Highway Haul Crew

PRODUCTION

41	cy truck
0.95	% fill
8.5	min. for loading
2	mi. to disposal location
15	mph haul speed
4.3	min. dump time
55	min/hr
1	no. of trucks

QUANTITY PER TRUCK 39.0 cy/truck

DURATION OF HAULING 0.52 hr

75 cy/hr →

CSI TASK:

HAUL EXCESS MATERIAL TO RESERVOIR STOCKPILE
[5-mile approx.]

Off Highway Haul Crew

PRODUCTION

41	cy truck
0.95	% fill
8.5	min. for loading
5	mi. to disposal location
20	mph haul speed
4.3	min. dump time
55	min/hr
1	no. of trucks

QUANTITY PER TRUCK 39.0 cy/truck

DURATION OF HAULING 0.78 hr

50 cy/hr →

CSI TASK:

MATERIAL SHORT HAUL
[1-mile approx.]

Off Highway Haul Crew

PRODUCTION

41	cy truck
0.95	% fill
8.5	min. for loading
1	mi. to disposal location
10	mph haul speed
4.3	min. dump time
55	min/hr
1	no. of trucks

QUANTITY PER TRUCK 39.0 cy/truck

DURATION OF HAULING 0.45 hr

87 cy/hr →

TITLE:	Lake Okeechobee Component A Reservoir (LOCAR)		
SUBJECT:	User Defined Production Rate Calculations		
MADE BY:	SKV	JOB NO.:	
CHECKED BY:	SM	DATE:	10/5/2023

CSI TASK:

CLEARING AND GRUBBING

Clear and Grub Crew

PRODUCTION

480.0 min/acre

0.125 acre/hr

CSI TASK:

FILL AND COMPACT, SAND
[Front End Loader, Compactor]

Sand Fill Crew

PRODUCTION

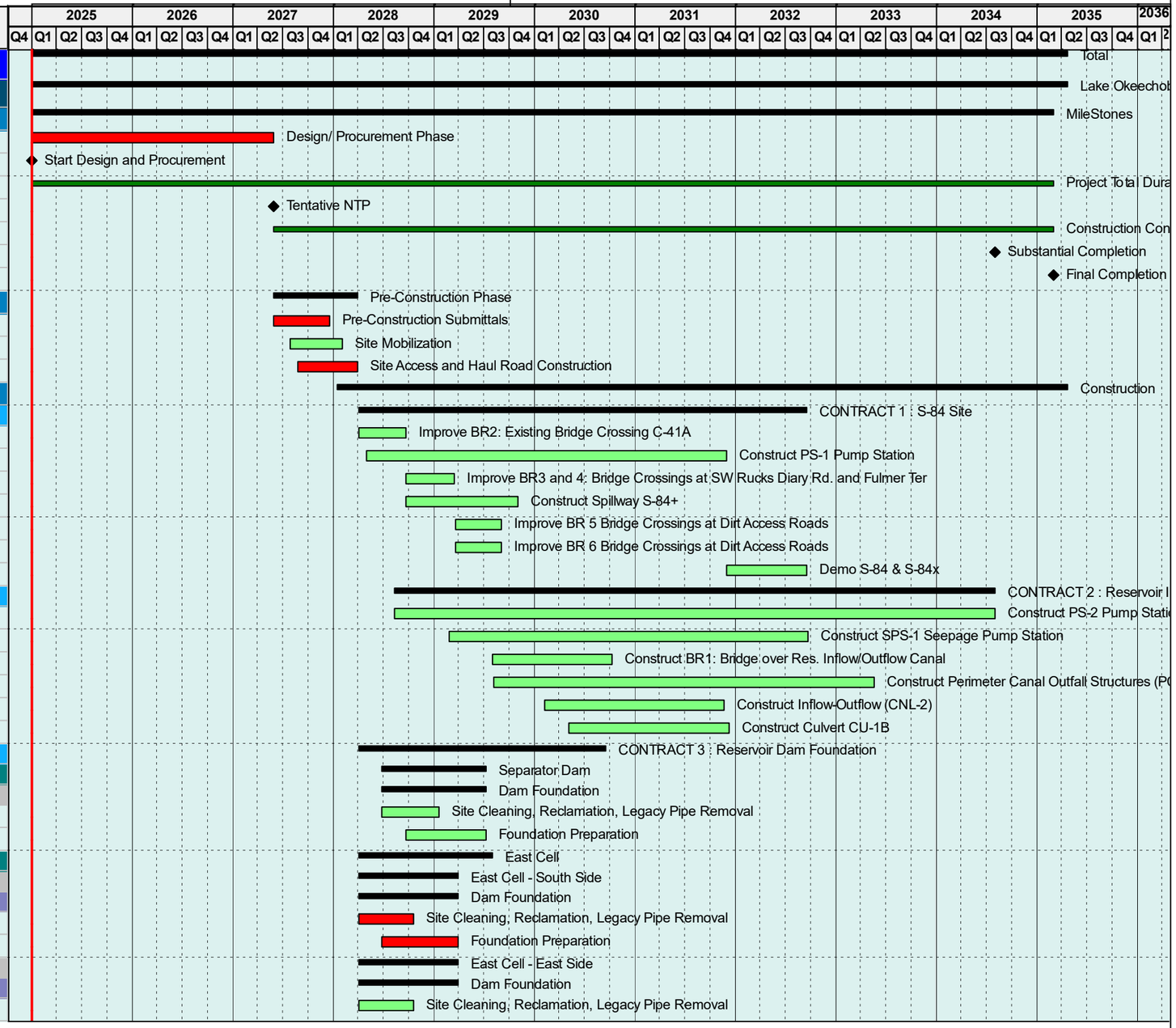
3.0	cy per cycle
0.95	% fill
55	min/hr
1.6	cycle/min
1	no. of excavators

250 cy/crew hr

ATTACHMENT 3

TENTATIVE PROJECT SCHEDULE

Activity ID	Activity Name	OD	Start	Finish
Total		3765	01-Jan-25	23-Apr-35
Lake Okeechobee Component A Storage Reservoir (LOCAR)		3765	01-Jan-25	23-Apr-35
MileStones		3716	01-Jan-25	05-Mar-35
Mile-2	Design/ Procurement Phase	881	01-Jan-25	31-May-27
Mile-1	Start Design and Procurement	0	01-Jan-25*	
Mile-3	Project Total Duration	3716	01-Jan-25	05-Mar-35
Mile-4	Tentative NTP	0	01-Jun-27*	
Mile-5	Construction Contracts Total Duration	2835	01-Jun-27	05-Mar-35
Mile-6	Substantial Completion	0		02-Aug-34
Mile-7	Final Completion	0		05-Mar-35
Pre-Construction Phase		210	01-Jun-27	31-Mar-28
PreC-1	Pre-Construction Submittals	140	01-Jun-27	20-Dec-27
PreC-2	Site Mobilization	130	28-Jul-27	03-Feb-28
PreC-3	Site Access and Haul Road Construction	150	25-Aug-27	31-Mar-28
Construction		2657	14-Jan-28	23-Apr-35
CONTRACT 1 : S-84 Site		1120	03-Apr-28	15-Sep-32
A1400	Improve BR2: Existing Bridge Crossing C-41A	120	03-Apr-28	20-Sep-28
A1440	Construct PS-1 Pump Station	900	01-May-28	01-Dec-31
A1410	Improve BR3 and 4: Bridge Crossings at SW Rucks Diary Rd. and F	120	21-Sep-28	16-Mar-29
A1460	Construct Spillway S-84+	280	21-Sep-28	31-Oct-29
A1420	Improve BR 5 Bridge Crossings at Dirt Access Roads	120	19-Mar-29	05-Sep-29
A1430	Improve BR 6 Bridge Crossings at Dirt Access Roads	120	19-Mar-29	05-Sep-29
A1450	Demo S-84 & S-84x	200	02-Dec-31	15-Sep-32
CONTRACT 2 : Reservoir Inflow Pump Station Site		1500	09-Aug-28	01-Aug-34
A1370	Construct PS-2 Pump Station	1500	09-Aug-28	01-Aug-34
A1380	Construct SPS-1 Seepage Pump Station	900	26-Feb-29	22-Sep-32
A1340	Construct BR1: Bridge over Res. Inflow/Outflow Canal	300	01-Aug-29	09-Oct-30
A1360	Construct Perimeter Canal Outfall Structures (PCOS-1)	950	08-Aug-29	20-May-33
A1350	Construct Inflow-Outflow (CNL-2)	450	08-Feb-30	20-Nov-31
A1390	Construct Culvert CU-1B	400	06-May-30	08-Dec-31
CONTRACT 3 : Reservoir Dam Foundation		620	03-Apr-28	18-Sep-30
Separator Dam		260	27-Jun-28	10-Jul-29
Dam Foundation		260	27-Jun-28	10-Jul-29
Sep-Dam-16	Site Cleaning, Reclamation, Legacy Pipe Removal	140	27-Jun-28	18-Jan-29
Sep-Dam-26	Foundation Preparation	200	21-Sep-28	10-Jul-29
East Cell		335	03-Apr-28	31-Jul-29
East Cell - South Side		250	03-Apr-28	30-Mar-29
Dam Foundation		250	03-Apr-28	30-Mar-29
EC-South-48	Site Cleaning, Reclamation, Legacy Pipe Removal	140	03-Apr-28	18-Oct-28
EC-South-58	Foundation Preparation	190	27-Jun-28	30-Mar-29
East Cell - East Side		250	03-Apr-28	30-Mar-29
Dam Foundation		250	03-Apr-28	30-Mar-29
EC-East-35	Site Cleaning, Reclamation, Legacy Pipe Removal	140	03-Apr-28	18-Oct-28

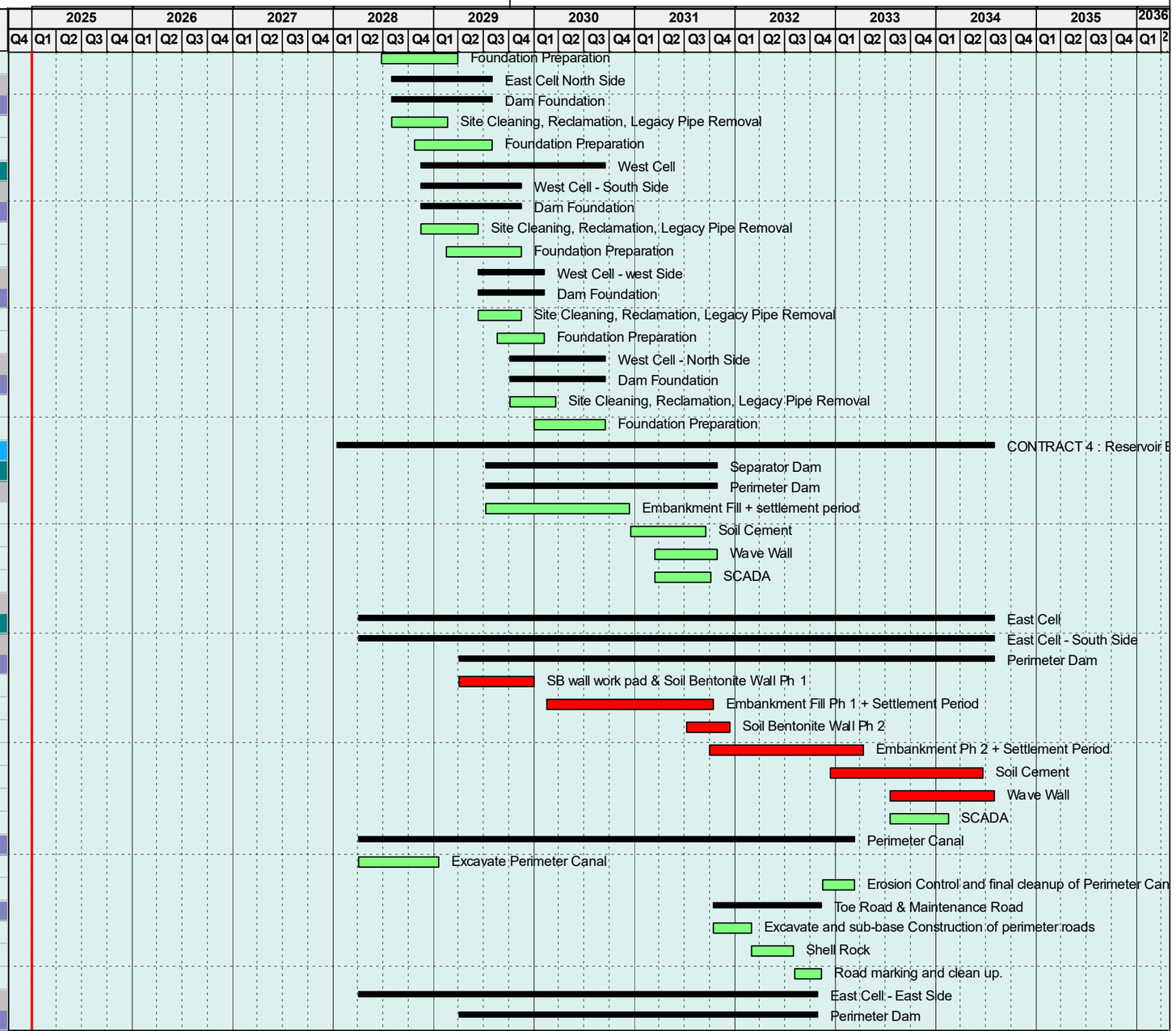


Remaining Level of Effort
Second Baseline
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

JTech An alliance of Jacobs and Tetra Tech

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Activity ID	Activity Name	OD	Start	Finish
EC-East-45	Foundation Preparation	190	27-Jun-28	30-Mar-29
East Cell North Side		250	02-Aug-28	31-Jul-29
Dam Foundation		250	02-Aug-28	31-Jul-29
EC-North-24	Site Cleaning, Reclamation, Legacy Pipe Removal	140	02-Aug-28	23-Feb-29
EC-North-34	Foundation Preparation	190	26-Oct-28	31-Jul-29
West Cell		460	17-Nov-28	18-Sep-30
West Cell - South Side		250	17-Nov-28	15-Nov-29
Dam Foundation		250	17-Nov-28	15-Nov-29
WC-South-2	Site Cleaning, Reclamation, Legacy Pipe Removal	140	17-Nov-28	11-Jun-29
WC-South-3	Foundation Preparation	190	16-Feb-29	15-Nov-29
West Cell - west Side		165	12-Jun-29	07-Feb-30
Dam Foundation		165	12-Jun-29	07-Feb-30
WC-West-26	Site Cleaning, Reclamation, Legacy Pipe Removal	110	12-Jun-29	15-Nov-29
WC-West-36	Foundation Preparation	115	22-Aug-29	07-Feb-30
West Cell - North Side		240	04-Oct-29	18-Sep-30
Dam Foundation		240	04-Oct-29	18-Sep-30
WC-North-23	Site Cleaning, Reclamation, Legacy Pipe Removal	115	04-Oct-29	22-Mar-30
WC-North-33	Foundation Preparation	180	03-Jan-30	18-Sep-30
CONTRACT 4 : Reservoir Earthwork		2393	14-Jan-28	02-Aug-34
Separator Dam		841	11-Jul-29	29-Oct-31
Perimeter Dam		580	11-Jul-29	29-Oct-31
Sep-Dam-3	Embankment Fill + settlement period	360	11-Jul-29	16-Dec-30
Sep-Dam-4	Soil Cement	190	17-Dec-30	17-Sep-31
Sep-Dam-5	Wave Wall	160	17-Mar-31	29-Oct-31
Sep-Dam-6	SCADA	145	17-Mar-31	08-Oct-31
Structures		0		
East Cell		1591	03-Apr-28	02-Aug-34
East Cell - South Side		1591	03-Apr-28	02-Aug-34
Perimeter Dam		1341	02-Apr-29	02-Aug-34
EC-South-4	SB wall work pad & Soil Bentonite Wall Ph 1	190	02-Apr-29	02-Jan-30
EC-South-5	Embankment Fill Ph 1 + Settlement Period	420	19-Feb-30	16-Oct-31
EC-South-9	Soil Bentonite Wall Ph 2	110	10-Jul-31	16-Dec-31
EC-South-10	Embankment Ph 2 + Settlement Period	380	03-Oct-31	11-Apr-33
EC-South-13	Soil Cement	380	15-Dec-32	20-Jun-34
EC-South-16	Wave Wall	260	21-Jul-33	02-Aug-34
EC-South-17	SCADA	145	21-Jul-33	17-Feb-34
Perimeter Canal		1241	03-Apr-28	14-Mar-33
EC-South-6	Excavate Perimeter Canal	200	03-Apr-28	18-Jan-29
EC-South-15	Erosion Control and final cleanup of Perimeter Canal	80	15-Nov-32	14-Mar-33
Toe Road & Maintenance Road		270	17-Oct-31	12-Nov-32
EC-South-11	Excavate and sub-base Construction of perimeter roads	90	17-Oct-31	01-Mar-32
EC-South-12	Shell Rock	110	02-Mar-32	04-Aug-32
EC-South-14	Road marking and clean up.	70	05-Aug-32	12-Nov-32
East Cell - East Side		1150	03-Apr-28	27-Oct-32
Perimeter Dam		900	02-Apr-29	27-Oct-32



Remaining Level of Effort
Second Baseline
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

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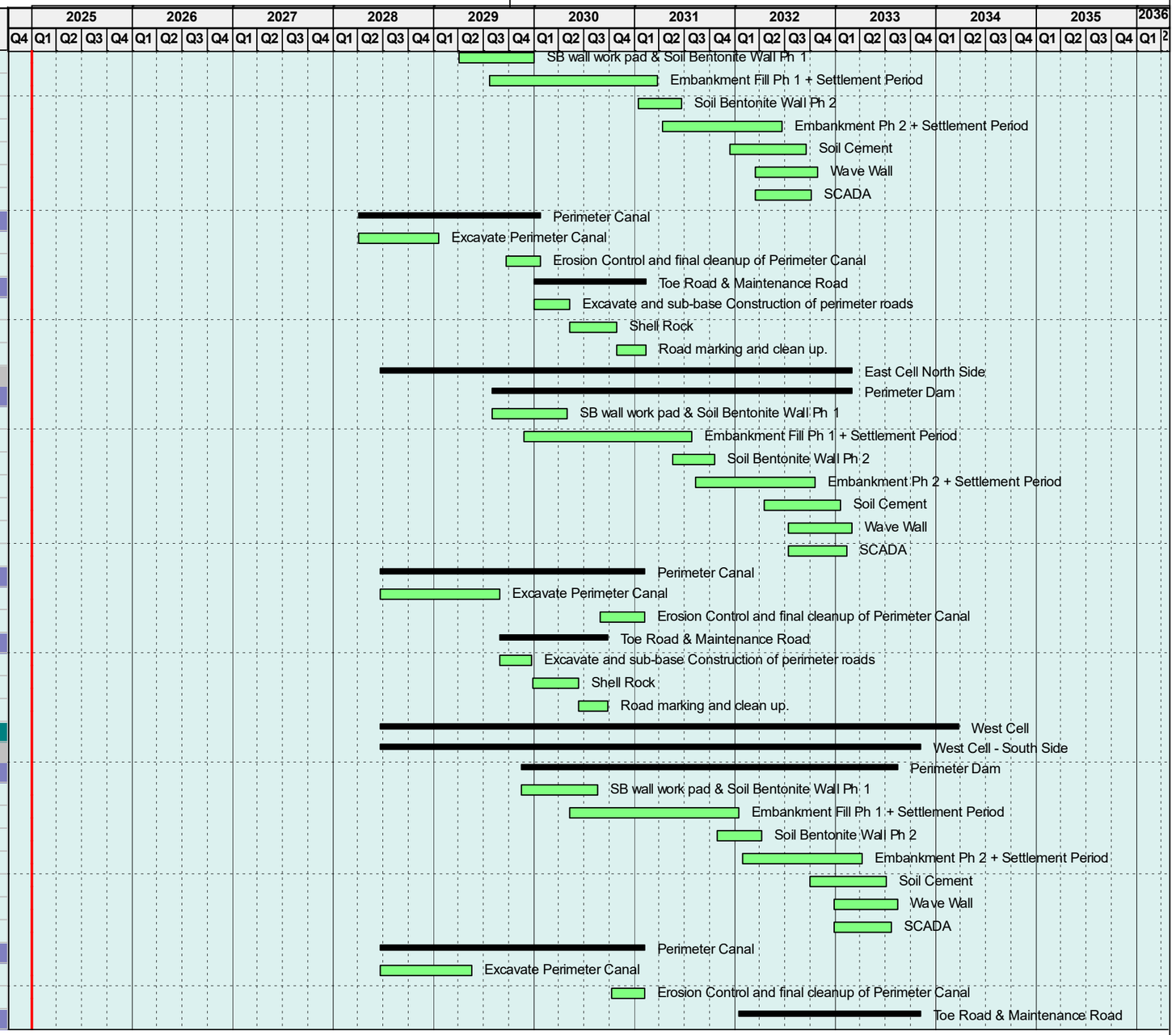
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Activity ID	Activity Name	OD	Start	Finish
EC-East-7	SB wall work pad & Soil Bentonite Wall Ph 1	190	02-Apr-29	02-Jan-30
EC-East-8	Embankment Fill Ph 1 + Settlement Period	420	25-Jul-29	28-Mar-31
EC-East-11	Soil Bentonite Wall Ph 2	110	16-Jan-31	23-Jun-31
EC-East-13	Embankment Ph 2 + Settlement Period	300	14-Apr-31	21-Jun-32
EC-East-15	Soil Cement	190	16-Dec-31	15-Sep-32
EC-East-16	Wave Wall	160	15-Mar-32	27-Oct-32
EC-East-17	SCADA	145	15-Mar-32	06-Oct-32
Perimeter Canal		456	03-Apr-28	25-Jan-30
EC-East-2	Excavate Perimeter Canal	200	03-Apr-28	18-Jan-29
EC-East-10	Erosion Control and final cleanup of Perimeter Canal	86	20-Sep-29	25-Jan-30
Toe Road & Maintenance Road		280	03-Jan-30	13-Feb-31
EC-East-9	Excavate and sub-base Construction of perimeter roads	90	03-Jan-30	10-May-30
EC-East-12	Shell Rock	120	13-May-30	30-Oct-30
EC-East-14	Road marking and clean up.	70	31-Oct-30	13-Feb-31
East Cell North Side		1180	20-Jun-28	04-Mar-33
Perimeter Dam		900	01-Aug-29	04-Mar-33
EC-North-2	SB wall work pad & Soil Bentonite Wall Ph 1	190	01-Aug-29	03-May-30
EC-North-3	Embankment Fill Ph 1 + Settlement Period	420	27-Nov-29	29-Jul-31
EC-North-6	Soil Bentonite Wall Ph 2	110	19-May-31	22-Oct-31
EC-North-7	Embankment Ph 2 + Settlement Period	300	13-Aug-31	20-Oct-32
EC-North-10	Soil Cement	190	19-Apr-32	20-Jan-33
EC-North-13	Wave Wall	160	14-Jul-32	04-Mar-33
EC-North-14	SCADA	145	14-Jul-32	10-Feb-33
Perimeter Canal		660	20-Jun-28	06-Feb-31
EC-North-4	Excavate Perimeter Canal	300	20-Jun-28	28-Aug-29
EC-North-12	Erosion Control and final cleanup of Perimeter Canal	110	28-Aug-30	06-Feb-31
Toe Road & Maintenance Road		270	29-Aug-29	25-Sep-30
EC-North-8	Excavate and sub-base Construction of perimeter roads	80	29-Aug-29	24-Dec-29
EC-North-9	Shell Rock	115	26-Dec-29	10-Jun-30
EC-North-11	Road marking and clean up.	75	11-Jun-30	25-Sep-30
West Cell		1445	20-Jun-28	24-Mar-34
West Cell - South Side		1355	20-Jun-28	09-Nov-33
Perimeter Dam		940	16-Nov-29	16-Aug-33
WC-South-2	SB wall work pad & Soil Bentonite Wall Ph 1	190	16-Nov-29	20-Aug-30
WC-South-3	Embankment Fill Ph 1 + Settlement Period	420	13-May-30	14-Jan-32
WC-South-5	Soil Bentonite Wall Ph 2	110	30-Oct-31	09-Apr-32
WC-South-6	Embankment Ph 2 + Settlement Period	300	30-Jan-32	08-Apr-33
WC-South-9	Soil Cement	190	30-Sep-32	05-Jul-33
WC-South-1	Wave Wall	160	29-Dec-32	16-Aug-33
WC-South-1	SCADA	145	29-Dec-32	26-Jul-33
Perimeter Canal		660	20-Jun-28	06-Feb-31
WC-South-4	Excavate Perimeter Canal	230	20-Jun-28	18-May-29
WC-South-1	Erosion Control and final cleanup of Perimeter Canal	80	10-Oct-30	06-Feb-31
Toe Road & Maintenance Road		460	15-Jan-32	09-Nov-33



Remaining Level of Effort
Second Baseline
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

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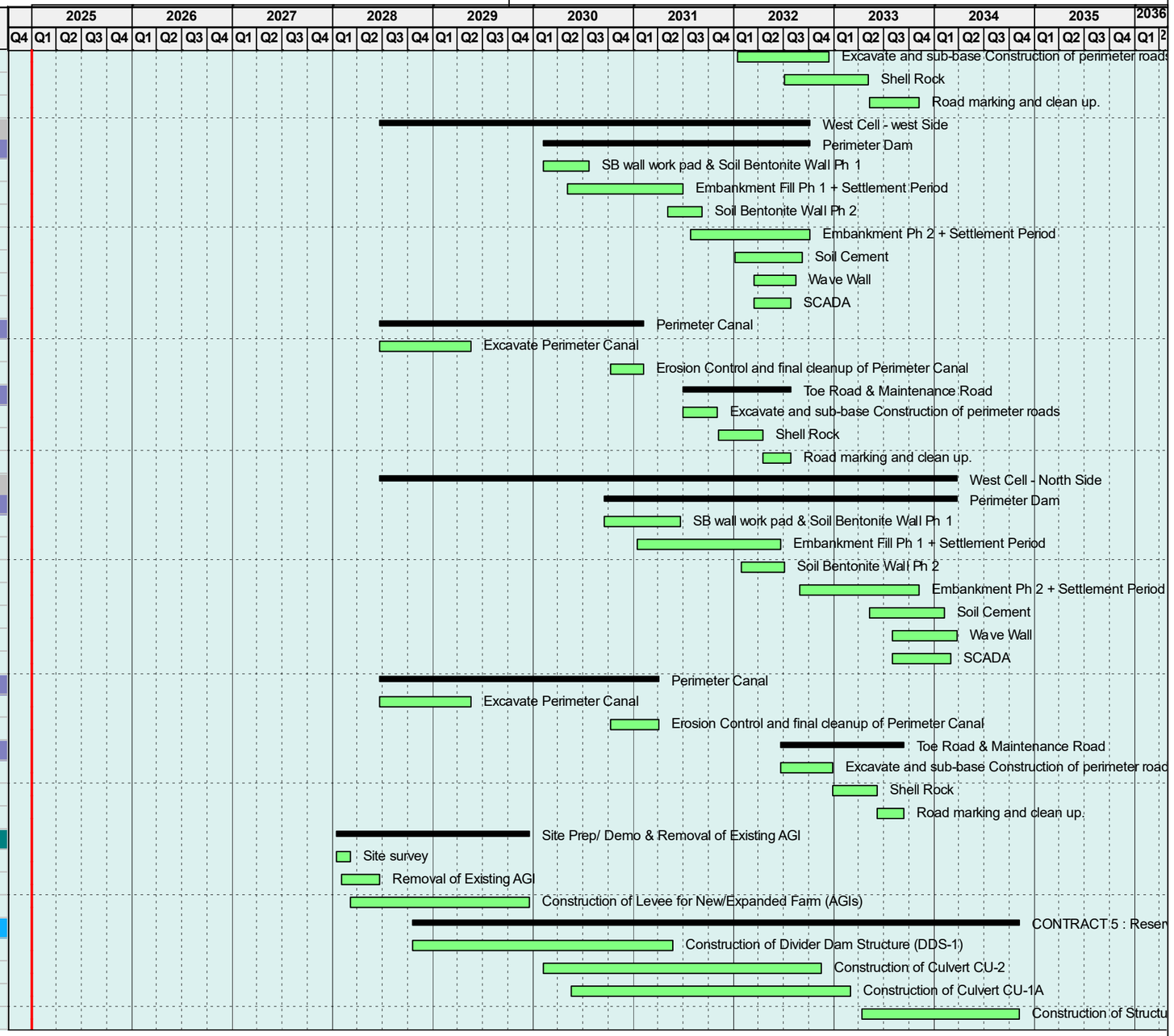
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Activity ID	Activity Name	OD	Start	Finish
WC-South-8	Excavate and sub-base Construction of perimeter roads	230	15-Jan-32	13-Dec-32
WC-South-1	Shell Rock	210	07-Jul-32	06-May-33
WC-South-1	Road marking and clean up.	130	09-May-33	09-Nov-33
West Cell - west Side		1080	20-Jun-28	06-Oct-32
Perimeter Dam		670	08-Feb-30	06-Oct-32
WC-West-5	SB wall work pad & Soil Bentonite Wall Ph 1	115	08-Feb-30	23-Jul-30
WC-West-6	Embankment Fill Ph 1 + Settlement Period	290	06-May-30	30-Jun-31
WC-West-8	Soil Bentonite Wall Ph 2	90	05-May-31	10-Sep-31
WC-West-9	Embankment Ph 2 + Settlement Period	300	30-Jul-31	06-Oct-32
WC-West-10	Soil Cement	170	08-Jan-32	08-Sep-32
WC-West-12	Wave Wall	110	15-Mar-32	17-Aug-32
WC-West-13	SCADA	95	15-Mar-32	27-Jul-32
Perimeter Canal		660	20-Jun-28	06-Feb-31
WC-West-7	Excavate Perimeter Canal	230	20-Jun-28	18-May-29
WC-West-16	Erosion Control and final cleanup of Perimeter Canal	80	10-Oct-30	06-Feb-31
Toe Road & Maintenance Road		270	01-Jul-31	27-Jul-32
WC-West-11	Excavate and sub-base Construction of perimeter roads	90	01-Jul-31	05-Nov-31
WC-West-14	Shell Rock	110	06-Nov-31	16-Apr-32
WC-West-15	Road marking and clean up.	70	19-Apr-32	27-Jul-32
West Cell - North Side		1445	20-Jun-28	24-Mar-34
Perimeter Dam		880	19-Sep-30	24-Mar-34
WC-North-2	SB wall work pad & Soil Bentonite Wall Ph 1	190	19-Sep-30	23-Jun-31
WC-North-3	Embankment Fill Ph 1 + Settlement Period	360	16-Jan-31	21-Jun-32
WC-North-5	Soil Bentonite Wall Ph 2	110	30-Jan-32	06-Jul-32
WC-North-6	Embankment Ph 2 + Settlement Period	300	01-Sep-32	09-Nov-33
WC-North-8	Soil Cement	190	09-May-33	09-Feb-34
WC-North-9	Wave Wall	160	03-Aug-33	24-Mar-34
WC-North-10	SCADA	145	03-Aug-33	03-Mar-34
Perimeter Canal		700	20-Jun-28	04-Apr-31
WC-North-4	Excavate Perimeter Canal	230	20-Jun-28	18-May-29
WC-North-12	Erosion Control and final cleanup of Perimeter Canal	120	10-Oct-30	04-Apr-31
Toe Road & Maintenance Road		310	22-Jun-32	14-Sep-33
WC-North-7	Excavate and sub-base Construction of perimeter roads	130	22-Jun-32	28-Dec-32
WC-North-11	Shell Rock	110	29-Dec-32	06-Jun-33
WC-North-13	Road marking and clean up.	70	07-Jun-33	14-Sep-33
Site Prep/ Demo & Removal of Existing AGI		485	14-Jan-28	18-Dec-29
SitA-1	Site survey	35	14-Jan-28	06-Mar-28
SitA-3	Removal of Existing AGI	95	04-Feb-28	19-Jun-28
SitA-2	Construction of Levee for New/Expanded Farm (AGIs)	450	07-Mar-28	18-Dec-29
CONTRACT 5 : Reservoir Dam Structures		1521	19-Oct-28	09-Nov-34
A1290	Construction of Divider Dam Structure (DDS-1)	650	19-Oct-28	23-May-31
A1330	Construction of Culvert CU-2	700	08-Feb-30	18-Nov-32
A1320	Construction of Culvert CU-1A	700	20-May-30	04-Mar-33
A1300	Construction of Structure OS-1	400	12-Apr-33	09-Nov-34

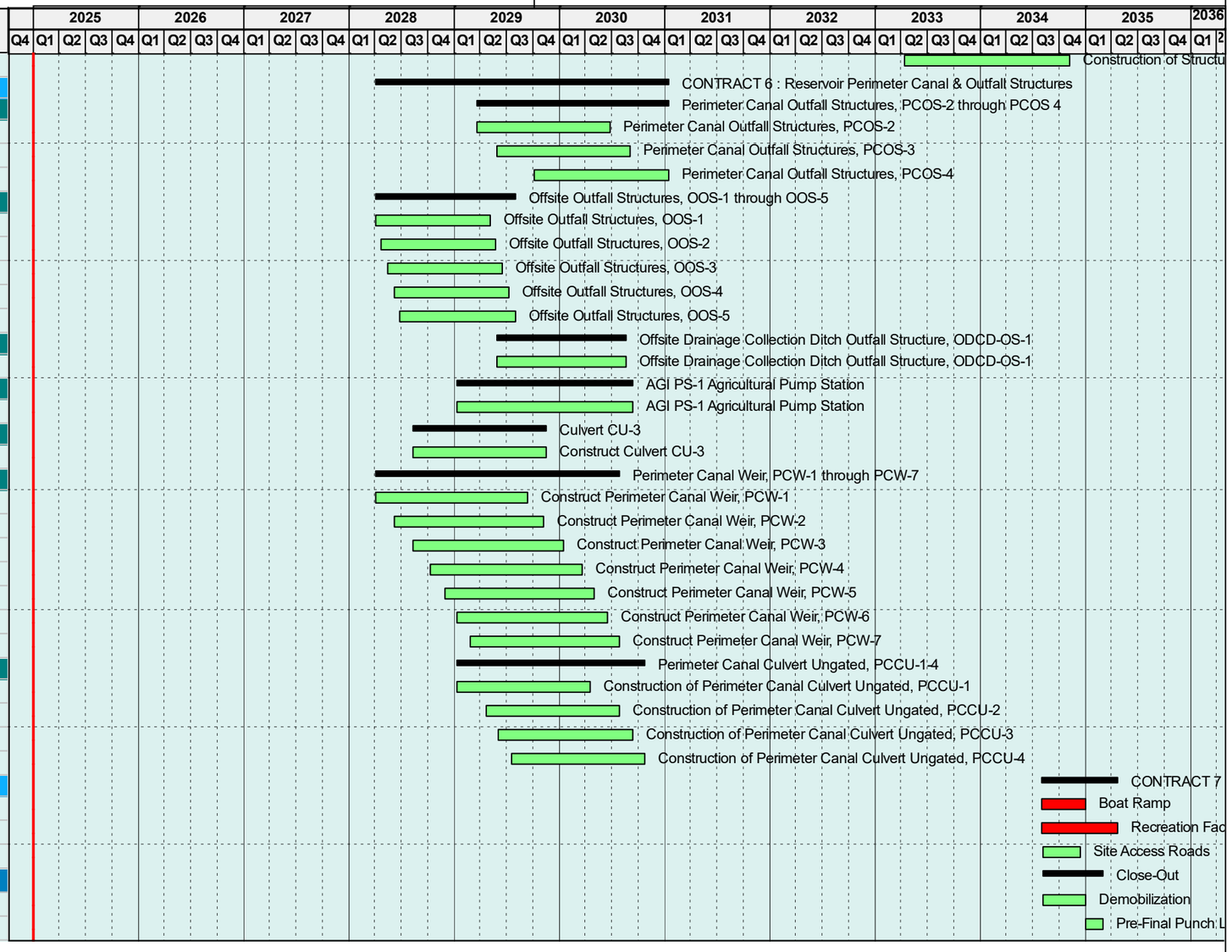


Remaining Level of Effort
Second Baseline
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

JTech An alliance of Jacobs and Tetra Tech

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Activity ID	Activity Name	OD	Start	Finish
A1310	Construction of Structure OS-2	400	12-Apr-33	09-Nov-34
CONTRACT 6 : Reservoir Perimeter Canal & Outfall Structures		700	03-Apr-28	15-Jan-31
Perimeter Canal Outfall Structures, PCOS-2 through PCOS 4		460	19-Mar-29	15-Jan-31
A1140	Perimeter Canal Outfall Structures, PCOS-2	320	19-Mar-29	24-Jun-30
A1150	Perimeter Canal Outfall Structures, PCOS-3	320	29-May-29	04-Sep-30
A1160	Perimeter Canal Outfall Structures, PCOS-4	320	04-Oct-29	15-Jan-31
Offsite Outfall Structures, OOS-1 through OOS-5		335	03-Apr-28	31-Jul-29
A1180	Offsite Outfall Structures, OOS-1	275	03-Apr-28	04-May-29
A1190	Offsite Outfall Structures, OOS-2	275	24-Apr-28	25-May-29
A1200	Offsite Outfall Structures, OOS-3	275	15-May-28	18-Jun-29
A1210	Offsite Outfall Structures, OOS-4	275	06-Jun-28	10-Jul-29
A1170	Offsite Outfall Structures, OOS-5	275	27-Jun-28	31-Jul-29
Offsite Drainage Collection Ditch Outfall Structure, ODCD-OS-1		310	29-May-29	20-Aug-30
A1220	Offsite Drainage Collection Ditch Outfall Structure, ODCD-OS-1	310	29-May-29	20-Aug-30
AGI PS-1 Agricultural Pump Station		420	11-Jan-29	11-Sep-30
A1230	AGI PS-1 Agricultural Pump Station	420	11-Jan-29	11-Sep-30
Culvert CU-3		320	09-Aug-28	15-Nov-29
A1240	Construct Culvert CU-3	320	09-Aug-28	15-Nov-29
Perimeter Canal Weir, PCW-1 through PCW-7		585	03-Apr-28	30-Jul-30
A1070	Construct Perimeter Canal Weir, PCW-1	364	03-Apr-28	11-Sep-29
A1080	Construct Perimeter Canal Weir, PCW-2	360	06-Jun-28	07-Nov-29
A1090	Construct Perimeter Canal Weir, PCW-3	360	09-Aug-28	16-Jan-30
A1100	Construct Perimeter Canal Weir, PCW-4	360	12-Oct-28	22-Mar-30
A1110	Construct Perimeter Canal Weir, PCW-5	360	28-Nov-28	03-May-30
A1120	Construct Perimeter Canal Weir, PCW-6	360	11-Jan-29	17-Jun-30
A1130	Construct Perimeter Canal Weir, PCW-7	360	26-Feb-29	30-Jul-30
Perimeter Canal Culvert Ungated, PCCU-1-4		450	11-Jan-29	23-Oct-30
A1250	Construction of Perimeter Canal Culvert Ungated, PCCU-1	320	11-Jan-29	19-Apr-30
A1260	Construction of Perimeter Canal Culvert Ungated, PCCU-2	320	23-Apr-29	30-Jul-30
A1270	Construction of Perimeter Canal Culvert Ungated, PCCU-3	320	05-Jun-29	11-Sep-30
A1280	Construction of Perimeter Canal Culvert Ungated, PCCU-4	320	18-Jul-29	23-Oct-30
CONTRACT 7 : Recreation Features		180	03-Aug-34	23-Apr-35
CloseOut-1	Boat Ramp	105	03-Aug-34	04-Jan-35
CloseOut-11	Recreation Facilities	180	03-Aug-34	23-Apr-35
CloseOut-2	Site Access Roads	90	07-Aug-34	14-Dec-34
Close-Out		141	09-Aug-34	05-Mar-35
CloseOut-3	Demobilization	100	09-Aug-34	03-Jan-35
CloseOut-4	Pre-Final Punch List	41	04-Jan-35	05-Mar-35



Remaining Level of Effort
Second Baseline
Actual Work
Remaining Work
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Summary

JTech An alliance of Jacobs and Tetra Tech

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ATTACHMENT 4

MCACES SUMMARY PRINTOUT

LAKE OKEECHOBEE COMPONENT A RESERVOIR (LOCAR)
Note:

This MCACES matches submittal reports and documentation. However, it should be noted that the estimate is currently under going revisions to account for DQC comments not received in time for printing of reports, on-going design changes, and further estimate refinements. Revised MCACES and cost estimating report will be provided for ATR as soon as available.

Estimated by	Tetra Tech, Inc.
Designed by	Tetra Tech, Inc.
Prepared by	Tetra Tech, Inc
Preparation Date	11/9/2023
Effective Date of Pricing	11/9/2023
Estimated Construction Time	2,656 Days

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Description **Page**

Designed by
Tetra Tech, Inc.
Estimated by
Tetra Tech, Inc.
Prepared by
Tetra Tech, Inc

Design Document	Lake Okeechobee Watershed Rest. Proj. Feas. Report
Document Date	11/9/2023
District	Jacksonville
Contact	
Budget Year	2024
UOM System	Original

Direct Costs
LaborCost
EQCost
MatlCost
SubBidCost
Travel/PerDiem
Shipping
Fees

Timeline/Currency

Preparation Date	11/9/2023
Escalation Date	11/9/2023
Eff. Pricing Date	11/9/2023
Estimated Duration	2656 Day(s)
Currency	US dollars
Exchange Rate	1.000000

Costbook CB22EN: 2022 MII English Cost Book

Labor NLS2021: Highlands County, FL - 2023

Note: Updated all labor rates with Federal Wage determination FL20230207 for Highlands County, FL, with date of 07/07/2023.

Labor Rates
LaborCost1
LaborCost2
LaborCost3
LaborCost4

Equipment EP22R03: MII Equipment 2022 Region 03

Region 03 - SOUTHEAST, (2022)

Sales Tax	6.00
Working Hours per Year	1,490
Labor Adjustment Factor	1.00
Cost of Money	4.88
Cost of Money Discount	25.00
Tire Recap Cost Factor	1.50
Tire Recap Wear Factor	1.80
Tire Repair Factor	0.15
Equipment Cost Factor	1.00
Standby Depreciation Factor	0.50

Fuel

Electricity	0.116
Gas	3.590
Diesel Off-Road	3.890
Diesel On-Road	4.490

Shipping Rates

Over 0 CWT	30.02
Over 240 CWT	22.29
Over 300 CWT	18.59
Over 400 CWT	16.24
Over 500 CWT	18.08
Over 700 CWT	15.49
Over 800 CWT	5.31

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Direct Cost Markups	**Category**	**Method**
Productivity	Productivity	Productivity
Overtime	Overtime	Overtime

	Days/Week	*Hours/Shift*	*Shifts/Day*	*1st Shift*	*2nd Shift*	*3rd Shift*
Standard	*5.00*	*8.00*	*1.00*	*8.00*	*0.00*	*0.00*
Actual	*6.00*	*8.00*	*1.00*	*10.00*	*0.00*	*0.00*

Day	*OT Factor*	*Working*	*OT Percent*	*FCCM Percent*
Monday	*1.50*	*Yes*	*16.67*	*(33.33)*
Tuesday	*1.50*	*Yes*		
Wednesday	*1.50*	*Yes*		
Thursday	*1.50*	*Yes*		
Friday	*1.50*	*Yes*		
Saturday	*1.50*	*Yes*		
Sunday	*2.00*	*No*		

Sales Tax	TaxAdj	Running % on Selected Costs
MatlCost		
Cost Book Escalation	MiscDirect	Running % on Selected Costs
MatlCost		
SubBidCost		

Contractor Markups	**Category**	**Method**
JOOH Prime (Small Tools)	JOOH	% of Labor
JOOH Prime	JOOH	JOOH (Calculated)
JOOH Sub	JOOH	Running %
HOOH	HOOH	Running %
Profit Prime 1	Profit	Profit Weighted Guidelines

Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.075*	*15*	*1.13*
Size	*0.030*	*15*	*0.45*
Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.120*	*25*	*3.00*
Total		*100*	*9.10*

Profit Prime 2	Profit	Profit Weighted Guidelines

Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.075*	*15*	*1.13*
Size	*0.030*	*15*	*0.45*

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.070*	*25*	*1.75*
Total		*100*	*7.85*

Profit Prime 3	Profit	Profit Weighted Guidelines	
Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.075*	*15*	*1.13*
Size	*0.030*	*15*	*0.45*
Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.070*	*25*	*1.75*
Total		*100*	*7.85*

Profit Prime 4	Profit	Profit Weighted Guidelines	
Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.100*	*15*	*1.50*
Size	*0.030*	*15*	*0.45*
Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.120*	*25*	*3.00*
Total		*100*	*9.48*

Profit Prime 5	Profit	Profit Weighted Guidelines	
Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.100*	*15*	*1.50*
Size	*0.030*	*15*	*0.45*
Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.120*	*25*	*3.00*
Total		*100*	*9.48*

Profit Prime 6	Profit	Profit Weighted Guidelines	
Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.075*	*15*	*1.13*
Size	*0.030*	*15*	*0.45*
Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.068*	*25*	*1.70*
Total		*100*	*7.80*

Profit Prime 7 | Profit | Profit Weighted Guidelines

Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.100*	*20*	*2.00*
Difficulty	*0.075*	*15*	*1.13*
Size	*0.030*	*15*	*0.45*
Period	*0.120*	*15*	*1.80*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.092*	*25*	*2.30*
Total		*100*	*8.40*

Profit Prime 8 | Profit | Profit Weighted Guidelines

Guideline	*Value*	*Weight*	*Percentage*
Risk	*0.060*	*20*	*1.20*
Difficulty	*0.050*	*15*	*0.75*
Size	*0.104*	*15*	*1.56*
Period	*0.060*	*15*	*0.90*
Invest (Contractor's)	*0.070*	*5*	*0.35*
Assist (Assistance by)	*0.075*	*5*	*0.38*
SubContracting	*0.080*	*25*	*2.00*
Total		*100*	*7.14*

Profit Sub | Profit | Direct %

Bond | Bond | Bond Table

Class B, Tiered, 24 months, 1.00% Surcharge

Contract Price	*Bond Rate*
500,000	*15.84*
2,000,000	*9.57*
2,500,000	*7.59*
2,500,000	*6.93*
100,000,000,000	*6.34*

Insurance | MiscContract | Direct %

Excise Tax | Excise | Running %

Mob / Demob | Allowance | Running %

Owner Markups | **Category** | **Method**

Contingency | Contingency | Running %

SIOH | SIOH | Running %

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	ContractCost	ProjectCost	CostOverride
Bid Item Summary Report			**1,462,856,866**	**1,462,856,866**	
Lake Okeechobee Component A Reservoir	**1.00**	**LS**	**1,462,856,866**	**1,462,856,866**	
CONTRACT 1 - S-84 Site	**1.00**	**EA**	*89,354,224.94* **89,354,225**	*89,354,224.94* **89,354,225**	
01 13 13 - Pumping Plants	**1.00**	**EA**	*78,114,225.17* **78,114,225**	*78,114,225.17* **78,114,225**	
01 15 15 - Floodway Control/Diversion Structure	**1.00**	**LS**	**11,240,000**	**11,240,000**	
CONTRACT 2 - Reservoir Inflow Pump Station Site	**1.00**	**EA**	*127,379,525.21* **127,379,525**	*127,379,525.21* **127,379,525**	
02 09 09 - Channels and Canals	**1.00**	**LS**	**3,017,731**	**3,017,731**	
02 13 13 - Pumping Plants	**1.00**	**EA**	*113,456,906.23* **113,456,906**	*113,456,906.23* **113,456,906**	
02 15 15 - Floodway Control/Diversion Structures	**1.00**	**EA**	*10,904,887.56* **10,904,888**	*10,904,887.56* **10,904,888**	
CONTRACT 3 - Reservoir Dam Foundation	**1.00**	**EA**	*168,035,118.49* **168,035,118**	*168,035,118.49* **168,035,118**	
03 03 03 - Reservoirs	**1.00**	**EA**	*168,035,118.49* **168,035,118**	*168,035,118.49* **168,035,118**	
CONTRACT 4 - Reservoir Earthwork	**1.00**	**EA**	*993,918,111.24* **993,918,111**	*993,918,111.24* **993,918,111**	
04 03 03 - Reservoirs	**1.00**	**EA**	*989,508,757.03* **989,508,757**	*989,508,757.03* **989,508,757**	
04 11 11 - Levees & Floodwalls	**1.00**	**EA**	*4,409,354.21* **4,409,354**	*4,409,354.21* **4,409,354**	
CONTRACT 5 - Reservoir Dam Structures	**1.00**	**EA**	*56,526,024.98* **56,526,025**	*56,526,024.98* **56,526,025**	
05 03 03 - Reservoirs	**1.00**	**EA**	*12,967,449.28* **12,967,449**	*12,967,449.28* **12,967,449**	
05 15 15 - Floodway Control/Diversion Structures	**1.00**	**EA**	*43,558,575.71* **43,558,576**	*43,558,575.71* **43,558,576**	

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	ContractCost	ProjectCost	CostOverride
			26,316,172.90	*26,316,172.90*	
CONTRACT 6 - Reservoir Perimeter Canal & Outfall Canal Structures	**1.00**	**EA**	**26,316,173**	**26,316,173**	
06 09 09 - Channels and Canals	**1.00**	**LS**	**743,833**	**743,833**	
			11,516,445.85	*11,516,445.85*	
06 13 13 - Pumping Plants	**1.00**	**EA**	**11,516,446**	**11,516,446**	
			14,055,893.78	*14,055,893.78*	
06 15 15 - Floodway Control/Diversion Structures	**1.00**	**EA**	**14,055,894**	**14,055,894**	
			1,327,688.67	*1,327,688.67*	
CONTRACT 7 - Recreation Features	**1.00**	**EA**	**1,327,689**	**1,327,689**	
			1,327,688.67	*1,327,688.67*	
07 14 14 - Recreational Facilities	**1.00**	**EA**	**1,327,689**	**1,327,689**	

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
Project Cost Detail Report			**1,157,696,438**	**1,462,856,866**	**1,462,856,866**
Lake Okeechobee Component A Reservoir	**1.00**	**LS**	**1,157,696,438**	**1,462,856,866**	**1,462,856,866**
			65,891,030.07	*89,354,224.94*	*89,354,224.94*
CONTRACT 1 - S-84 Site	**1.00**	**EA**	**65,891,030**	**89,354,225**	**89,354,225**
			57,602,500.19	*78,114,225.17*	*78,114,225.17*
01 13 13 - Pumping Plants	**1.00**	**EA**	**57,602,500**	**78,114,225**	**78,114,225**
01 13 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**884,779**	**1,199,841**	**1,199,841**
01 13 01 01 Mobilization	**1.00**	**LS**	**565,254**	**766,536**	**766,536**
			7,020.82	*9,520.87*	*9,520.87*
USR Z Mob / Demob Crew	75.00	DAY	526,561	714,065	714,065
			2,579.50	*3,498.04*	*3,498.04*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	15.00	EA	38,693	52,471	52,471
01 13 01 02 Demobilization	**1.00**	**LS**	**319,525**	**433,305**	**433,305**
			7,020.82	*9,520.87*	*9,520.87*
USR Z Mob / Demob Crew	40.00	DAY	280,833	380,835	380,835
			2,579.50	*3,498.04*	*3,498.04*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	15.00	EA	38,693	52,471	52,471
			56,717,720.98	*76,914,384.15*	*76,914,384.15*
01 13 02 PS-1 Pump Station	**1.00**	**EA**	**56,717,721**	**76,914,384**	**76,914,384**
01 13 02 01 Sheetpile Dewatering	**1.00**	**LS**	**4,967,684**	**6,736,631**	**6,736,631**
			27.27	*36.98*	*36.98*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	89,964.00	SF	2,452,958	3,326,434	3,326,434
			660.56	*895.78*	*895.78*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	2,640.00	DAY	1,743,885	2,364,867	2,364,867
			182.94	*248.08*	*248.08*
USR Z Dewatering Operation and Maintenance [2 laborers]	330.00	DAY	60,369	81,866	81,866
			269.12	*364.95*	*364.95*
USR Z Dewatering Pump Operation [Fuel Costs]	2,640.00	DAY	710,472	963,464	963,464

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			6.03	*8.18*	*8.18*
01 13 02 02 Pump Station Excavation	**51,742.00**	**CY**	**312,078**	**423,206**	**423,206**
			3.16	*4.28*	*4.28*
USR Z Pump Station Excavation [4-cy hydraul. excavators]	51,742.00	CY	163,284	221,428	221,428
			2.50	*3.39*	*3.39*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	59,503.00	LCY	148,794	201,778	201,778
			793.41	*1,075.94*	*1,075.94*
01 13 02 03 Concrete	**12,178.00**	**CY**	**9,662,163**	**13,102,772**	**13,102,772**
			322.50	*437.34*	*437.34*
01 13 02 03 01 Foundation	**5,523.00**	**CY**	**1,781,157**	**2,415,410**	**2,415,410**
			5.80	*7.86*	*7.86*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	11,046.00	SFC	64,016	86,812	86,812
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	6,075.00	CY	1,640,313	2,224,413	2,224,413
			12.65	*17.15*	*17.15*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	6,075.00	CY	76,828	104,185	104,185
			2,260.32	*3,065.20*	*3,065.20*
01 13 02 03 02 Piers	**912.00**	**CY**	**2,061,414**	**2,795,465**	**2,795,465**
			2,260.32	*3,065.20*	*3,065.20*
RSM 033053401440 Structural concrete, in place, column (4000 psi), round, up to 3% reinforcing by area, 24" diameter, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	912.00	CY	2,061,414	2,795,465	2,795,465
			516.87	*700.92*	*700.92*
01 13 02 03 03 Abutment Walls	**1,639.00**	**CY**	**847,149**	**1,148,811**	**1,148,811**
			5.78	*7.84*	*7.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	49,170.00	SFC	284,315	385,557	385,557
			270.01	*366.16*	*366.16*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,803.00	CY	486,829	660,184	660,184
			42.16	*57.17*	*57.17*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	1,803.00	CY	76,006	103,070	103,070
			907.63	*1,230.82*	*1,230.82*
01 13 02 03 04 Elevated Beam	**47.00**	**CY**	**42,658**	**57,849**	**57,849**
			820.36	*1,112.48*	*1,112.48*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	52.00	CY	42,658	57,849	57,849
			467.26	*633.64*	*633.64*
01 13 02 03 05 Bridge and Control Building Slab	**1,284.00**	**CY**	**599,956**	**813,595**	**813,595**
			7.97	*10.80*	*10.80*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	22,470.00	SF	179,019	242,766	242,766
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,412.00	CY	381,255	517,016	517,016
			28.10	*38.11*	*38.11*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	1,412.00	CY	39,682	53,812	53,812
			500.08	*678.16*	*678.16*
01 13 02 03 06 Wing Walls	**148.00**	**CY**	**74,012**	**100,367**	**100,367**
			5.78	*7.84*	*7.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	4,000.00	SFC	23,129	31,365	31,365
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	163.00	CY	44,012	59,684	59,684

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			42.16	*57.17*	*57.17*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	163.00	CY	6,871	9,318	9,318
			410.39	*556.52*	*556.52*
01 13 02 03 07 Control Building	**2,626.00**	**CY**	**1,077,679**	**1,461,431**	**1,461,431**
			5.78	*7.84*	*7.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	30,409.00	SFC	175,833	238,446	238,446
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,889.00	CY	780,060	1,057,832	1,057,832
			42.16	*57.17*	*57.17*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	2,889.00	CY	121,786	165,153	165,153
			3,290.00	*4,461.54*	*4,461.54*
01 13 02 03 08 Reinforcing Steel	**966.00**	**TON**	**3,178,138**	**4,309,844**	**4,309,844**
			3,290.00	*4,461.54*	*4,461.54*
RSM 032111600500 Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	966.00	TON	3,178,138	4,309,844	4,309,844
			2,017.42	*2,735.80*	*2,735.80*
01 13 02 04 Discharge Piping	**1,600.00**	**LF**	**3,227,871**	**4,377,286**	**4,377,286**
			2,244.23	*3,043.38*	*3,043.38*
HNC 331113401270 Pipe, black steel, plain end, welded, 7/8" wall thickness, 96" diameter, excludes excavation or backfill	1,224.00	LF	2,746,941	3,725,101	3,725,101
			30,058.13	*40,761.55*	*40,761.55*
RSM 331113103310 Water supply distribution piping, elbow 45 degree prestressed concrete cylinder pipe (PCCP), 150 PSI, 96" diameter	16.00	EA	480,930	652,185	652,185
			9,268,207.47	*12,568,531.63*	*12,568,531.63*
01 13 02 05 Pumps	**4.00**	**EA**	**37,072,830**	**50,274,127**	**50,274,127**
			9,210,458.00	*12,490,218.09*	*12,490,218.09*
USR Z Pump, 375 cfs [Material and Installation]	4.00	EA	36,841,832	49,960,872	49,960,872
			462.00	*626.51*	*626.51*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
USR Z Pump Startup and Testing Crew	500.00	HR	230,998	313,254	313,254
			141.55	*191.95*	*191.95*
01 13 02 06 Riprap	**3,294.00**	**CY**	**466,257**	**632,287**	**632,287**
			3.30	*4.48*	*4.48*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	3,597.00	SY	11,878	16,108	16,108
			79.97	*108.44*	*108.44*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	5,682.00	TON	454,379	616,179	616,179
			16,324.52	*22,137.53*	*22,137.53*
01 13 02 07 Boat Barrier	**1.00**	**EA**	**16,325**	**22,138**	**22,138**
			30.30	*41.09*	*41.09*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	120.00	VLF	3,636	4,931	4,931
			74.64	*101.21*	*101.21*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	170.00	LF	12,688	17,207	17,207
			992,514.06	*1,345,939.27*	*1,345,939.27*
01 13 02 08 Station and Building Equipment	**1.00**	**EA**	**992,514**	**1,345,939**	**1,345,939**
			12.84	*17.41*	*17.41*
RSM 055313702500 Floor grating, steel, expanded mesh, 3.14# per S.F., field fabricated from panels	9,180.00	SF	117,877	159,852	159,852
			3,780.51	*5,126.71*	*5,126.71*
RSM 083613200320 Doors, residential, garage, overhead, sectional, fiberglass, deluxe, 16' x 7', incl. hardware, excl. frame	1.00	EA	3,781	5,127	5,127
			1,971.04	*2,672.91*	*2,672.91*
RSM 081116100030 Doors & frames, aluminum, entrance, narrow stile, clear finish, 3'-6" x 7'-0" opening, incl. standard hardware, excl. glass	4.00	EA	7,884	10,692	10,692
			1,348.27	*1,828.37*	*1,828.37*
RSM 089119203390 Wall louvers, galvanized steel, fixed blades, commercial grade, 60" x 60"	8.00	EA	10,786	14,627	14,627
			140,780.46	*190,911.10*	*190,911.10*
RSM 412213130475 Overhead bridge crane, under hung hoist, electric operating, 2 girder, 25 ton, 40' span	2.00	EA	281,561	381,822	381,822
			4.17	*5.65*	*5.65*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 337139131440 Overhead line conductors & devices, underbuilt circuits, per wire, 210 to 636 kcmil	2,500.00	LF	10,414	14,123	14,123
			15,281.87	*20,723.60*	*20,723.60*
RSM 333613130220 Utility septic tank and effluent wet well, septic tanks precast concrete, 4 piece, 5,000 gallon, excludes excavation or piping	1.00	EA	15,282	20,724	20,724
			88,723.84	*120,317.59*	*120,317.59*
RSM 332113100500 Public water supply wells, wells domestic water, gravel pack well, complete, 40' deep, 24" diameter casing x 18" diameter screen, includes gravel & casing	1.00	EA	88,724	120,318	120,318
			37,257.83	*50,525.00*	*50,525.00*
RSM 231323260300 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 2,000 gallon, incl. pad & pump	1.00	EA	37,258	50,525	50,525
			334.54	*453.67*	*453.67*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	49.40	CY	16,526	22,411	22,411
			39.23	*53.20*	*53.20*
RSM 055313700432 Floor grating, steel, painted, 1-1/2" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 4" O.C., up to 300 S.F., field fabricated from panels	548.00	SF	21,499	29,155	29,155
			113.35	*153.71*	*153.71*
RSM 055133130100 Ladder, shop fabricated, steel, 20" W, bolted to concrete, excl cage	342.00	VLF	38,765	52,568	52,568
			1,327.92	*1,800.78*	*1,800.78*
HNC 321713132010 Parking barriers, bollard, concrete filled steel pipe, 8' long, 8" diameter	1.00	EA	1,328	1,801	1,801
			2,031.07	*2,754.32*	*2,754.32*
RSM 347113171500 Security vehicle barriers, concrete barrier, jersey, 10' L x 2' by 6" W x 32" H, 10 or more same site	20.00	EA	40,621	55,086	55,086
			80.36	*108.97*	*108.97*
RSM 323113200940 Fence, chain link industrial, aluminized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	2,280.00	LF	183,215	248,456	248,456
			1.85	*2.51*	*2.51*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	3,700.00	LF	6,836	9,270	9,270
			98.84	*134.03*	*134.03*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	600.00	LF	59,301	80,418	80,418

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			292.15	*396.18*	*396.18*
HNC 344319100500 Junction boxes, size 1, 4 hubs, 4" x 2"	1.00	EA	292	396	396
			123.87	*167.98*	*167.98*
RSM 087913100400 Metal casework, key cabinets, wall mounted, 30 key capacity	1.00	EA	124	168	168
			840.24	*1,139.44*	*1,139.44*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,680	2,279	2,279
			517.87	*702.28*	*702.28*
RSM 233416107220 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 2750 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	518	702	702
			2,399.88	*3,254.45*	*3,254.45*
RSM 233416107160 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 1450 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	2,400	3,254	3,254
			45,841.43	*62,165.15*	*62,165.15*
RSM 263213132500 Generator set, diesel, 3 phase 4 wire, 277/480 V, 150 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	45,841	62,165	62,165
01 15 15 - Floodway Control/Diversion Structure	**1.00**	**LS**	**8,288,530**	**11,240,000**	**11,240,000**
			823,119.44	*1,116,224.77*	*1,116,224.77*
01 15 01 Demo Existing S-84 Spillway	**1.00**	**EA**	**823,119**	**1,116,225**	**1,116,225**
			343.59	*465.94*	*465.94*
01 15 01 01 Concrete Demolition	**1,736.00**	**CY**	**596,475**	**808,875**	**808,875**
			189.33	*256.74*	*256.74*
RSM 030505100070 Selective concrete demolition, reinforcing more than 2% cross-sectional area, break up into small pieces, excludes shoring, bracing, saw or torch cutting, loading, hauling, dumping	1,736.00	CY	328,670	445,707	445,707
			16.63	*22.55*	*22.55*
RSM 312323201084 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 12 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	2,604.00	LCY	43,305	58,726	58,726
			86.21	*116.91*	*116.91*
NLU 024119200100 Selective demolition, dump charges, typical urban city, building construction materials, includes tipping fees only	2,604.00	TON	224,500	304,442	304,442
			79,268.00	*107,494.61*	*107,494.61*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
01 15 01 02 Steel Demolition	**1.00**	**EA**	**79,268**	**107,495**	**107,495**
			7.46	*10.12*	*10.12*
RSM 024113960500 Selective demolition, modular playground equipment, guardrail pipe	540.00	LF	4,029	5,464	5,464
			146.41	*198.54*	*198.54*
RSM 130505850120 Slide, tubular, fiberglass, aluminum handrails & ladder, curved, 10', selective demolition	6.00	EA	878	1,191	1,191
			12,393.44	*16,806.63*	*16,806.63*
USR Z Steel Gate Demolition	6.00	EA	74,361	100,840	100,840
			27.29	*37.00*	*37.00*
01 15 01 03 Riprap Removal	**1,778.00**	**CY**	**48,513**	**65,788**	**65,788**
			7.32	*9.93*	*9.93*
USR Z Excavate Riprap	1,778.00	BCY	13,024	17,661	17,661
			16.63	*22.55*	*22.55*
RSM 312323201084 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 12 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	2,134.00	LCY	35,489	48,127	48,127
			60.91	*82.60*	*82.60*
01 15 01 04 Control Building	**288.00**	**SF**	**17,542**	**23,788**	**23,788**
			4.89	*6.63*	*6.63*
HNC 024116130610 Building demolition, small buildings or single buildings, concrete, reinforced, includes 20 mile haul, excludes foundation demolition, dump fees	3,456.00	CF	16,904	22,923	22,923
			13.73	*18.61*	*18.61*
RSM 080505100200 Door demolition, exterior door, single, 3' x 7' high, 1-3/4" thick, remove	2.00	EA	27	37	37
			73.20	*99.27*	*99.27*
RSM 110505104250 Hood and ventilation equipment, exhaust hood, selective demolition, exclude fire protection	6.00	EA	439	596	596
			85.64	*116.13*	*116.13*
RSM 230505102120 Fans, up thru 1 H.P. or 2000 CFM, selective demolition	2.00	EA	171	232	232
			47,863.01	*64,906.60*	*64,906.60*
01 15 01 05 Miscellaneous Demo	**1.00**	**EA**	**47,863**	**64,907**	**64,907**
			478.63	*649.07*	*649.07*
USR Z Miscellaneous Demo Crew	100.00	HR	47,863	64,907	64,907

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			206.53	*280.08*	*280.08*
01 15 01 06 Timber Pile Demolition	**162.00**	**EA**	**33,458**	**45,373**	**45,373**
			13.77	*18.67*	*18.67*
HTW 024113742100 Remove Wood Piles	2,430.00	VLF	33,458	45,373	45,373
			920,809.41	*1,248,701.24*	*1,248,701.24*
01 15 02 Demo Existing S-84X Spillway	**1.00**	**EA**	**920,809**	**1,248,701**	**1,248,701**
			343.60	*465.95*	*465.95*
01 15 02 01 Concrete Demolition	**2,037.00**	**CY**	**699,905**	**949,135**	**949,135**
			189.33	*256.74*	*256.74*
RSM 030505100070 Selective concrete demolition, reinforcing more than 2% cross-sectional area, break up into small pieces, excludes shoring, bracing, saw or torch cutting, loading, hauling, dumping	2,037.00	CY	385,658	522,987	522,987
			16.63	*22.55*	*22.55*
RSM 312323201084 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 12 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	3,056.00	LCY	50,822	68,920	68,920
			86.21	*116.91*	*116.91*
NLU 024119200100 Selective demolition, dump charges, typical urban city, building construction materials, includes tipping fees only	3,055.50	TON	263,425	357,228	357,228
			95,614.05	*129,661.35*	*129,661.35*
01 15 02 02 Steel Demolition	**1.00**	**EA**	**95,614**	**129,661**	**129,661**
			7.46	*10.12*	*10.12*
RSM 024113960500 Selective demolition, modular playground equipment, guardrail pipe	480.00	LF	3,581	4,856	4,856
			146.41	*198.54*	*198.54*
RSM 130505850120 Slide, tubular, fiberglass, aluminum handrails & ladder, curved, 10', selective demolition	6.00	EA	878	1,191	1,191
			12,393.44	*16,806.63*	*16,806.63*
USR Z Steel Gate Demolition	3.00	EA	37,180	50,420	50,420
			4.59	*6.22*	*6.22*
USR Z Sheetpile Demolition	11,760.00	SF	53,974	73,194	73,194
			27.29	*37.00*	*37.00*
01 15 02 03 Riprap Removal	**1,778.00**	**CY**	**48,513**	**65,788**	**65,788**
			7.32	*9.93*	*9.93*
USR Z Excavate Riprap	1,778.00	BCY	13,024	17,661	17,661

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			16.63	*22.55*	*22.55*
RSM 312323201084 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 12 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	2,134.00	LCY	35,489	48,127	48,127
			47,863.01	*64,906.60*	*64,906.60*
01 15 02 04 Miscellaneous Demo	**1.00**	**EA**	**47,863**	**64,907**	**64,907**
			478.63	*649.07*	*649.07*
USR Z Miscellaneous Demo Crew	100.00	HR	47,863	64,907	64,907
			413.07	*560.16*	*560.16*
01 15 02 05 Concrete Pile Demolition	**70.00**	**EA**	**28,915**	**39,211**	**39,211**
			13.77	*18.67*	*18.67*
HTW 024113741250 Remove Concrete Piles	2,100.00	VLF	28,915	39,211	39,211
			6,544,601.02	*8,875,073.76*	*8,875,073.76*
01 15 03 Spillway S-84+	**1.00**	**EA**	**6,544,601**	**8,875,074**	**8,875,074**
01 15 03 01 Sheetpile Dewatering	**1.00**	**LS**	**2,288,229**	**3,103,046**	**3,103,046**
			27.27	*36.98*	*36.98*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	42,000.00	SF	1,145,172	1,552,957	1,552,957
			660.56	*895.78*	*895.78*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	1,200.00	DAY	792,675	1,074,939	1,074,939
			182.94	*248.08*	*248.08*
USR Z Dewatering Operation and Maintenance [2 laborers]	150.00	DAY	27,440	37,212	37,212
			269.12	*364.95*	*364.95*
USR Z Dewatering Pump Operation [Fuel Costs]	1,200.00	DAY	322,942	437,938	437,938
			858.20	*1,163.80*	*1,163.80*
01 15 03 02 Concrete	**1,736.00**	**CY**	**1,489,840**	**2,020,358**	**2,020,358**
			322.37	*437.16*	*437.16*
01 15 03 02 01 Foundation	**593.00**	**CY**	**191,166**	**259,238**	**259,238**
			5.80	*7.86*	*7.86*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	1,186.00	SFC	6,873	9,321	9,321
			270.01	*366.16*	*366.16*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	652.00	CY	176,047	238,735	238,735
			12.65	*17.15*	*17.15*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	652.00	CY	8,246	11,182	11,182
			2,260.32	*3,065.20*	*3,065.20*
01 15 03 02 02 Towers	**43.00**	**CY**	**97,194**	**131,804**	**131,804**
			2,260.32	*3,065.20*	*3,065.20*
RSM 033053401440 Structural concrete, in place, column (4000 psi), round, up to 3% reinforcing by area, 24" diameter, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	43.00	CY	97,194	131,804	131,804
			2,260.32	*3,065.20*	*3,065.20*
01 15 03 02 03 Piers	**156.00**	**CY**	**352,610**	**478,172**	**478,172**
			2,260.32	*3,065.20*	*3,065.20*
RSM 033053401440 Structural concrete, in place, column (4000 psi), round, up to 3% reinforcing by area, 24" diameter, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	156.00	CY	352,610	478,172	478,172
			488.23	*662.09*	*662.09*
01 15 03 02 04 Abutment Walls	**426.00**	**CY**	**207,987**	**282,049**	**282,049**
			5.78	*7.84*	*7.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	10,650.00	SFC	61,581	83,510	83,510
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	469.00	CY	126,635	171,728	171,728
			42.16	*57.17*	*57.17*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	469.00	CY	19,771	26,811	26,811
			922.90	*1,251.54*	*1,251.54*
01 15 03 02 05 Elevated Beam	**8.00**	**CY**	**7,383**	**10,012**	**10,012**
			820.36	*1,112.48*	*1,112.48*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	9.00	CY	7,383	10,012	10,012
			470.66	*638.26*	*638.26*
01 15 03 02 06 Service Bridge	**36.00**	**CY**	**16,944**	**22,977**	**22,977**
			7.97	*10.80*	*10.80*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	630.00	SF	5,019	6,807	6,807
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	40.00	CY	10,800	14,646	14,646
			28.10	*38.11*	*38.11*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	40.00	CY	1,124	1,524	1,524
			322.72	*437.63*	*437.63*
01 15 03 02 07 Ogee Spillway	**417.00**	**CY**	**134,573**	**182,493**	**182,493**
			5.80	*7.86*	*7.86*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	834.00	SFC	4,833	6,555	6,555
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	459.00	CY	123,935	168,067	168,067
			12.65	*17.15*	*17.15*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	459.00	CY	5,805	7,872	7,872
			468.04	*634.70*	*634.70*
01 15 03 02 08 Elevated Approach Apron	**49.00**	**CY**	**22,934**	**31,100**	**31,100**
			7.97	*10.80*	*10.80*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	858.00	SF	6,836	9,270	9,270
			270.01	*366.16*	*366.16*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	54.00	CY	14,581	19,773	19,773
			28.10	*38.11*	*38.11*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	54.00	CY	1,518	2,058	2,058
			493.11	*668.70*	*668.70*
01 15 03 02 09 Baffles	**10.20**	**CY**	**5,030**	**6,821**	**6,821**
			5.78	*7.84*	*7.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	276.00	SFC	1,596	2,164	2,164
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	11.00	CY	2,970	4,028	4,028
			42.16	*57.17*	*57.17*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	11.00	CY	464	629	629
			3,290.00	*4,461.54*	*4,461.54*
01 15 03 02 10 Reinforcing Steel	**138.00**	**TON**	**454,020**	**615,692**	**615,692**
			3,290.00	*4,461.54*	*4,461.54*
RSM 032111600500 Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	138.00	TON	454,020	615,692	615,692
			177,536.96	*240,756.25*	*240,756.25*
01 15 03 03 Wingwalls and Cutoff	**4.00**	**EA**	**710,148**	**963,025**	**963,025**
01 15 03 03 01 Sheetpiles	**1.00**	**LS**	**247,336**	**335,410**	**335,410**
			48.50	*65.77*	*65.77*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	5,100.00	SF	247,336	335,410	335,410
			888.72	*1,205.18*	*1,205.18*
01 15 03 03 02 Pile Cap Concrete	**12.00**	**CY**	**10,665**	**14,462**	**14,462**
			820.36	*1,112.48*	*1,112.48*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	13.00	CY	10,665	14,462	14,462
			4,709.87	*6,387.01*	*6,387.01*
01 15 03 03 03 Anchor Rods	**96.00**	**EA**	**452,147**	**613,153**	**613,153**
			78.50	*106.45*	*106.45*
RSM 315216102750 Cofferdams, tie-back method, tie-backs only, based on tie-backs total length, maximum	5,760.00	LF	452,147	613,153	613,153
			139.80	*189.58*	*189.58*
01 15 03 04 Riprap	**1,778.00**	**CY**	**248,564**	**337,076**	**337,076**
			3.30	*4.48*	*4.48*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	1,000.00	SY	3,302	4,478	4,478
			79.97	*108.44*	*108.44*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	3,067.00	TON	245,262	332,598	332,598
			799,045.70	*1,083,578.59*	*1,083,578.59*
01 15 03 05 Steel Gates	**2.00**	**EA**	**1,598,091**	**2,167,157**	**2,167,157**
			799,045.70	*1,083,578.59*	*1,083,578.59*
USR Z 22' x 12' Steel Gate, Material and Installation	2.00	EA	1,598,091	2,167,157	2,167,157
			74,342.29	*100,814.90*	*100,814.90*
01 15 03 06 Miscellaneous Metals	**1.00**	**EA**	**74,342**	**100,815**	**100,815**
			120.75	*163.75*	*163.75*
RSM 055213500210 Railing, pipe, aluminum, clear finish, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	540.00	LF	65,205	88,424	88,424
			82.32	*111.63*	*111.63*
RSM 055133130400 Ladder, shop fabricated, aluminum, 20" W, bolted to concrete, excl cage	111.00	VLF	9,137	12,391	12,391
			34,141.78	*46,299.36*	*46,299.36*
01 15 03 07 Boat Barrier	**1.00**	**EA**	**34,142**	**46,299**	**46,299**
			30.30	*41.09*	*41.09*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	240.00	VLF	7,272	9,862	9,862
			74.64	*101.21*	*101.21*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	360.00	LF	26,869	36,437	36,437

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			36.32	*49.26*	*49.26*
01 15 03 08 Site Fencing	**1,000.00**	**LF**	**36,322**	**49,256**	**49,256**
			36.32	*49.26*	*49.26*
RSM 323113200500 Fence, chain link industrial, galvanized steel, 6 ga. wire, 2" posts @ 10' OC, 6' high, includes excavation, & concrete	1,000.00	LF	36,322	49,256	49,256
			54,128.89	*73,403.69*	*73,403.69*
01 15 03 09 Control Building	**1.00**	**EA**	**54,129**	**73,404**	**73,404**
			3,780.51	*5,126.71*	*5,126.71*
RSM 083613200320 Doors, residential, garage, overhead, sectional, fiberglass, deluxe, 16' x 7', incl. hardware, excl. frame	2.00	EA	7,561	10,253	10,253
			1,971.04	*2,672.91*	*2,672.91*
RSM 081116100030 Doors & frames, aluminum, entrance, narrow stile, clear finish, 3'-6" x 7'-0" opening, incl. standard hardware, excl. glass	2.00	EA	3,942	5,346	5,346
			292.15	*396.18*	*396.18*
HNC 344319100500 Junction boxes, size 1, 4 hubs, 4" x 2"	1.00	EA	292	396	396
			123.87	*167.98*	*167.98*
RSM 087913100400 Metal casework, key cabinets, wall mounted, 30 key capacity	1.00	EA	124	168	168
			840.24	*1,139.44*	*1,139.44*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,680	2,279	2,279
			517.87	*702.28*	*702.28*
RSM 233416107220 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 2750 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	518	702	702
			2,399.88	*3,254.45*	*3,254.45*
RSM 233416107160 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 1450 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	2,400	3,254	3,254
			6,511.83	*8,830.64*	*8,830.64*
RSM 233416107280 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 13,760 CFM, 12" galvanized curb, 35" sq. damper	1.00	EA	6,512	8,831	8,831
			28,480.43	*38,622.05*	*38,622.05*
RSM 231323260200 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 1,000 gallon, incl. pad & pump	1.00	EA	28,480	38,622	38,622
			58.08	*78.76*	*78.76*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 312323171100 Fill, gravel fill, compacted, under floor slabs, alternate pricing method, 6" deep	8.00	ECY	465	630	630
			4.56	*6.19*	*6.19*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	472.00	SY	2,155	2,922	2,922
			415.13	*562.95*	*562.95*
01 15 03 10 Control Building Concrete	**26.00**	**CY**	**10,793**	**14,637**	**14,637**
			5.78	*7.84*	*7.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	301.00	SFC	1,740	2,360	2,360
			270.01	*366.16*	*366.16*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	29.00	CY	7,830	10,619	10,619
			42.16	*57.17*	*57.17*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	29.00	CY	1,222	1,658	1,658
			96,307,570.95	*127,379,525.21*	*127,379,525.21*
CONTRACT 2 - Reservoir Inflow Pump Station Site	**1.00**	**EA**	**96,307,571**	**127,379,525**	**127,379,525**
02 09 09 - Channels and Canals	**1.00**	**LS**	**2,281,610**	**3,017,731**	**3,017,731**
			2,258,998.55	*2,987,824.94*	*2,987,824.94*
02 09 01 Inflow-Outflow (CNL-2)	**1.00**	**EA**	**2,258,999**	**2,987,825**	**2,987,825**
			4,320.75	*5,714.76*	*5,714.76*
02 09 01 01 Dewatering, Inflow Canal	**200.00**	**DAY**	**864,150**	**1,142,953**	**1,142,953**
			601.00	*794.91*	*794.91*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	1,000.00	DAY	601,003	794,906	794,906
			182.94	*241.96*	*241.96*
USR Z Dewatering Operation and Maintenance [2 laborers]	100.00	DAY	18,294	24,196	24,196
			244.85	*323.85*	*323.85*
USR Z Dewatering Pump Operation [Fuel Costs]	1,000.00	DAY	244,853	323,851	323,851
			7.09	*9.37*	*9.37*
02 09 01 02 Excavation	**54,327.00**	**CY**	**385,051**	**509,281**	**509,281**
			4.10	*5.42*	*5.42*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
02 09 01 02 01 Topsoil Excavation	**2,417.00**	**CY**	**9,911**	**13,109**	**13,109**
			1.22	*1.62*	*1.62*
NLU 312316503170 Excavation, bulk, bank measure, 9 cycles/hour, 35 C.Y., push loaded self propelled scraper	2,417.00	BCY	2,959	3,914	3,914
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	2,780.00	LCY	6,952	9,195	9,195
			4.10	*5.42*	*5.42*
02 09 01 02 02 Additional Soil Excavation	**4,226.00**	**CY**	**17,327**	**22,918**	**22,918**
			1.22	*1.62*	*1.62*
NLU 312316503170 Excavation, bulk, bank measure, 9 cycles/hour, 35 C.Y., push loaded self propelled scraper	4,226.00	BCY	5,174	6,844	6,844
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	4,860.00	LCY	12,153	16,074	16,074
			7.50	*9.92*	*9.92*
02 09 01 02 03 Inflow Canal Excavation	**47,684.00**	**CY**	**357,813**	**473,255**	**473,255**
			1.37	*1.81*	*1.81*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	47,684.00	CY	65,248	86,299	86,299
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	54,837.00	LCY	137,126	181,368	181,368
			2.83	*3.75*	*3.75*
USR Z Material Short Haul [1-mile approx.]	54,837.00	LCY	155,439	205,588	205,588
			6.49	*8.58*	*8.58*
02 09 01 03 6" Topsoil Layer Placement	**1,067.00**	**CY**	**6,925**	**9,159**	**9,159**
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,227.00	LCY	3,068	4,058	4,058
			3.14	*4.16*	*4.16*
USR Z Place Top Soil [Front End Loader, Compactor]	1,227.00	LCY	3,857	5,101	5,101
			9.46	*12.51*	*12.51*
02 09 01 04 Levee Embankment Fill	**5,732.00**	**CY**	**54,197**	**71,683**	**71,683**
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	6,592.00	LCY	16,484	21,802	21,802
			5.72	*7.57*	*7.57*
USR Z Fill and Compact Borrow Fill, Dam Embankment [Front End Loader, Compactor]	6,592.00	LCY	37,713	49,880	49,880

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			29.28	*38.73*	*38.73*
02 09 01 05 Bedding Stone	**1,582.00**	**CY**	**46,319**	**61,263**	**61,263**
			29.28	*38.73*	*38.73*
RSM 321123231511 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 3/4", 6" deep	1,582.00	ECY	46,319	61,263	61,263
			143.02	*189.16*	*189.16*
02 09 01 06 18" Type B Riprap	**6,166.00**	**CY**	**881,869**	**1,166,388**	**1,166,388**
			82.91	*109.66*	*109.66*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	10,636.00	TON	881,869	1,166,388	1,166,388
02 09 01 07 Berm Drains	**1.00**	**LS**	**4,782**	**6,325**	**6,325**
			33.37	*44.14*	*44.14*
RSM 331113350700 Water supply distribution piping, piping HDPE, butt fusion joints, 40' lengths, 15" diameter, SDR 21	122.00	LF	4,072	5,385	5,385
			355.15	*469.74*	*469.74*
RSM 334113402265 Public storm utility drainage piping, end sections, 15" diameter, 16 ga., excludes excavation and backfill	2.00	EA	710	939	939
			14,363.04	*18,997.02*	*18,997.02*
02 09 01 08 Sodding	**1.00**	**ACR**	**14,363**	**18,997**	**18,997**
			2.97	*3.93*	*3.93*
USR Z Sodding, Furnishing and Installation	4,840.00	SY	14,363	18,997	18,997
			4,476.49	*5,920.75*	*5,920.75*
02 09 01 09 Hydroseeding	**0.30**	**ACR**	**1,343**	**1,776**	**1,776**
			0.92	*1.22*	*1.22*
RSM 329219131000 Seeding, mechanical seeding hydro or air seeding for large areas, includes lime, fertilizer and seed	1,452.00	SY	1,343	1,776	1,776
			22,611.33	*29,906.48*	*29,906.48*
02 09 02 Perimeter Canal Outfall Strucutres (PCOS-1)	**1.00**	**EA**	**22,611**	**29,906**	**29,906**
			22,611.33	*29,906.48*	*29,906.48*
02 09 02 01 PCOS-1	**1.00**	**EA**	**22,611**	**29,906**	**29,906**
			18.64	*24.65*	*24.65*
02 09 02 01 01 Earthwork	**623.00**	**CY**	**11,613**	**15,360**	**15,360**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			5.94	*7.86*	*7.86*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	623.00	CY	3,701	4,895	4,895
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	716.00	LCY	1,790	2,368	2,368
			8.55	*11.31*	*11.31*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	716.00	LCY	6,122	8,097	8,097
			4,438.51	*5,870.52*	*5,870.52*
02 09 02 01 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**5,871**	**5,871**
			3,804.54	*5,032.01*	*5,032.01*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	5,032	5,032
			46.96	*62.11*	*62.11*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	839	839
			164.00	*216.91*	*216.91*
02 09 02 01 03 Piping	**40.00**	**LF**	**6,560**	**8,676**	**8,676**
			164.00	*216.91*	*216.91*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	8,676	8,676
			85,781,125.57	*113,456,906.23*	*113,456,906.23*
02 13 13 - Pumping Plants	**1.00**	**EA**	**85,781,126**	**113,456,906**	**113,456,906**
02 13 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**779,467**	**1,030,948**	**1,030,948**
02 13 01 01 Mobilization	**1.00**	**LS**	**459,942**	**608,334**	**608,334**
			7,020.82	*9,285.96*	*9,285.96*
USR Z Mob / Demob Crew	60.00	DAY	421,249	557,158	557,158
			2,579.50	*3,411.74*	*3,411.74*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	15.00	EA	38,693	51,176	51,176
02 13 01 02 Demobilization	**1.00**	**LS**	**319,525**	**422,615**	**422,615**
			7,020.82	*9,285.96*	*9,285.96*
USR Z Mob / Demob Crew	40.00	DAY	280,833	371,438	371,438
			2,579.50	*3,411.74*	*3,411.74*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	15.00	EA	38,693	51,176	51,176
			65,719,472.68	*86,922,711.73*	*86,922,711.73*
02 13 02 PS-2 Pump Station	**1.00**	**EA**	**65,719,473**	**86,922,712**	**86,922,712**
02 13 02 01 Sheetpile Dewatering	**1.00**	**LS**	**6,138,167**	**8,118,539**	**8,118,539**
			27.27	*36.06*	*36.06*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	89,964.00	SF	2,452,958	3,244,362	3,244,362
			660.56	*873.68*	*873.68*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	3,900.00	DAY	2,576,194	3,407,358	3,407,358
			182.94	*241.96*	*241.96*
USR Z Dewatering Operation and Maintenance [2 laborers]	325.00	DAY	59,454	78,636	78,636
			269.12	*355.94*	*355.94*
USR Z Dewatering Pump Operation [Fuel Costs]	3,900.00	DAY	1,049,560	1,388,183	1,388,183
			6.03	*7.98*	*7.98*
02 13 02 02 Pump Station Excavation	**51,742.00**	**CY**	**312,078**	**412,764**	**412,764**
			3.16	*4.17*	*4.17*
USR Z Pump Station Excavation [4-cy hydraul. excavators]	51,742.00	CY	163,284	215,965	215,965
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	59,503.00	LCY	148,794	196,800	196,800
			793.41	*1,049.39*	*1,049.39*
02 13 02 03 Concrete	**12,178.00**	**CY**	**9,662,163**	**12,779,491**	**12,779,491**
			322.50	*426.55*	*426.55*
02 13 02 03 01 Foundation	**5,523.00**	**CY**	**1,781,157**	**2,355,816**	**2,355,816**
			5.80	*7.67*	*7.67*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	11,046.00	SFC	64,016	84,670	84,670
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	6,075.00	CY	1,640,313	2,169,531	2,169,531
			12.65	*16.73*	*16.73*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	6,075.00	CY	76,828	101,615	101,615
			2,260.32	*2,989.58*	*2,989.58*
02 13 02 03 02 Piers	**912.00**	**CY**	**2,061,414**	**2,726,494**	**2,726,494**
			2,260.32	*2,989.58*	*2,989.58*
RSM 033053401440 Structural concrete, in place, column (4000 psi), round, up to 3% reinforcing by area, 24" diameter, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	912.00	CY	2,061,414	2,726,494	2,726,494
			516.87	*683.63*	*683.63*
02 13 02 03 03 Abutment Walls	**1,639.00**	**CY**	**847,149**	**1,120,467**	**1,120,467**
			5.78	*7.65*	*7.65*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	49,170.00	SFC	284,315	376,044	376,044
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,803.00	CY	486,829	643,895	643,895
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	1,803.00	CY	76,006	100,527	100,527
			907.63	*1,200.46*	*1,200.46*
02 13 02 03 04 Elevated Beam	**47.00**	**CY**	**42,658**	**56,421**	**56,421**
			820.36	*1,085.03*	*1,085.03*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	52.00	CY	42,658	56,421	56,421
			467.26	*618.01*	*618.01*
02 13 02 03 05 Bridge and Control Building Slab	**1,284.00**	**CY**	**599,956**	**793,521**	**793,521**
			7.97	*10.54*	*10.54*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	22,470.00	SF	179,019	236,777	236,777
			270.01	*357.12*	*357.12*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,412.00	CY	381,255	504,260	504,260
			28.10	*37.17*	*37.17*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	1,412.00	CY	39,682	52,485	52,485
			500.08	*661.42*	*661.42*
02 13 02 03 06 Wing Walls	**148.00**	**CY**	**74,012**	**97,891**	**97,891**
			5.78	*7.65*	*7.65*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	4,000.00	SFC	23,129	30,591	30,591
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	163.00	CY	44,012	58,211	58,211
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	163.00	CY	6,871	9,088	9,088
			410.39	*542.79*	*542.79*
02 13 02 03 07 Control Building	**2,626.00**	**CY**	**1,077,679**	**1,425,374**	**1,425,374**
			5.78	*7.65*	*7.65*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	30,409.00	SFC	175,833	232,563	232,563
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,889.00	CY	780,060	1,031,733	1,031,733
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	2,889.00	CY	121,786	161,078	161,078
			3,290.00	*4,351.46*	*4,351.46*
02 13 02 03 08 Reinforcing Steel	**966.00**	**TON**	**3,178,138**	**4,203,508**	**4,203,508**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3,290.00	*4,351.46*	*4,351.46*
RSM 032111600500 Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	966.00	TON	3,178,138	4,203,508	4,203,508
			2,544.81	*3,365.85*	*3,365.85*
02 13 02 04 Discharge Piping	**1,600.00**	**LF**	**4,071,702**	**5,385,366**	**5,385,366**
			2,244.23	*2,968.29*	*2,968.29*
HNC 331113401270 Pipe, black steel, plain end, welded, 7/8" wall thickness, 96" diameter, excludes excavation or backfill	1,600.00	LF	3,590,772	4,749,272	4,749,272
			30,058.13	*39,755.86*	*39,755.86*
RSM 331113103310 Water supply distribution piping, elbow 45 degree prestressed concrete cylinder pipe (PCCP), 150 PSI, 96" diameter	16.00	EA	480,930	636,094	636,094
			9,268,207.47	*12,258,432.60*	*12,258,432.60*
02 13 02 05 Pumps	**4.00**	**EA**	**37,072,830**	**49,033,730**	**49,033,730**
			9,210,458.00	*12,182,051.27*	*12,182,051.27*
USR Z Pump, 375 cfs [Material and Installation]	4.00	EA	36,841,832	48,728,205	48,728,205
			462.00	*611.05*	*611.05*
USR Z Pump Startup and Testing Crew	500.00	HR	230,998	305,525	305,525
			141.55	*187.22*	*187.22*
02 13 02 06 Riprap	**3,294.00**	**CY**	**466,257**	**616,686**	**616,686**
			3.30	*4.37*	*4.37*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	3,597.00	SY	11,878	15,710	15,710
			79.97	*105.77*	*105.77*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	5,682.00	TON	454,379	600,976	600,976
			16,324.52	*21,591.34*	*21,591.34*
02 13 02 07 Boat Barrier	**1.00**	**EA**	**16,325**	**21,591**	**21,591**
			30.30	*40.08*	*40.08*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	120.00	VLF	3,636	4,809	4,809
			74.64	*98.72*	*98.72*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	170.00	LF	12,688	16,782	16,782
			979,951.45	*1,296,115.66*	*1,296,115.66*
02 13 02 08 Station and Building Equipment	**1.00**	**EA**	**979,951**	**1,296,116**	**1,296,116**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			12.56	*16.61*	*16.61*
RSM 055313702500 Floor grating, steel, expanded mesh, 3.14# per S.F., field fabricated from panels	9,180.00	SF	115,265	152,454	152,454
			3,765.63	*4,980.55*	*4,980.55*
RSM 083613200320 Doors, residential, garage, overhead, sectional, fiberglass, deluxe, 16' x 7', incl. hardware, excl. frame	1.00	EA	3,766	4,981	4,981
			1,908.40	*2,524.11*	*2,524.11*
RSM 081116100030 Doors & frames, aluminum, entrance, narrow stile, clear finish, 3'-6" x 7'-0" opening, incl. standard hardware, excl. glass	4.00	EA	7,634	10,096	10,096
			1,342.96	*1,776.24*	*1,776.24*
RSM 089119203390 Wall louvers, galvanized steel, fixed blades, commercial grade, 60" x 60"	8.00	EA	10,744	14,210	14,210
			139,507.68	*184,517.40*	*184,517.40*
RSM 412213130475 Overhead bridge crane, under hung hoist, electric operating, 2 girder, 25 ton, 40' span	2.00	EA	279,015	369,035	369,035
			4.09	*5.41*	*5.41*
RSM 337139131440 Overhead line conductors & devices, underbuilt circuits, per wire, 210 to 636 kcmil	2,500.00	LF	10,231	13,532	13,532
			15,155.15	*20,044.70*	*20,044.70*
RSM 333613130220 Utility septic tank and effluent wet well, septic tanks precast concrete, 4 piece, 5,000 gallon, excludes excavation or piping	1.00	EA	15,155	20,045	20,045
			86,991.55	*115,057.86*	*115,057.86*
RSM 332113100500 Public water supply wells, wells domestic water, gravel pack well, complete, 40' deep, 24" diameter casing x 18" diameter screen, includes gravel & casing	1.00	EA	86,992	115,058	115,058
			37,091.10	*49,057.90*	*49,057.90*
RSM 231323260300 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 2,000 gallon, incl. pad & pump	1.00	EA	37,091	49,058	49,058
			328.38	*434.33*	*434.33*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	49.40	CY	16,222	21,456	21,456
			38.05	*50.32*	*50.32*
RSM 055313700432 Floor grating, steel, painted, 1-1/2" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 4" O.C., up to 300 S.F., field fabricated from panels	548.00	SF	20,850	27,577	27,577
			110.33	*145.93*	*145.93*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 055133130100 Ladder, shop fabricated, steel, 20" W, bolted to concrete, excl cage	342.00	VLF	37,734	49,909	49,909
HNC 321713132010 Parking barriers, bollard, concrete filled steel pipe, 8' long, 8" diameter	1.00	EA	*1,311.23* 1,311	*1,734.28* 1,734	*1,734.28* 1,734
RSM 347113171500 Security vehicle barriers, concrete barrier, jersey, 10' L x 2' by 6" W x 32" H, 10 or more same site	20.00	EA	*2,019.78* 40,396	*2,671.42* 53,428	*2,671.42* 53,428
RSM 323113200940 Fence, chain link industrial, aluminized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	2,280.00	LF	*79.62* 181,525	*105.30* 240,090	*105.30* 240,090
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	3,700.00	LF	*1.73* 6,401	*2.29* 8,466	*2.29* 8,466
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	600.00	LF	*98.14* 58,884	*129.80* 77,882	*129.80* 77,882
HNC 344319100500 Junction boxes, size 1, 4 hubs, 4" x 2"	4.00	EA	*274.55* 1,098	*363.13* 1,453	*363.13* 1,453
RSM 087913100400 Metal casework, key cabinets, wall mounted, 30 key capacity	1.00	EA	*122.98* 123	*162.66* 163	*162.66* 163
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	*822.53* 1,645	*1,087.91* 2,176	*1,087.91* 2,176
RSM 233416107220 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 2750 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	*492.40* 492	*651.27* 651	*651.27* 651
RSM 233416107160 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 1450 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	*2,369.55* 2,370	*3,134.05* 3,134	*3,134.05* 3,134
RSM 263213132500 Generator set, diesel, 3 phase 4 wire, 277/480 V, 150 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	*45,007.88* 45,008	*59,528.89* 59,529	*59,528.89* 59,529
02 13 02 09 Microwave Tower	**1.00**	**EA**	*7,000,000.00* **7,000,000**	*9,258,427.64* **9,258,428**	*9,258,427.64* **9,258,428**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3,000,000.00	*3,967,897.56*	*3,967,897.56*
USR Z Mircowave Tower, 300' Tall	1.00	EA	3,000,000	3,967,898	3,967,898
			4,000,000.00	*5,290,530.08*	*5,290,530.08*
USR Z Mircowave Tower Civil, Control Building, and Electrical	1.00	EA	4,000,000	5,290,530	5,290,530
			19,282,185.94	*25,503,246.17*	*25,503,246.17*
02 13 03 SPS-1 Seepage Pump Station	**1.00**	**EA**	**19,282,186**	**25,503,246**	**25,503,246**
02 13 03 01 Sheetpile Dewatering	**1.00**	**LS**	**2,680,694**	**3,545,574**	**3,545,574**
			27.37	*36.20*	*36.20*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	33,864.00	SF	926,942	1,226,004	1,226,004
			660.56	*873.68*	*873.68*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	1,850.00	DAY	1,222,041	1,616,311	1,616,311
			182.94	*241.96*	*241.96*
USR Z Dewatering Operation and Maintenance [2 laborers]	185.00	DAY	33,843	44,762	44,762
			269.12	*355.94*	*355.94*
USR Z Dewatering Pump Operation [Fuel Costs]	1,850.00	DAY	497,868	658,497	658,497
			6.03	*7.98*	*7.98*
02 13 03 02 Pump Station Excavation	**16,987.00**	**CY**	**102,456**	**135,512**	**135,512**
			3.16	*4.17*	*4.17*
USR Z Pump Station Excavation [4-cy hydraul. excavators]	16,987.00	CY	53,606	70,902	70,902
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	19,535.00	LCY	48,849	64,610	64,610
			994.71	*1,315.63*	*1,315.63*
02 13 03 03 Concrete	**1,563.00**	**CY**	**1,554,729**	**2,056,335**	**2,056,335**
			328.17	*434.05*	*434.05*
02 13 03 03 01 Foundation	**933.00**	**CY**	**306,183**	**404,968**	**404,968**
			5.82	*7.69*	*7.69*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	2,332.00	SFC	13,564	17,940	17,940
			272.56	*360.49*	*360.49*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,026.00	CY	279,644	369,866	369,866

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			12.65	*16.73*	*16.73*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	1,026.00	CY	12,975	17,162	17,162
			2,275.79	*3,010.04*	*3,010.04*
02 13 03 03 02 Piers	**96.00**	**CY**	**218,476**	**288,964**	**288,964**
			2,275.79	*3,010.04*	*3,010.04*
RSM 033053401440 Structural concrete, in place, column (4000 psi), round, up to 3% reinforcing by area, 24" diameter, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	96.00	CY	218,476	288,964	288,964
			461.84	*610.84*	*610.84*
02 13 03 03 03 Abutment Walls	**342.00**	**CY**	**157,948**	**208,907**	**208,907**
			5.79	*7.66*	*7.66*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	6,840.00	SFC	39,616	52,397	52,397
			272.56	*360.49*	*360.49*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	376.00	CY	102,482	135,546	135,546
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	376.00	CY	15,850	20,964	20,964
			916.70	*1,212.46*	*1,212.46*
02 13 03 03 04 Elevated Beam	**15.30**	**CY**	**14,026**	**18,551**	**18,551**
			825.03	*1,091.21*	*1,091.21*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	17.00	CY	14,026	18,551	18,551
			475.05	*628.31*	*628.31*
02 13 03 03 05 Bridge and Control Building Slab	**426.00**	**CY**	**202,370**	**267,662**	**267,662**
			8.00	*10.58*	*10.58*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	7,668.00	SF	61,360	81,157	81,157
			272.56	*360.49*	*360.49*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	469.00	CY	127,830	169,071	169,071
			28.10	*37.17*	*37.17*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	469.00	CY	13,180	17,433	17,433
			517.00	*683.80*	*683.80*
02 13 03 03 06 Wing Walls	**104.00**	**CY**	**53,768**	**71,115**	**71,115**
			5.79	*7.66*	*7.66*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	3,089.00	SFC	17,891	23,663	23,663
			272.56	*360.49*	*360.49*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	114.00	CY	31,072	41,096	41,096
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	114.00	CY	4,806	6,356	6,356
			432.55	*572.10*	*572.10*
02 13 03 03 07 Control Building	**144.00**	**CY**	**62,287**	**82,383**	**82,383**
			5.79	*7.66*	*7.66*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	2,169.00	SFC	12,562	16,615	16,615
			272.56	*360.49*	*360.49*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	158.00	CY	43,064	56,958	56,958
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	158.00	CY	6,660	8,809	8,809
			3,310.87	*4,379.06*	*4,379.06*
02 13 03 03 08 Reinforcing Steel	**163.00**	**TON**	**539,671**	**713,786**	**713,786**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3,310.87	*4,379.06*	*4,379.06*
RSM 032111600500 Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	163.00	TON	539,671	713,786	713,786
			3,473.43	*4,594.07*	*4,594.07*
02 13 03 04 Discharge Piping	**300.00**	**LF**	**1,042,029**	**1,378,221**	**1,378,221**
			2,261.12	*2,990.64*	*2,990.64*
HNC 331113401270 Pipe, black steel, plain end, welded, 7/8" wall thickness, 96" diameter, excludes excavation or backfill	300.00	LF	678,337	897,191	897,191
			30,307.62	*40,085.85*	*40,085.85*
RSM 331113103310 Water supply distribution piping, elbow 45 degree prestressed concrete cylinder pipe (PCCP), 150 PSI, 96" diameter	12.00	EA	363,691	481,030	481,030
			4,245,445.48	*5,615,164.26*	*5,615,164.26*
02 13 03 05 Pumps	**3.00**	**EA**	**12,736,336**	**16,845,493**	**16,845,493**
			4,749,142.41	*6,281,370.19*	*6,281,370.19*
USR Z Pump, 185 cfs [Material and Installation]	2.00	EA	9,498,285	12,562,740	12,562,740
			3,238,051.64	*4,282,752.40*	*4,282,752.40*
USR Z Pump, 125 cfs [Material and Installation]	1.00	EA	3,238,052	4,282,752	4,282,752
			143.38	*189.64*	*189.64*
02 13 03 06 Riprap	**1,133.00**	**CY**	**162,452**	**214,865**	**214,865**
			3.33	*4.40*	*4.40*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	1,436.00	SY	4,775	6,316	6,316
			80.69	*106.73*	*106.73*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	1,954.00	TON	157,677	208,549	208,549
			16,461.57	*21,772.61*	*21,772.61*
02 13 03 07 Boat Barrier	**1.00**	**EA**	**16,462**	**21,773**	**21,773**
			30.51	*40.35*	*40.35*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	120.00	VLF	3,661	4,842	4,842
			75.30	*99.59*	*99.59*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	170.00	LF	12,801	16,931	16,931
			987,027.78	*1,305,475.04*	*1,305,475.04*
02 13 03 08 Station and Building Equipment	**1.00**	**EA**	**987,028**	**1,305,475**	**1,305,475**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			12.65	*16.73*	*16.73*
RSM 055313702500 Floor grating, steel, expanded mesh, 3.14# per S.F., field fabricated from panels	9,180.00	SF	116,124	153,589	153,589
			3,800.17	*5,026.23*	*5,026.23*
RSM 083613200320 Doors, residential, garage, overhead, sectional, fiberglass, deluxe, 16' x 7', incl. hardware, excl. frame	1.00	EA	3,800	5,026	5,026
			1,921.06	*2,540.86*	*2,540.86*
RSM 081116100030 Doors & frames, aluminum, entrance, narrow stile, clear finish, 3'-6" x 7'-0" opening, incl. standard hardware, excl. glass	4.00	EA	7,684	10,163	10,163
			1,355.12	*1,792.33*	*1,792.33*
RSM 089119203390 Wall louvers, galvanized steel, fixed blades, commercial grade, 60" x 60"	8.00	EA	10,841	14,339	14,339
			140,694.97	*186,087.74*	*186,087.74*
RSM 412213130475 Overhead bridge crane, under hung hoist, electric operating, 2 girder, 25 ton, 40' span	2.00	EA	281,390	372,175	372,175
			4.12	*5.45*	*5.45*
RSM 337139131440 Overhead line conductors & devices, underbuilt circuits, per wire, 210 to 636 kcmil	2,500.00	LF	10,308	13,634	13,634
			15,285.75	*20,217.43*	*20,217.43*
RSM 333613130220 Utility septic tank and effluent wet well, septic tanks precast concrete, 4 piece, 5,000 gallon, excludes excavation or piping	1.00	EA	15,286	20,217	20,217
			87,572.96	*115,826.85*	*115,826.85*
RSM 332113100500 Public water supply wells, wells domestic water, gravel pack well, complete, 40' deep, 24" diameter casing x 18" diameter screen, includes gravel & casing	1.00	EA	87,573	115,827	115,827
			37,419.22	*49,491.88*	*49,491.88*
RSM 231323260300 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 2,000 gallon, incl. pad & pump	1.00	EA	37,419	49,492	49,492
			331.02	*437.81*	*437.81*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	49.40	CY	16,352	21,628	21,628
			38.28	*50.63*	*50.63*
RSM 055313700432 Floor grating, steel, painted, 1-1/2" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 4" O.C., up to 300 S.F., field fabricated from panels	548.00	SF	20,976	27,744	27,744
			111.11	*146.96*	*146.96*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 055133130100 Ladder, shop fabricated, steel, 20" W, bolted to concrete, excl cage	342.00	VLF	38,000	50,260	50,260
			1,321.23	*1,747.50*	*1,747.50*
HNC 321713132010 Parking barriers, bollard, concrete filled steel pipe, 8' long, 8" diameter	1.00	EA	1,321	1,747	1,747
			2,037.77	*2,695.21*	*2,695.21*
RSM 347113171500 Security vehicle barriers, concrete barrier, jersey, 10' L x 2' by 6" W x 32" H, 10 or more same site	20.00	EA	40,755	53,904	53,904
			80.29	*106.20*	*106.20*
RSM 323113200940 Fence, chain link industrial, aluminized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	2,280.00	LF	183,067	242,130	242,130
			1.74	*2.30*	*2.30*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	3,700.00	LF	6,429	8,503	8,503
			99.01	*130.95*	*130.95*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	600.00	LF	59,404	78,569	78,569
			275.65	*364.58*	*364.58*
HNC 344319100500 Junction boxes, size 1, 4 hubs, 4" x 2"	1.00	EA	276	365	365
			124.08	*164.11*	*164.11*
RSM 087913100400 Metal casework, key cabinets, wall mounted, 30 key capacity	1.00	EA	124	164	164
			828.51	*1,095.81*	*1,095.81*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,657	2,192	2,192
			494.59	*654.16*	*654.16*
RSM 233416107220 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 2750 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	495	654	654
			2,388.98	*3,159.74*	*3,159.74*
RSM 233416107160 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 1450 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	2,389	3,160	3,160
			45,357.59	*59,991.43*	*59,991.43*
RSM 263213132500 Generator set, diesel, 3 phase 4 wire, 277/480 V, 150 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	45,358	59,991	59,991
			8,244,835.50	*10,904,887.56*	*10,904,887.56*
02 15 15 - Floodway Control/Diversion Structures	**1.00**	**EA**	**8,244,836**	**10,904,888**	**10,904,888**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			14,828.84	*19,613.11*	*19,613.11*
02 15 01 Culverts CU-1B	**556.00**	**LF**	**8,244,836**	**10,904,888**	**10,904,888**
02 15 01 01 Sheetpile Dewatering	**1.00**	**LS**	**3,998,428**	**5,288,451**	**5,288,451**
			27.27	*36.06*	*36.06*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	91,017.00	SF	2,481,669	3,282,336	3,282,336
			660.56	*873.68*	*873.68*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	1,600.00	DAY	1,056,900	1,397,890	1,397,890
			182.94	*241.96*	*241.96*
USR Z Dewatering Operation and Maintenance [2 laborers]	160.00	DAY	29,270	38,713	38,713
			269.12	*355.94*	*355.94*
USR Z Dewatering Pump Operation [Fuel Costs]	1,600.00	DAY	430,589	569,511	569,511
			4.24	*5.61*	*5.61*
02 15 01 02 Excavation	**62,254.00**	**CY**	**264,209**	**349,451**	**349,451**
			1.37	*1.81*	*1.81*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	62,254.00	CY	85,185	112,668	112,668
			2.50	*3.31*	*3.31*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	71,592.00	LCY	179,024	236,783	236,783
			680.74	*900.37*	*900.37*
02 15 01 03 Concrete Culvert	**3,457.00**	**CY**	**2,353,314**	**3,112,570**	**3,112,570**
			317.59	*420.06*	*420.06*
02 15 01 03 01 Foundation	**1,112.00**	**CY**	**353,165**	**467,108**	**467,108**
			5.80	*7.67*	*7.67*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	1,290.00	SFC	7,476	9,888	9,888
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,223.00	CY	330,223	436,763	436,763
			12.65	*16.73*	*16.73*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	1,223.00	CY	15,467	20,457	20,457
			545.65	*721.70*	*721.70*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
02 15 01 03 02 Culvert Walls	**1,124.00**	**CY**	**613,311**	**811,186**	**811,186**
			5.78	*7.65*	*7.65*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	39,340.00	SFC	227,475	300,866	300,866
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,236.00	CY	333,733	441,406	441,406
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	1,236.00	CY	52,104	68,914	68,914
			467.31	*618.08*	*618.08*
02 15 01 03 03 Top Slab	**741.00**	**CY**	**346,279**	**458,000**	**458,000**
			7.97	*10.54*	*10.54*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	12,968.00	SF	103,317	136,650	136,650
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	815.00	CY	220,058	291,056	291,056
			28.10	*37.17*	*37.17*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	815.00	CY	22,904	30,294	30,294
			473.42	*626.16*	*626.16*
02 15 01 03 04 Miscellaneous Concrete	**481.00**	**CY**	**227,714**	**301,182**	**301,182**
			5.78	*7.65*	*7.65*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	10,822.50	SFC	62,579	82,769	82,769
			270.01	*357.12*	*357.12*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	529.00	CY	142,835	188,919	188,919

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			42.16	*55.76*	*55.76*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	529.00	CY	22,300	29,495	29,495
			2,966.58	*3,923.70*	*3,923.70*
02 15 01 03 05 Reinforcing Steel	**274.00**	**TON**	**812,844**	**1,075,094**	**1,075,094**
			2,966.58	*3,923.70*	*3,923.70*
RSM 032111600700 Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	274.00	TON	812,844	1,075,094	1,075,094
			52.73	*69.74*	*69.74*
02 15 01 04 Sheetpile Endwalls	**4,800.00**	**SF**	**253,099**	**334,758**	**334,758**
			48.50	*64.14*	*64.14*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	4,800.00	SF	232,787	307,891	307,891
			857.08	*1,133.60*	*1,133.60*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	23.70	CY	20,313	26,866	26,866
			79,854.52	*105,618.19*	*105,618.19*
02 15 01 05 Miscellaneous Metals	**1.00**	**EA**	**79,855**	**105,618**	**105,618**
			120.75	*159.71*	*159.71*
RSM 055213500210 Railing, pipe, aluminum, clear finish, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	404.00	LF	48,783	64,522	64,522
			86.13	*113.92*	*113.92*
RSM 055313100186 Floor grating, aluminum, 1-3/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	312.00	SF	26,873	35,543	35,543
			82.32	*108.88*	*108.88*
RSM 055133130400 Ladder, shop fabricated, aluminum, 20" W, bolted to concrete, excl cage	51.00	VLF	4,198	5,553	5,553
			300,000.00	*396,789.76*	*396,789.76*
02 15 01 06 Gates	**2.00**	**EA**	**600,000**	**793,580**	**793,580**
			200,000.00	*264,526.50*	*264,526.50*
USR Z 13' x 12' Box Culvert Gate, Full Installation	3.00	EA	600,000	793,580	793,580
			139.75	*184.83*	*184.83*
02 15 01 07 Riprap	**3,375.00**	**CY**	**471,647**	**623,816**	**623,816**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3.30	*4.37*	*4.37*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	1,839.00	SY	6,073	8,032	8,032
			79.97	*105.77*	*105.77*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	5,822.00	TON	465,574	615,784	615,784
			16,324.52	*21,591.34*	*21,591.34*
02 15 01 08 Boat Barrier	**2.00**	**EA**	**32,649**	**43,183**	**43,183**
			30.30	*40.08*	*40.08*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	240.00	VLF	7,272	9,619	9,619
			74.64	*98.72*	*98.72*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	340.00	LF	25,377	33,564	33,564
			81,375.72	*107,630.18*	*107,630.18*
02 15 01 09 SWPPP	**1.00**	**EA**	**81,376**	**107,630**	**107,630**
			74.64	*98.72*	*98.72*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	980.00	LF	73,145	96,743	96,743
			1.27	*1.68*	*1.68*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	6,492.00	LF	8,231	10,887	10,887
			110,259.31	*145,832.55*	*145,832.55*
02 15 01 10 Control Building	**1.00**	**EA**	**110,259**	**145,833**	**145,833**
			838.61	*1,109.17*	*1,109.17*
RSM 033053404250 Structural concrete, in place, free-standing wall (3000 psi), 8" thick x 14' high, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	12.50	CY	10,483	13,865	13,865
			328.38	*434.33*	*434.33*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	5.30	CY	1,740	2,302	2,302
			974.95	*1,289.50*	*1,289.50*
RSM 033053402750 Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	4.40	CY	4,290	5,674	5,674
			1,805.77	*2,388.37*	*2,388.37*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033053403590 Structural concrete, in place, equipment pad (3000 psi), 10' x 10' x 12", includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	1.00	EA	1,806	2,388	2,388
			1,444.04	*1,909.93*	*1,909.93*
RSM 081313130700 Doors, commercial, steel, flush, full panel, hollow core, hollow metal, 20 ga., 4'-0" x 8'-0" x 1-3/4" thick	2.00	EA	2,888	3,820	3,820
			299.83	*396.56*	*396.56*
RSM 087120400500 Door hardware, lockset, standard duty, cylindrical, with sectional trim, lever handled, keyed, single cylinder function	2.00	EA	600	793	793
			403.41	*533.56*	*533.56*
RSM 260533252250 Conduit fittings for rigid galvanized steel, boxes connector with set screw, insulated, 4" diameter	1.00	EA	403	534	534
			822.53	*1,087.91*	*1,087.91*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,645	2,176	2,176
			604.44	*799.45*	*799.45*
RSM 230593103600 Balancing, air conditioning equipment, supply, return, exhaust, registers and diffusers, laboratory fume hood, (Subcontractor's quote including material & labor)	6.00	EA	3,627	4,797	4,797
			3,073.48	*4,065.08*	*4,065.08*
RSM 233416107230 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 3500 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	3,073	4,065	4,065
			1,763.13	*2,331.97*	*2,331.97*
RSM 233416107140 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 815 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	1,763	2,332	2,332
			28,345.97	*37,491.30*	*37,491.30*
RSM 231323260200 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 1,000 gallon, incl. pad & pump	1.00	EA	28,346	37,491	37,491
			240.04	*317.48*	*317.48*
RSM 321123238210 Base course drainage layers, aggregate base course for concrete slabs and capillary water barrier, 1" minus graded gravel, 6" compacted thickness	8.00	CY	1,920	2,540	2,540
			1.90	*2.51*	*2.51*
RSM 334626100150 Geotextile subsurface drainage filtration, plastic filter fabric, in underground drain lines	472.00	SF	895	1,183	1,183

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			46,780.22	*61,873.04*	*61,873.04*
RSM 263213132200 Generator set, diesel, 3 phase 4 wire, 277/480 V, 75 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	46,780	61,873	61,873
			131,679,556.44	*168,035,118.49*	*168,035,118.49*
CONTRACT 3 - Reservoir Dam Foundation	**1.00**	**EA**	**131,679,556**	**168,035,118**	**168,035,118**
			131,679,556.44	*168,035,118.49*	*168,035,118.49*
03 03 03 - Reservoirs	**1.00**	**EA**	**131,679,556**	**168,035,118**	**168,035,118**
03 03 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**1,359,914**	**1,735,374**	**1,735,374**
03 03 01 01 Mobilization	**1.00**	**LS**	**727,877**	**928,837**	**928,837**
			7,020.82	*8,959.20*	*8,959.20*
USR Z Mob / Demob Crew	100.00	DAY	702,082	895,920	895,920
			2,579.50	*3,291.68*	*3,291.68*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	10.00	EA	25,795	32,917	32,917
03 03 01 02 Demobilization	**1.00**	**LS**	**447,044**	**570,469**	**570,469**
			7,020.82	*8,959.20*	*8,959.20*
USR Z Mob / Demob Crew	60.00	DAY	421,249	537,552	537,552
			2,579.50	*3,291.68*	*3,291.68*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	10.00	EA	25,795	32,917	32,917
			184,992.88	*236,067.78*	*236,067.78*
03 03 01 03 Site Preparation	**1.00**	**EA**	**184,993**	**236,068**	**236,068**
			219.56	*280.18*	*280.18*
HTW 315613130020 Slurry wall installation, construct dike for mixing basin	500.00	CY	109,782	140,092	140,092
			3.01	*3.84*	*3.84*
HTW 315613130065 Slurry wall installation, cleanup and re-grade working surface	25,000.00	SF	75,211	95,976	95,976
			12,885,486.30	*16,443,055.22*	*16,443,055.22*
03 03 02 Dewatering	**1.00**	**EA**	**12,885,486**	**16,443,055**	**16,443,055**
			9,474.62	*12,090.48*	*12,090.48*
03 03 02 01 Dewatering, Foundation	**1,360.00**	**DAY**	**12,885,486**	**16,443,055**	**16,443,055**
			669.20	*853.96*	*853.96*
USR Z Dewatering Pump 8" w/ Discharge Pipe, Rental	13,600.00	DAY	9,101,084	11,613,813	11,613,813

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			182.94	*233.44*	*233.44*
USR Z Dewatering Operation and Maintenance [2 laborers]	680.00	DAY	124,397	158,742	158,742
			269.12	*343.42*	*343.42*
USR Z Dewatering Pump Operation [Fuel Costs]	13,600.00	DAY	3,660,006	4,670,501	4,670,501
			2,747,750.00	*3,506,379.50*	*3,506,379.50*
03 03 03 Demolition	**1.00**	**EA**	**2,747,750**	**3,506,379**	**3,506,379**
USR Z Site Demolition	1.00	LS	2,747,750	3,506,379	3,506,379
			7,605,368.72	*9,705,143.82*	*9,705,143.82*
03 03 04 Dam Preparation	**1.00**	**EA**	**7,605,369**	**9,705,144**	**9,705,144**
			6.68	*8.52*	*8.52*
03 03 04 01 Reclamation	**1,035,633.00**	**CY**	**6,915,202**	**8,824,429**	**8,824,429**
			6.68	*8.52*	*8.52*
03 03 04 01 01 Ditch/Canal Reclamation	**33,741.00**	**CY**	**225,298**	**287,501**	**287,501**
			2.70	*3.44*	*3.44*
USR Z Excavate, Push Muck to Stockpile [Dozer]	33,741.00	BCY	90,987	116,107	116,107
			2.61	*3.34*	*3.34*
USR Z Push Muck to Place, from Stockpile [Dozer]	33,741.00	BCY	88,230	112,589	112,589
			1.37	*1.74*	*1.74*
RSM 354113200340 Compaction of levee clay material, slope area, 4 passes, E.C.Y.	33,741.00	ECY	46,081	58,804	58,804
			6.68	*8.52*	*8.52*
03 03 04 01 02 Wetlands Reclamation	**259,751.00**	**CY**	**1,734,428**	**2,213,288**	**2,213,288**
			2.70	*3.44*	*3.44*
USR Z Excavate, Push Muck to Stockpile [Dozer]	259,751.00	BCY	700,451	893,839	893,839
			2.61	*3.34*	*3.34*
USR Z Push Muck to Place, from Stockpile [Dozer]	259,751.00	BCY	679,225	866,753	866,753
			1.37	*1.74*	*1.74*
RSM 354113200340 Compaction of levee clay material, slope area, 4 passes, E.C.Y.	259,751.00	ECY	354,752	452,696	452,696
			6.68	*8.52*	*8.52*
03 03 04 01 03 Pond/STA Reclamation	**742,141.00**	**CY**	**4,955,477**	**6,323,640**	**6,323,640**
			2.70	*3.44*	*3.44*
USR Z Excavate, Push Muck to Stockpile [Dozer]	742,141.00	BCY	2,001,275	2,553,810	2,553,810
			2.61	*3.34*	*3.34*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
USR Z Push Muck to Place, from Stockpile [Dozer]	742,141.00	BCY	1,940,631	2,476,422	2,476,422
			1.37	*1.74*	*1.74*
RSM 354113200340 Compaction of levee clay material, slope area, 4 passes, E.C.Y.	742,141.00	ECY	1,013,571	1,293,409	1,293,409
			1.57	*2.00*	*2.00*
03 03 04 02 Canal Cleaning	**95,040.00**	**LF**	**149,108**	**190,275**	**190,275**
			1.57	*2.00*	*2.00*
USR Z Canal Cleaning Crew [Dozer]	95,040.00	LF	149,108	190,275	190,275
			46.71	*59.60*	*59.60*
03 03 04 03 Pretrenching, Buried Conduits	**10,350.00**	**LF**	**483,403**	**616,867**	**616,867**
			46.71	*59.60*	*59.60*
RSM 312316146200 Excavating, chain trencher, utility trench, rock material, 300 H.P., 18" wide, 8' deep, teeth change every 100' of trench	10,350.00	LF	483,403	616,867	616,867
			2.72	*3.47*	*3.47*
03 03 04 04 Legacy Pipe Removal	**21,200.00**	**LF**	**57,656**	**73,574**	**73,574**
			111.39	*142.14*	*142.14*
USR Z Legacy Pipe Inspection Crew	80.00	HR	8,911	11,371	11,371
			2.30	*2.93*	*2.93*
RSM 024113381700 Selective demolition, water & sewer piping & fittings, plastic Pipe, 6"-8", diameter, excludes excavation	21,200.00	LF	48,745	62,203	62,203
			95,453,764.13	*121,807,705.01*	*121,807,705.01*
03 03 05 Foundation Prep West and East Cells	**1.00**	**EA**	**95,453,764**	**121,807,705**	**121,807,705**
			3,128.12	*3,991.77*	*3,991.77*
03 03 05 01 Clearing and Grubbing	**1,375.00**	**ACR**	**4,301,165**	**5,488,678**	**5,488,678**
			3,128.12	*3,991.77*	*3,991.77*
USR Z Clearing and Grubbing	1,375.00	ACR	4,301,165	5,488,678	5,488,678
			1.27	*1.62*	*1.62*
03 03 05 02 Temporary Silt Fencing	**87,050.00**	**LF**	**110,370**	**140,843**	**140,843**
			1.27	*1.62*	*1.62*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	87,050.00	LF	110,370	140,843	140,843
			1.22	*1.56*	*1.56*
03 03 05 03 Topsoil Excavation	**1,077,695.00**	**CY**	**1,319,534**	**1,683,846**	**1,683,846**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			1.22	*1.56*	*1.56*
NLU 312316503170 Excavation, bulk, bank measure, 9 cycles/hour, 35 C.Y., push loaded self propelled scraper	1,077,695.00	BCY	1,319,534	1,683,846	1,683,846
			1.22	*1.56*	*1.56*
03 03 05 04 Additional Soil Excavation	**1,901,820.00**	**CY**	**2,328,596**	**2,971,501**	**2,971,501**
			1.22	*1.56*	*1.56*
NLU 312316503170 Excavation, bulk, bank measure, 9 cycles/hour, 35 C.Y., push loaded self propelled scraper	1,901,820.00	BCY	2,328,596	2,971,501	2,971,501
			15.06	*19.21*	*19.21*
03 03 05 05 Soil-Bentonite Cutoff Walls, Stage 1	**5,803,959.00**	**SF**	**87,394,099**	**111,522,838**	**111,522,838**
			15.06	*19.21*	*19.21*
USR Z Slurry Bentonite Wall	5,803,959.00	SF	87,394,099	111,522,838	111,522,838
			11,627,273.43	*14,837,460.89*	*14,837,460.89*
03 03 06 Foundation Prep Divider Dam	**1.00**	**EA**	**11,627,273**	**14,837,461**	**14,837,461**
			3,128.12	*3,991.77*	*3,991.77*
03 03 06 01 Clearing and Grubbing	**115.00**	**ACR**	**359,734**	**459,053**	**459,053**
			3,128.12	*3,991.77*	*3,991.77*
USR Z Clearing and Grubbing	115.00	ACR	359,734	459,053	459,053
			1.22	*1.56*	*1.56*
03 03 06 02 24" Soil Excavation Below Dam	**352,747.00**	**CY**	**431,905**	**551,150**	**551,150**
			1.22	*1.56*	*1.56*
NLU 312316503170 Excavation, bulk, bank measure, 9 cycles/hour, 35 C.Y., push loaded self propelled scraper	352,747.00	BCY	431,905	551,150	551,150
			15.06	*19.21*	*19.21*
03 03 06 03 Soil-Bentonite Cutoff Walls, Stage 1	**719,609.00**	**SF**	**10,835,635**	**13,827,258**	**13,827,258**
			15.06	*19.21*	*19.21*
USR Z Slurry Bentonite Wall	719,609.00	SF	10,835,635	13,827,258	13,827,258
			811,266,171.31	*993,918,111.24*	*993,918,111.24*
CONTRACT 4 - Reservoir Earthwork	**1.00**	**EA**	**811,266,171**	**993,918,111**	**993,918,111**
			807,666,900.19	*989,508,757.03*	*989,508,757.03*
04 03 03 - Reservoirs	**1.00**	**EA**	**807,666,900**	**989,508,757**	**989,508,757**
04 03 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**9,445,610**	**11,571,521**	**11,571,521**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
04 03 01 01 Mobilization	**1.00**	**LS**	**712,094**	**872,364**	**872,364**
			7,020.82	*8,600.98*	*8,600.98*
USR Z Mob / Demob Crew	90.00	DAY	631,874	774,089	774,089
			2,579.50	*3,160.07*	*3,160.07*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	25.00	EA	64,488	79,002	79,002
			15,732.91	*19,273.90*	*19,273.90*
RSM 015436502400 Mobilization or demobilization, crane, large lattice boom, requiring assembly	1.00	EA	15,733	19,274	19,274
04 03 01 02 Demobilization	**1.00**	**LS**	**501,470**	**614,335**	**614,335**
			7,020.82	*8,600.98*	*8,600.98*
USR Z Mob / Demob Crew	60.00	DAY	421,249	516,059	516,059
			2,579.50	*3,160.07*	*3,160.07*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	25.00	EA	64,488	79,002	79,002
			15,732.91	*19,273.90*	*19,273.90*
RSM 015436502400 Mobilization or demobilization, crane, large lattice boom, requiring assembly	1.00	EA	15,733	19,274	19,274
			8,232,046.17	*10,084,821.68*	*10,084,821.68*
04 03 01 03 Staging and Site Access	**1.00**	**EA**	**8,232,046**	**10,084,822**	**10,084,822**
			7,846.71	*9,612.76*	*9,612.76*
04 03 01 03 01 Contractor Compound	**40.00**	**ACR**	**313,869**	**384,511**	**384,511**
			3,066.54	*3,756.72*	*3,756.72*
RSM 311110100020 Clearing & grubbing, cut & chip light trees, to 6" diameter	40.00	ACR	122,662	150,269	150,269
			987.64	*1,209.93*	*1,209.93*
HNC 312216100020 Fine grade, for roadway, base or leveling course	193.60	MSY	191,207	234,242	234,242
			16,013.66	*19,617.84*	*19,617.84*
04 03 01 03 02 Secondary Staging Area	**4.00**	**EA**	**64,055**	**78,471**	**78,471**
			3,066.54	*3,756.72*	*3,756.72*
RSM 311110100020 Clearing & grubbing, cut & chip light trees, to 6" diameter	4.00	ACR	12,266	15,027	15,027
			987.64	*1,209.93*	*1,209.93*
HNC 312216100020 Fine grade, for roadway, base or leveling course	19.40	MSY	19,160	23,473	23,473

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			5.92	*7.25*	*7.25*
RSM 015626500100 Temporary fencing, chain link, 6' high, 11 ga	4,000.00	LF	23,685	29,016	29,016
			1,117.91	*1,369.52*	*1,369.52*
HNC 323113307400 Gates, swing, chain link, without barbed wire, double, galvanized, 8' high, 16' wide, excludes excavation	8.00	EA	8,943	10,956	10,956
			7,846.71	*9,612.76*	*9,612.76*
04 03 01 03 03 Site Material Storage Area	**40.00**	**ACR**	**313,869**	**384,511**	**384,511**
			3,066.54	*3,756.72*	*3,756.72*
RSM 311110100020 Clearing & grubbing, cut & chip light trees, to 6" diameter	40.00	ACR	122,662	150,269	150,269
			987.64	*1,209.93*	*1,209.93*
HNC 312216100020 Fine grade, for roadway, base or leveling course	193.60	MSY	191,207	234,242	234,242
			7,846.71	*9,612.76*	*9,612.76*
04 03 01 03 04 Site Equipment Shop/Staging	**5.00**	**ACR**	**39,234**	**48,064**	**48,064**
			3,066.54	*3,756.72*	*3,756.72*
RSM 311110100020 Clearing & grubbing, cut & chip light trees, to 6" diameter	5.00	ACR	15,333	18,784	18,784
			987.64	*1,209.93*	*1,209.93*
HNC 312216100020 Fine grade, for roadway, base or leveling course	24.20	MSY	23,901	29,280	29,280
			77,466.31	*94,901.55*	*94,901.55*
04 03 01 03 05 Access Roads	**17.60**	**MI**	**1,363,407**	**1,670,267**	**1,670,267**
			987.64	*1,209.93*	*1,209.93*
HNC 312216100020 Fine grade, for roadway, base or leveling course	310.00	MSY	306,168	375,077	375,077
			6.45	*7.90*	*7.90*
USR Z Load and Haul Rock, to/from Process Plant [on-site, 10-mile]	103,253.00	LCY	665,921	815,799	815,799
			3.79	*4.64*	*4.64*
USR Z Fill and Compact Road Stone	103,253.00	LCY	391,318	479,392	479,392
			6,137,613.67	*7,518,998.10*	*7,518,998.10*
04 03 01 03 06 Site Roadway Grading Maintenance	**1.00**	**EA**	**6,137,614**	**7,518,998**	**7,518,998**
			31,966.74	*39,161.45*	*39,161.45*
RSM 340113100100 Maintenance grading of roadways, mobilization/demobilizaiton	192.00	MO	6,137,614	7,518,998	7,518,998
			33,735,737.22	*41,328,594.06*	*41,328,594.06*
04 03 02 Dewatering	**1.00**	**EA**	**33,735,737**	**41,328,594**	**41,328,594**
			5,166.61	*6,329.45*	*6,329.45*
04 03 02 01 Dewatering, Perimeter Canal	**1,000.00**	**DAY**	**5,166,606**	**6,329,447**	**6,329,447**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			601.00	*736.27*	*736.27*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	6,000.00	DAY	3,606,019	4,417,621	4,417,621
			182.94	*224.11*	*224.11*
USR Z Dewatering Operation and Maintenance [2 laborers]	500.00	DAY	91,468	112,055	112,055
			244.85	*299.96*	*299.96*
USR Z Dewatering Pump Operation [Fuel Costs]	6,000.00	DAY	1,469,119	1,799,771	1,799,771
			8,628.59	*10,570.62*	*10,570.62*
04 03 02 02 Dewatering, Roadways and Canals	**1,200.00**	**DAY**	**10,354,312**	**12,684,743**	**12,684,743**
			608.86	*745.89*	*745.89*
USR Z Dewatering Pump 8" w/ Discharge Pipe, Rental	12,000.00	DAY	7,306,313	8,950,734	8,950,734
			182.94	*224.11*	*224.11*
USR Z Dewatering Operation and Maintenance [2 laborers]	600.00	DAY	109,762	134,466	134,466
			244.85	*299.96*	*299.96*
USR Z Dewatering Pump Operation [Fuel Costs]	12,000.00	DAY	2,938,238	3,599,543	3,599,543
			6,921.17	*8,478.91*	*8,478.91*
04 03 02 03 Dewatering, Borrow Areas	**1,350.00**	**DAY**	**9,343,577**	**11,446,523**	**11,446,523**
			608.86	*745.89*	*745.89*
USR Z Dewatering Pump 8" w/ Discharge Pipe, Rental	10,800.00	DAY	6,575,681	8,055,661	8,055,661
			182.94	*224.11*	*224.11*
USR Z Dewatering Operation and Maintenance [2 laborers]	675.00	DAY	123,482	151,274	151,274
			244.85	*299.96*	*299.96*
USR Z Dewatering Pump Operation [Fuel Costs]	10,800.00	DAY	2,644,414	3,239,588	3,239,588
			8,871.24	*10,867.88*	*10,867.88*
04 03 02 04 Dewatering, Structures	**1,000.00**	**DAY**	**8,871,243**	**10,867,881**	**10,867,881**
			608.86	*745.89*	*745.89*
USR Z Dewatering Pump 8" w/ Discharge Pipe, Rental	10,000.00	DAY	6,088,594	7,458,945	7,458,945
			182.94	*224.11*	*224.11*
USR Z Dewatering Operation and Maintenance [2 laborers]	500.00	DAY	91,468	112,055	112,055
			269.12	*329.69*	*329.69*
USR Z Dewatering Pump Operation [Fuel Costs]	10,000.00	DAY	2,691,181	3,296,881	3,296,881
			633,140,702.01	*775,702,183.02*	*775,702,183.02*
04 03 03 West and East Cells	**1.00**	**EA**	**633,140,702**	**775,702,183**	**775,702,183**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			34.27	*41.99*	*41.99*
04 03 03 01 Barbed Wire Fencing	**73,763.00**	**LF**	**2,528,044**	**3,097,028**	**3,097,028**
			34.27	*41.99*	*41.99*
RSM 323113200300 Fence, chain link industrial, aluminized steel, 2" posts @ 10' OC, 3 strands barb wire, 9 ga. wire, 6' high, includes excavation, & concrete	73,763.00	LF	2,528,044	3,097,028	3,097,028
			5.77	*7.07*	*7.07*
04 03 03 02 Additional Excavation for Soil Cement Toe	**132,629.00**	**CY**	**765,912**	**938,294**	**938,294**
			2.90	*3.55*	*3.55*
USR Z Soil Excavation [3.5-cy Hydraul. Excav.]	132,629.00	LCY	384,511	471,052	471,052
			2.50	*3.06*	*3.06*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	152,523.00	LCY	381,401	467,243	467,243
			8.87	*10.86*	*10.86*
04 03 03 03 Perimeter Canal Excavation	**5,811,708.00**	**CY**	**51,527,606**	**63,124,854**	**63,124,854**
			1.37	*1.68*	*1.68*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	5,811,708.00	CY	7,952,391	9,742,225	9,742,225
			3.28	*4.02*	*4.02*
USR Z Haul Borrow, to/from Stockpile [on-site]	6,683,464.00	LCY	21,905,776	26,836,079	26,836,079
			3.24	*3.97*	*3.97*
USR Z Material Spreading [Dozers]	6,683,464.00	LCY	21,669,439	26,546,551	26,546,551
			8.87	*10.86*	*10.86*
04 03 03 04 Offsite Drainage Collection Ditch & Perimerter Mainteance Road Excavation	**723,734.00**	**CY**	**6,416,750**	**7,860,959**	**7,860,959**
			1.37	*1.68*	*1.68*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	723,734.00	CY	990,314	1,213,203	1,213,203
			3.28	*4.02*	*4.02*
USR Z Haul Borrow, to/from Stockpile [on-site]	832,294.00	LCY	2,727,934	3,341,906	3,341,906
			3.24	*3.97*	*3.97*
USR Z Material Spreading [Dozers]	832,294.00	LCY	2,698,502	3,305,851	3,305,851
			15.76	*19.31*	*19.31*
04 03 03 05 6" Topsoil	**472,215.00**	**CY**	**7,442,125**	**9,117,114**	**9,117,114**
			1.68	*2.06*	*2.06*
USR Z Excavate and Load Borrow Material [3.5-cy hydraul. excavators]	472,215.00	CY	794,765	973,642	973,642

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3.28	*4.02*	*4.02*
USR Z Haul Borrow, to/from Stockpile [on-site]	543,047.00	LCY	1,779,895	2,180,494	2,180,494
			3.24	*3.97*	*3.97*
USR Z Material Spreading [Dozers]	543,047.00	LCY	1,760,692	2,156,969	2,156,969
			5.72	*7.01*	*7.01*
USR Z Fill and Compact Borrow Fill, Dam Embankment [Front End Loader, Compactor]	543,047.00	LCY	3,106,772	3,806,009	3,806,009
			29.46	*36.10*	*36.10*
04 03 03 06 6" Thick Limerock Base	**78,419.00**	**CY**	**2,310,601**	**2,830,644**	**2,830,644**
			29.46	*36.10*	*36.10*
RSM 321123231511 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 3/4", 6" deep	78,419.00	ECY	2,310,601	2,830,644	2,830,644
			11.52	*14.12*	*14.12*
04 03 03 07 Dam Embankment Fill	**18,008,538.00**	**CY**	**207,493,529**	**254,193,818**	**254,193,818**
			1.68	*2.06*	*2.06*
USR Z Excavate and Load Borrow Material [3.5-cy hydraul. excavators]	18,008,538.00	CY	30,309,411	37,131,109	37,131,109
			2.83	*3.47*	*3.47*
USR Z Material Short Haul [1-mile approx.]	20,709,819.00	LCY	58,703,234	71,915,491	71,915,491
			5.72	*7.01*	*7.01*
USR Z Fill and Compact Borrow Fill, Dam Embankment [Front End Loader, Compactor]	20,709,819.00	LCY	118,480,885	145,147,217	145,147,217
			11.52	*14.12*	*14.12*
04 03 03 08 Additional Embankment Fill	**2,324,688.00**	**CY**	**26,784,944**	**32,813,395**	**32,813,395**
			1.68	*2.06*	*2.06*
USR Z Excavate and Load Borrow Material [3.5-cy hydraul. excavators]	2,324,688.00	CY	3,912,584	4,793,184	4,793,184
			2.83	*3.47*	*3.47*
USR Z Material Short Haul [1-mile approx.]	2,673,391.00	LCY	7,577,888	9,283,433	9,283,433
			5.72	*7.01*	*7.01*
USR Z Fill and Compact Borrow Fill, Dam Embankment [Front End Loader, Compactor]	2,673,391.00	LCY	15,294,471	18,736,777	18,736,777
			15.06	*18.45*	*18.45*
04 03 03 09 Soil-Bentonite Cutoff Walls, Stage 2	**2,263,544.00**	**SF**	**34,083,699**	**41,754,871**	**41,754,871**
			15.06	*18.45*	*18.45*
USR Z Slurry Bentonite Wall	2,263,544.00	SF	34,083,699	41,754,871	41,754,871

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			36.41	*44.60*	*44.60*
04 03 03 10 24" Clean Sand Layer	**261,858.00**	**LCY**	**9,533,296**	**11,678,942**	**11,678,942**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	392,787.00	TON	8,734,401	10,700,241	10,700,241
			2.65	*3.25*	*3.25*
USR Z Fill and Compact, Sand [Front End Loader, Compactor]	301,137.00	LCY	798,895	978,701	978,701
			36.41	*44.60*	*44.60*
04 03 03 11 24" Filter Sand Layer	**315,235.00**	**LCY**	**11,476,545**	**14,059,556**	**14,059,556**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	472,852.00	TON	10,514,806	12,881,359	12,881,359
			2.65	*3.25*	*3.25*
USR Z Fill and Compact, Sand [Front End Loader, Compactor]	362,520.00	LCY	961,740	1,178,197	1,178,197
			40.69	*49.85*	*49.85*
04 03 03 12 Chimney Drain, FDOT Sand	**141,889.00**	**LCY**	**5,773,410**	**7,072,823**	**7,072,823**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	212,834.00	TON	4,732,788	5,797,990	5,797,990
			7.33	*8.98*	*8.98*
USR Z Place Blanket Drain, Sand [Front End Loader, Compactor]	141,889.00	LCY	1,040,622	1,274,834	1,274,834
			40.69	*49.85*	*49.85*
04 03 03 13 18" Filter Sand Blanket Drain	**452,237.00**	**LCY**	**18,401,329**	**22,542,891**	**22,542,891**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	678,356.00	TON	15,084,596	18,479,666	18,479,666
			7.33	*8.98*	*8.98*
USR Z Place Blanket Drain, Sand [Front End Loader, Compactor]	452,237.00	LCY	3,316,732	4,063,225	4,063,225
			36.41	*44.60*	*44.60*
04 03 03 14 24" Thick Clean Sand Layer	**547,618.00**	**LCY**	**19,936,776**	**24,423,919**	**24,423,919**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	821,427.00	TON	18,266,065	22,377,184	22,377,184
			2.65	*3.25*	*3.25*
USR Z Fill and Compact, Sand [Front End Loader, Compactor]	629,761.00	LCY	1,670,711	2,046,735	2,046,735
			255.27	*312.73*	*312.73*
04 03 03 15 Soil Cement	**825,036.00**	**CY**	**210,609,910**	**258,011,598**	**258,011,598**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			255.27	*312.73*	*312.73*
USR Z Soil Cement [mix and place]	825,036.00	CY	210,609,910	258,011,598	258,011,598
			29.46	*36.10*	*36.10*
04 03 03 16 Bedding Stone	**1,533.00**	**CY**	**45,170**	**55,336**	**55,336**
			29.46	*36.10*	*36.10*
RSM 321123231511 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 3/4", 6" deep	1,533.00	ECY	45,170	55,336	55,336
			143.03	*189.18*	*189.18*
04 03 03 17 18" Type B Riprap	**4,397.00**	**CY**	**628,899**	**831,803**	**831,803**
			82.91	*109.66*	*109.66*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	7,585.00	TON	628,899	831,803	831,803
			81.94	*100.38*	*100.38*
04 03 03 18 24" Drainage Pipe	**7,840.00**	**LF**	**642,375**	**786,953**	**786,953**
			75.19	*92.11*	*92.11*
RSM 334113602518 Public storm utility drainage piping, reinforced concrete pipe (RCP), 24" diameter, class 4, excludes excavation or backfill	7,840.00	LF	589,485	722,159	722,159
			539.70	*661.16*	*661.16*
HNC 334113602910 Reinforced concrete pipe (RCP), precast end section, 24" diameter pipe, excludes excavation or backfill	98.00	EA	52,890	64,794	64,794
			1,520,961.21	*1,863,281.90*	*1,863,281.90*
04 03 03 19 Inside Toe Drain	**1.00**	**EA**	**1,520,961**	**1,863,282**	**1,863,282**
			11.08	*13.57*	*13.57*
04 03 03 19 01 6" Slotted PVC	**96,044.00**	**LF**	**1,064,198**	**1,303,716**	**1,303,716**
			11.08	*13.57*	*13.57*
RSM 334616302110 Subdrainage piping, plastic, perforated PVC, pipe, 6" diameter, excludes excavation and backfill	96,044.00	LF	1,064,198	1,303,716	1,303,716
			18.95	*23.21*	*23.21*
04 03 03 19 02 6" Solid PVC	**3,848.00**	**LF**	**72,902**	**89,310**	**89,310**
			18.95	*23.21*	*23.21*
HNC 331113254630 Polyvinyl chloride, pipe, 6", schedule 40 pipe, excludes excavation or backfill	3,848.00	LF	72,902	89,310	89,310

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			798.05	*977.66*	*977.66*
04 03 03 19 03 6" Duck Bill Backflow	**481.00**	**EA**	**383,861**	**470,256**	**470,256**
			798.05	*977.66*	*977.66*
RSM 331213157820 Water connection, valves with rubber gaskets, 6", excludes excavation and backfill	481.00	EA	383,861	470,256	470,256
			5,552,338.05	*6,801,995.28*	*6,801,995.28*
04 03 03 20 Outside Toe Drain	**1.00**	**EA**	**5,552,338**	**6,801,995**	**6,801,995**
			25.21	*30.88*	*30.88*
04 03 03 20 01 12" Perforated Pipe	**97,463.00**	**LF**	**2,456,913**	**3,009,887**	**3,009,887**
			25.21	*30.88*	*30.88*
RSM 334616302140 Subdrainage piping, plastic, perforated PVC, pipe, 12" diameter, excludes excavation and backfill	97,463.00	LF	2,456,913	3,009,887	3,009,887
			23.40	*28.67*	*28.67*
04 03 03 20 02 12" Solid Pipe	**2,196.00**	**LF**	**51,386**	**62,951**	**62,951**
			23.40	*28.67*	*28.67*
RSM 333113252160 Public sanitary utility sewerage piping, piping polyvinyl chloride pipe, B & S, 13' lengths, 12" diameter, SDR 35, excludes excavation or backfill	2,196.00	LF	51,386	62,951	62,951
			6,237.79	*7,641.72*	*7,641.72*
04 03 03 20 03 End Walls	**488.00**	**EA**	**3,044,040**	**3,729,157**	**3,729,157**
			623.78	*764.17*	*764.17*
RSM 033053404250 Structural concrete, in place, free-standing wall (3000 psi), 8" thick x 14' high, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	4,880.00	CY	3,044,040	3,729,157	3,729,157
			14,363.04	*17,595.71*	*17,595.71*
04 03 03 21 Sodding	**599.00**	**ACR**	**8,603,460**	**10,539,829**	**10,539,829**
			2.97	*3.64*	*3.64*
USR Z Sodding, Furnishing and Installation	2,899,160.00	SY	8,603,460	10,539,829	10,539,829
			4,507.35	*5,521.81*	*5,521.81*
04 03 03 22 Hydroseeding	**23.00**	**ACR**	**103,669**	**127,002**	**127,002**
			0.93	*1.14*	*1.14*
RSM 329219131000 Seeding, mechanical seeding hydro or air seeding for large areas, includes lime, fertilizer and seed	111,320.00	SY	103,669	127,002	127,002
			39,973.15	*48,969.85*	*48,969.85*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
04 03 03 23 Site Stilling Wells	**24.00**	**EA**	**959,356**	**1,175,276**	**1,175,276**
			5,883.68	*7,207.92*	*7,207.92*
04 03 03 23 01 Stilling Well	**24.00**	**EA**	**141,208**	**172,990**	**172,990**
			26.86	*32.90*	*32.90*
RSM 334616253240 Subdrainage piping, corrugated metal, uncoated, aluminum or steel, pipe, perforated, 12" diameter, 16 ga., excludes excavation and backfill	480.00	LF	12,892	15,794	15,794
			4,537.56	*5,558.83*	*5,558.83*
NLU 255513403130 SCADA Infrastructure	24.00	EA	108,902	133,412	133,412
			808.94	*991.00*	*991.00*
NLU 255513501500 Energy Monitoring & Control Systems, monitoring point, liquid level, incl. transducer & communication link	24.00	EA	19,415	23,784	23,784
			17,512.33	*21,453.81*	*21,453.81*
04 03 03 23 02 Gangway	**24.00**	**EA**	**420,296**	**514,891**	**514,891**
			42.30	*51.82*	*51.82*
RSM 316213233700 Prestressed concrete piles, square, 40' long, 16" square, priced using 200 piles, excludes pile caps or mobilization	2,160.00	VLF	91,359	111,921	111,921
			283.03	*346.74*	*346.74*
RSM 355113281100 Gangway, aluminum, one end rolling, no hand rails, 4' wide, minimum	864.00	LF	244,542	299,581	299,581
			48.84	*59.83*	*59.83*
RSM 055213500520 Railing, pipe, steel, primed, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	1,728.00	LF	84,395	103,389	103,389
			3,901.73	*4,779.89*	*4,779.89*
04 03 03 23 03 Foundation and Bollard	**24.00**	**EA**	**93,642**	**114,717**	**114,717**
			619.73	*759.21*	*759.21*
RSM 033053403825 Structural concrete, in place, spread footing (3000 psi), 1 C.Y. to 5 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	42.00	CY	26,029	31,887	31,887
			1,408.60	*1,725.64*	*1,725.64*
RSM 347113172700 Security vehicle barriers, pipe bollards, steel, concrete filled/painted, 8' L x 4' D hole, 8" diam.	48.00	EA	67,613	82,831	82,831
			12,675.40	*15,528.24*	*15,528.24*
04 03 03 23 04 Stilling Well Crew	**24.00**	**EA**	**304,210**	**372,678**	**372,678**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			316.89	*388.21*	*388.21*
USR Z Stilling Well Crew	960.00	HR	304,210	372,678	372,678
			88,957,598.48	*108,979,165.09*	*108,979,165.09*
04 03 04 Divider Dam	**1.00**	**EA**	**88,957,598**	**108,979,165**	**108,979,165**
			5.77	*7.07*	*7.07*
04 03 04 01 Additional Excavation for Soil Cement Toe	**38,106.00**	**CY**	**220,057**	**269,585**	**269,585**
			2.90	*3.55*	*3.55*
USR Z Soil Excavation [3.5-cy Hydraul. Excav.]	38,106.00	LCY	110,475	135,339	135,339
			2.50	*3.06*	*3.06*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	43,822.00	LCY	109,582	134,245	134,245
			11.52	*14.12*	*14.12*
04 03 04 02 Dam Embankment Fill	**1,954,913.00**	**CY**	**22,524,416**	**27,593,956**	**27,593,956**
			1.68	*2.06*	*2.06*
USR Z Excavate and Load Borrow Material [3.5-cy hydraul. excavators]	1,954,913.00	CY	3,290,232	4,030,760	4,030,760
			2.83	*3.47*	*3.47*
USR Z Material Short Haul [1-mile approx.]	2,248,150.00	LCY	6,372,517	7,806,771	7,806,771
			5.72	*7.01*	*7.01*
USR Z Fill and Compact Borrow Fill, Dam Embankment [Front End Loader, Compactor]	2,248,150.00	LCY	12,861,667	15,756,425	15,756,425
			15.06	*18.45*	*18.45*
04 03 04 03 Soil-Bentonite Cutoff Walls, Stage 2	**477,821.00**	**SF**	**7,194,871**	**8,814,211**	**8,814,211**
			15.06	*18.45*	*18.45*
USR Z Slurry Bentonite Wall	477,821.00	SF	7,194,871	8,814,211	8,814,211
			36.41	*44.60*	*44.60*
04 03 04 04 24" Clean Sand Layer	**78,888.00**	**LCY**	**2,872,024**	**3,518,427**	**3,518,427**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	118,332.00	TON	2,631,348	3,223,582	3,223,582
			2.65	*3.25*	*3.25*
USR Z Fill and Compact, Sand [Front End Loader, Compactor]	90,721.00	LCY	240,676	294,845	294,845
			36.41	*44.60*	*44.60*
04 03 04 05 24" Filter Sand Layer	**92,368.00**	**LCY**	**3,362,782**	**4,119,638**	**4,119,638**
			22.24	*27.24*	*27.24*
USR Z FIlter Sand, Material	138,552.00	TON	3,080,980	3,774,412	3,774,412

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			2.65	*3.25*	*3.25*
USR Z Fill and Compact, Sand [Front End Loader, Compactor]	106,223.00	LCY	281,802	345,227	345,227
			255.27	*312.73*	*312.73*
04 03 04 06 Soil Cement	**204,987.00**	**CY**	**52,327,769**	**64,105,110**	**64,105,110**
			255.27	*312.73*	*312.73*
USR Z Soil Cement [mix and place]	204,987.00	CY	52,327,769	64,105,110	64,105,110
			455,679.94	*558,239.20*	*558,239.20*
04 03 04 07 Toe Drain	**1.00**	**EA**	**455,680**	**558,239**	**558,239**
			11.08	*13.57*	*13.57*
04 03 04 07 01 6" Slotted PVC	**28,784.00**	**LF**	**318,936**	**390,718**	**390,718**
			11.08	*13.57*	*13.57*
RSM 334616302110 Subdrainage piping, plastic, perforated PVC, pipe, 6" diameter, excludes excavation and backfill	28,784.00	LF	318,936	390,718	390,718
			18.95	*23.21*	*23.21*
04 03 04 07 02 6" Solid PVC	**1,152.00**	**LF**	**21,825**	**26,737**	**26,737**
			18.95	*23.21*	*23.21*
HNC 331113254630 Polyvinyl chloride, pipe, 6", schedule 40 pipe, excludes excavation or backfill	1,152.00	LF	21,825	26,737	26,737
			798.05	*977.66*	*977.66*
04 03 04 07 03 6" Duck Bill Backflow	**144.00**	**EA**	**114,919**	**140,784**	**140,784**
			798.05	*977.66*	*977.66*
RSM 331213157820 Water connection, valves with rubber gaskets, 6", excludes excavation and backfill	144.00	EA	114,919	140,784	140,784
			40,338,132.75	*49,416,981.84*	*49,416,981.84*
04 03 05 Outflow Canal (CNL-3)	**1.00**	**EA**	**40,338,133**	**49,416,982**	**49,416,982**
			7.97	*9.77*	*9.77*
04 03 05 01 Canal Excavation	**269,700.00**	**CY**	**2,150,218**	**2,634,165**	**2,634,165**
			1.37	*1.68*	*1.68*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	269,700.00	CY	369,041	452,101	452,101
			2.50	*3.06*	*3.06*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	310,155.00	LCY	775,578	950,136	950,136
			3.24	*3.97*	*3.97*
USR Z Material Spreading [Dozers]	310,155.00	LCY	1,005,599	1,231,928	1,231,928

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			143.03	*175.22*	*175.22*
04 03 05 02 18" Type B Riprap	**267,000.00**	**CY**	**38,187,915**	**46,782,817**	**46,782,817**
			82.91	*101.57*	*101.57*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	460,575.00	TON	38,187,915	46,782,817	46,782,817
			1,077,540.32	*1,320,060.86*	*1,320,060.86*
04 03 06 Access Roads	**1.00**	**EA**	**1,077,540**	**1,320,061**	**1,320,061**
			39.93	*48.91*	*48.91*
04 03 06 01 Pavement Access Roads	**17,600.00**	**SY**	**702,719**	**860,879**	**860,879**
			4.44	*5.43*	*5.43*
RSM 321216140025 Asphaltic concrete paving, parking lots & driveways, 6" stone base, 2" binder course, 2" topping, no asphalt hauling included	158,400.00	SF	702,719	860,879	860,879
			17.27	*21.16*	*21.16*
04 03 06 02 Dam Access Ramps	**21,700.00**	**SY**	**374,821**	**459,182**	**459,182**
			30.42	*37.27*	*37.27*
RSM 321123231523 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 1-1/2", 12" deep	7,233.00	ECY	220,051	269,578	269,578
			32.10	*39.32*	*39.32*
RSM 321123231522 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 1-1/2", 8" deep	4,822.00	ECY	154,770	189,604	189,604
			194,315.89	*238,050.31*	*238,050.31*
04 03 07 Floating Safety/Debris Barrier	**5.00**	**EA**	**971,579**	**1,190,252**	**1,190,252**
			947.17	*1,160.35*	*1,160.35*
HTW 025413103733 Biological lagoons, floating lagoon separators, self buoyant, 5' depth	1,000.00	LF	947,174	1,160,353	1,160,353
			30.51	*37.37*	*37.37*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	800.00	VLF	24,406	29,899	29,899
			3,599,271.12	*4,409,354.21*	*4,409,354.21*
04 11 11 - Levees & Floodwalls	**1.00**	**EA**	**3,599,271**	**4,409,354**	**4,409,354**
			3,599,271.12	*4,409,354.21*	*4,409,354.21*
04 11 01 Levee for New/Expanded Farm (AGIs)	**1.00**	**EA**	**3,599,271**	**4,409,354**	**4,409,354**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3,128.12	*3,832.16*	*3,832.16*
04 11 01 01 Clearing	**56.00**	**ACR**	**175,175**	**214,601**	**214,601**
			3,128.12	*3,832.16*	*3,832.16*
USR Z Clearing and Grubbing	56.00	ACR	175,175	214,601	214,601
			5.77	*7.07*	*7.07*
04 11 01 02 6" Soil Excavation	**39,663.00**	**CY**	**229,047**	**280,598**	**280,598**
			2.90	*3.55*	*3.55*
USR Z Soil Excavation [3.5-cy Hydraul. Excav.]	39,663.00	LCY	114,989	140,869	140,869
			2.50	*3.06*	*3.06*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	45,612.00	LCY	114,058	139,729	139,729
			4.24	*5.20*	*5.20*
04 11 01 03 Borrow Ditch Excavation	**166,851.00**	**CY**	**708,124**	**867,501**	**867,501**
			1.37	*1.68*	*1.68*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	166,851.00	CY	228,309	279,694	279,694
			2.50	*3.06*	*3.06*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	191,879.00	LCY	479,815	587,807	587,807
			9.45	*11.58*	*11.58*
04 11 01 04 Levee Embankment Fill	**190,114.00**	**CY**	**1,797,500**	**2,202,061**	**2,202,061**
			2.50	*3.06*	*3.06*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	218,631.00	LCY	546,712	669,759	669,759
			5.72	*7.01*	*7.01*
USR Z Fill and Compact Borrow Fill, Dam Embankment [Front End Loader, Compactor]	218,631.00	LCY	1,250,788	1,532,301	1,532,301
			14,363.04	*17,595.71*	*17,595.71*
04 11 01 05 Sodding	**48.00**	**ACR**	**689,426**	**844,594**	**844,594**
			2.97	*3.64*	*3.64*
USR Z Sodding, Furnishing and Installation	232,320.00	SY	689,426	844,594	844,594
			36,340,825.51	*56,526,024.98*	*56,526,024.98*
CONTRACT 5 - Reservoir Dam Structures	**1.00**	**EA**	**36,340,826**	**56,526,025**	**56,526,025**
			8,336,829.13	*12,967,449.28*	*12,967,449.28*
05 03 03 - Reservoirs	**1.00**	**EA**	**8,336,829**	**12,967,449**	**12,967,449**
			8,336,829.13	*12,967,449.28*	*12,967,449.28*
05 03 01 Divider Dam Structure (DDS-1)	**1.00**	**EA**	**8,336,829**	**12,967,449**	**12,967,449**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
05 03 01 01 Sheetpile Dewatering	**1.00**	**LS**	**3,257,517**	**5,066,877**	**5,066,877**
			27.27	*42.41*	*42.41*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	60,085.00	SF	1,638,277	2,548,244	2,548,244
			660.56	*1,027.47*	*1,027.47*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	1,700.00	DAY	1,122,956	1,746,693	1,746,693
			182.94	*284.55*	*284.55*
USR Z Dewatering Operation and Maintenance [2 laborers]	212.00	DAY	38,783	60,324	60,324
			269.12	*418.60*	*418.60*
USR Z Dewatering Pump Operation [Fuel Costs]	1,700.00	DAY	457,501	711,616	711,616
			4.38	*6.81*	*6.81*
05 03 01 02 Spillway Excavation	**38,350.00**	**CY**	**167,842**	**261,068**	**261,068**
			1.43	*2.22*	*2.22*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	38,350.00	CY	54,722	85,117	85,117
			2.56	*3.99*	*3.99*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	44,102.00	LCY	113,120	175,952	175,952
			270.88	*421.34*	*421.34*
05 03 01 03 Tremie Concrete	**5,815.00**	**CY**	**1,575,164**	**2,450,075**	**2,450,075**
			183.06	*284.74*	*284.74*
RSM 033113354350 Structural concrete, ready mix, flowable fill, structural, 1000 psi, includes ash, Portland cement Type I, aggregate, sand and water, delivered, excludes all additives and treatments	6,396.00	CY	1,170,838	1,821,170	1,821,170
			63.22	*98.33*	*98.33*
RSM 033113702150 Structural concrete, placing, continuous footing, deep, pumped, includes leveling (strike off) & consolidation, excludes material	6,396.00	CY	404,326	628,905	628,905
			636.62	*990.23*	*990.23*
05 03 01 04 Concrete Structures	**2,587.00**	**CY**	**1,646,940**	**2,561,719**	**2,561,719**
			544.36	*846.72*	*846.72*
05 03 01 04 01 Gate Structure	**35.60**	**CY**	**19,379**	**30,143**	**30,143**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	1,246.00	SFC	7,205	11,207	11,207

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	39.00	CY	10,530	16,379	16,379
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	39.00	CY	1,644	2,557	2,557
			546.11	*849.45*	*849.45*
05 03 01 04 02 Abutment Walls	**356.00**	**CY**	**194,416**	**302,403**	**302,403**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	12,460.00	SFC	72,047	112,065	112,065
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	392.00	CY	105,844	164,634	164,634
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	392.00	CY	16,525	25,703	25,703
			911.51	*1,417.79*	*1,417.79*
05 03 01 04 03 Elevated Beam	**30.60**	**CY**	**27,892**	**43,384**	**43,384**
			820.36	*1,276.01*	*1,276.01*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	34.00	CY	27,892	43,384	43,384
			466.79	*726.07*	*726.07*
05 03 01 04 04 Platform, Bridge and Brestwall	**94.70**	**CY**	**44,205**	**68,759**	**68,759**
			7.97	*12.39*	*12.39*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	1,657.00	SF	13,201	20,534	20,534
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	104.00	CY	28,081	43,678	43,678

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			28.10	*43.71*	*43.71*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	104.00	CY	2,923	4,546	4,546
			574.35	*893.37*	*893.37*
05 03 01 04 05 Ogee Spillway	**293.00**	**CY**	**168,286**	**261,758**	**261,758**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	11,720.00	SFC	67,768	105,410	105,410
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	322.00	CY	86,943	135,235	135,235
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	322.00	CY	13,574	21,113	21,113
			317.68	*494.13*	*494.13*
05 03 01 04 06 Approach Apron	**889.00**	**CY**	**282,413**	**439,278**	**439,278**
			5.80	*9.01*	*9.01*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	1,031.00	SFC	5,975	9,294	9,294
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	978.00	CY	264,070	410,746	410,746
			12.65	*19.67*	*19.67*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	978.00	CY	12,368	19,238	19,238
			339.93	*528.74*	*528.74*
05 03 01 04 07 Stilling Basin	**889.00**	**CY**	**302,199**	**470,053**	**470,053**
			5.80	*9.01*	*9.01*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	4,445.00	SFC	25,761	40,069	40,069
			270.01	*419.99*	*419.99*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	978.00	CY	264,070	410,746	410,746
			12.65	*19.67*	*19.67*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	978.00	CY	12,368	19,238	19,238
			2,966.58	*4,614.35*	*4,614.35*
05 03 01 04 08 Reinforcing Steel	**205.00**	**TON**	**608,150**	**945,941**	**945,941**
			2,966.58	*4,614.35*	*4,614.35*
RSM 032111600700 Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	205.00	TON	608,150	945,941	945,941
			51.45	*80.02*	*80.02*
05 03 01 05 Sheetpile Cutoff	**8,600.00**	**SF**	**442,446**	**688,198**	**688,198**
			48.50	*75.43*	*75.43*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	8,600.00	SF	417,076	648,737	648,737
			857.08	*1,333.14*	*1,333.14*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	29.60	CY	25,370	39,461	39,461
			155.08	*241.21*	*241.21*
05 03 01 06 Riprap	**1,117.00**	**CY**	**173,219**	**269,432**	**269,432**
			3.37	*5.24*	*5.24*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	5,625.00	SY	18,960	29,492	29,492
			80.05	*124.52*	*124.52*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	1,927.00	TON	154,259	239,941	239,941
			770,579.01	*1,198,590.50*	*1,198,590.50*
05 03 01 07 Gates	**1.00**	**EA**	**770,579**	**1,198,591**	**1,198,591**
			770,579.01	*1,198,590.50*	*1,198,590.50*
USR Z 20' x 12' Steel Gate, Material and Installation	1.00	EA	770,579	1,198,591	1,198,591
			143,516.18	*223,231.01*	*223,231.01*
05 03 01 08 Miscellaneous Metals	**1.00**	**EA**	**143,516**	**223,231**	**223,231**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			121.60	*189.14*	*189.14*
RSM 055213500210 Railing, pipe, aluminum, clear finish, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	1,108.00	LF	134,730	209,564	209,564
			83.68	*130.16*	*130.16*
RSM 055133130400 Ladder, shop fabricated, aluminum, 20" W, bolted to concrete, excl cage	105.00	VLF	8,787	13,667	13,667
			16,432.48	*25,559.76*	*25,559.76*
05 03 01 09 Boat Barrier	**2.00**	**EA**	**32,865**	**51,120**	**51,120**
			30.75	*47.84*	*47.84*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	240.00	VLF	7,381	11,481	11,481
			74.95	*116.58*	*116.58*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	340.00	LF	25,484	39,639	39,639
			62.37	*97.01*	*97.01*
05 03 01 10 Site Fencing	**1,000.00**	**LF**	**62,368**	**97,009**	**97,009**
			60.80	*94.58*	*94.58*
RSM 323113200940 Fence, chain link industrial, aluminized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	1,000.00	LF	60,805	94,578	94,578
			390.79	*607.86*	*607.86*
RSM 323113201500 Fence, chain link industrial, gate, aluminized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	4.00	EA	1,563	2,431	2,431
			415.13	*645.70*	*645.70*
05 03 01 11 Control Building Concrete	**26.00**	**CY**	**10,793**	**16,788**	**16,788**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	301.00	SFC	1,740	2,707	2,707
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	29.00	CY	7,830	12,180	12,180
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	29.00	CY	1,222	1,902	1,902

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			53,580.12	*83,340.74*	*83,340.74*
05 03 01 12 Control Building	**1.00**	**EA**	**53,580**	**83,341**	**83,341**
			3,765.63	*5,857.22*	*5,857.22*
RSM 083613200320 Doors, residential, garage, overhead, sectional, fiberglass, deluxe, 16' x 7', incl. hardware, excl. frame	2.00	EA	7,531	11,714	11,714
			1,908.40	*2,968.40*	*2,968.40*
RSM 081116100030 Doors & frames, aluminum, entrance, narrow stile, clear finish, 3'-6" x 7'-0" opening, incl. standard hardware, excl. glass	2.00	EA	3,817	5,937	5,937
			274.55	*427.05*	*427.05*
HNC 344319100500 Junction boxes, size 1, 4 hubs, 4" x 2"	1.00	EA	275	427	427
			122.98	*191.29*	*191.29*
RSM 087913100400 Metal casework, key cabinets, wall mounted, 30 key capacity	1.00	EA	123	191	191
			822.53	*1,279.40*	*1,279.40*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,645	2,559	2,559
			492.40	*765.90*	*765.90*
RSM 233416107220 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 2750 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	492	766	766
			2,369.55	*3,685.70*	*3,685.70*
RSM 233416107160 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 1450 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	2,370	3,686	3,686
			6,448.15	*10,029.72*	*10,029.72*
RSM 233416107280 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 13,760 CFM, 12" galvanized curb, 35" sq. damper	1.00	EA	6,448	10,030	10,030
			28,345.97	*44,090.49*	*44,090.49*
RSM 231323260200 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 1,000 gallon, incl. pad & pump	1.00	EA	28,346	44,090	44,090
			56.27	*87.53*	*87.53*
RSM 312323171100 Fill, gravel fill, compacted, under floor slabs, alternate pricing method, 6" deep	8.00	ECY	450	700	700
			4.41	*6.87*	*6.87*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	472.00	SY	2,083	3,240	3,240
			28,003,996.39	*43,558,575.71*	*43,558,575.71*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
05 15 15 - Floodway Control/Diversion Structures	**1.00**	**EA**	**28,003,996**	**43,558,576**	**43,558,576**
05 15 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**412,626**	**641,815**	**641,815**
05 15 01 01 Mobilization	**1.00**	**LS**	**243,304**	**378,445**	**378,445**
			7,398.26	*11,507.56*	*11,507.56*
USR Z Mob / Demob Crew	30.00	DAY	221,948	345,227	345,227
			2,669.56	*4,152.35*	*4,152.35*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	8.00	EA	21,356	33,219	33,219
05 15 01 02 Demobilization	**1.00**	**LS**	**169,322**	**263,370**	**263,370**
			7,398.26	*11,507.56*	*11,507.56*
USR Z Mob / Demob Crew	20.00	DAY	147,965	230,151	230,151
			2,669.56	*4,152.35*	*4,152.35*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	8.00	EA	21,356	33,219	33,219
			1,497,424.99	*2,329,156.84*	*2,329,156.84*
05 15 02 Structure OS-1 Emergency Overflow Un-gated Weir/Spillway	**1.00**	**EA**	**1,497,425**	**2,329,157**	**2,329,157**
			1.33	*2.06*	*2.06*
05 15 02 01 Silt Fence	**856.00**	**LF**	**1,136**	**1,767**	**1,767**
			1.33	*2.06*	*2.06*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	856.00	LF	1,136	1,767	1,767
			605.29	*941.50*	*941.50*
05 15 02 02 Concrete	**2,472.00**	**CY**	**1,496,289**	**2,327,390**	**2,327,390**
			5.82	*9.05*	*9.05*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	12,360.00	SFC	71,890	111,820	111,820
			272.56	*423.95*	*423.95*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,719.00	CY	741,084	1,152,713	1,152,713
			12.65	*19.67*	*19.67*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	2,719.00	CY	34,386	53,485	53,485

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3,310.87	*5,149.86*	*5,149.86*
RSM 032111600500 Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	196.00	TON	648,930	1,009,372	1,009,372
			1,487,752.58	*2,314,111.97*	*2,314,111.97*
05 15 03 Structure OS-2 Emergency Overflow Un-gated Weir/Spillway	**1.00**	**EA**	**1,487,753**	**2,314,112**	**2,314,112**
			1.32	*2.05*	*2.05*
05 15 03 01 Silt Fence	**2,072.00**	**LF**	**2,737**	**4,258**	**4,258**
			1.32	*2.05*	*2.05*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	2,072.00	LF	2,737	4,258	4,258
			600.73	*934.41*	*934.41*
05 15 03 02 Concrete	**2,472.00**	**CY**	**1,485,015**	**2,309,854**	**2,309,854**
			5.80	*9.01*	*9.01*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	12,360.00	SFC	71,632	111,419	111,419
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,719.00	CY	734,158	1,141,940	1,141,940
			12.65	*19.67*	*19.67*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	2,719.00	CY	34,386	53,485	53,485
			3,290.00	*5,117.40*	*5,117.40*
RSM 032111600500 Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	196.00	TON	644,840	1,003,010	1,003,010
			22,127.87	*34,418.61*	*34,418.61*
05 15 04 Culverts CU-1A	**556.00**	**LF**	**12,303,096**	**19,136,746**	**19,136,746**
05 15 04 01 Sheetpile Dewatering	**1.00**	**LS**	**5,237,006**	**8,145,856**	**8,145,856**
			27.27	*42.41*	*42.41*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	161,581.00	SF	4,405,667	6,852,756	6,852,756
			1,049.05	*1,631.73*	*1,631.73*
RSM 312319201100 Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 LF of suction hose and 100 LF of discharge hose	410.00	DAY	430,109	669,009	669,009

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			489.31	*761.09*	*761.09*
RSM 312319201120 Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 LF of suction hose and 100 LF of discharge hose, add for additional pump	820.00	DAY	401,231	624,091	624,091
			4.38	*6.81*	*6.81*
05 15 04 02 Excavation	**93,302.00**	**CY**	**408,346**	**635,159**	**635,159**
			1.43	*2.22*	*2.22*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	93,302.00	CY	133,133	207,081	207,081
			2.56	*3.99*	*3.99*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	107,297.00	LCY	275,213	428,078	428,078
			6,901.60	*10,735.04*	*10,735.04*
05 15 04 03 Concrete Culvert	**592.00**	**LF**	**4,085,748**	**6,355,142**	**6,355,142**
			317.60	*494.01*	*494.01*
05 15 04 03 01 Foundation	**2,083.00**	**CY**	**661,569**	**1,029,031**	**1,029,031**
			5.80	*9.01*	*9.01*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	2,416.00	SFC	14,002	21,779	21,779
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,291.00	CY	618,594	962,186	962,186
			12.65	*19.67*	*19.67*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	2,291.00	CY	28,973	45,066	45,066
			545.84	*849.02*	*849.02*
05 15 04 03 02 Culvert Walls	**2,105.00**	**CY**	**1,148,985**	**1,787,178**	**1,787,178**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	73,675.00	SFC	426,010	662,633	662,633
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,316.00	CY	625,344	972,686	972,686

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	2,316.00	CY	97,631	151,859	151,859
			453.90	*706.02*	*706.02*
05 15 04 03 03 Top Slab	**1,389.00**	**CY**	**630,474**	**980,665**	**980,665**
			7.97	*12.39*	*12.39*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	21,960.00	SF	174,956	272,134	272,134
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,528.00	CY	412,576	641,737	641,737
			28.10	*43.71*	*43.71*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	1,528.00	CY	42,942	66,794	66,794
			458.96	*713.89*	*713.89*
05 15 04 03 04 Miscellaneous Concrete	**481.00**	**CY**	**220,761**	**343,381**	**343,381**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	9,620.00	SFC	55,626	86,522	86,522
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	529.00	CY	142,835	222,172	222,172
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	529.00	CY	22,300	34,686	34,686
			2,966.58	*4,614.35*	*4,614.35*
05 15 04 03 05 Reinforcing Steel	**480.00**	**TON**	**1,423,960**	**2,214,886**	**2,214,886**
			2,966.58	*4,614.35*	*4,614.35*
RSM 032111600700 Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	480.00	TON	1,423,960	2,214,886	2,214,886
			52.73	*82.02*	*82.02*
05 15 04 04 Sheetpile Endwalls	**4,800.00**	**SF**	**253,099**	**393,681**	**393,681**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			48.50	*75.43*	*75.43*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	4,800.00	SF	232,787	362,086	362,086
			857.08	*1,333.14*	*1,333.14*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	23.70	CY	20,313	31,595	31,595
			80,326.63	*124,943.36*	*124,943.36*
05 15 04 05 Miscellaneous Metals	**1.00**	**EA**	**80,327**	**124,943**	**124,943**
			121.60	*189.14*	*189.14*
RSM 055213500210 Railing, pipe, aluminum, clear finish, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	404.00	LF	49,125	76,411	76,411
			86.33	*134.27*	*134.27*
RSM 055313100186 Floor grating, aluminum, 1-3/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	312.00	SF	26,934	41,894	41,894
			83.68	*130.16*	*130.16*
RSM 055133130400 Ladder, shop fabricated, aluminum, 20" W, bolted to concrete, excl cage	51.00	VLF	4,268	6,638	6,638
			770,579.01	*1,198,590.50*	*1,198,590.50*
05 15 04 06 Gates	**2.00**	**EA**	**1,541,158**	**2,397,181**	**2,397,181**
			770,579.01	*1,198,590.50*	*1,198,590.50*
USR Z 19' x 12' Steel Gate, Material and Installation	2.00	EA	1,541,158	2,397,181	2,397,181
			139.93	*217.65*	*217.65*
05 15 04 07 Riprap	**3,375.00**	**CY**	**472,257**	**734,569**	**734,569**
			3.37	*5.24*	*5.24*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	1,839.00	SY	6,199	9,642	9,642
			80.05	*124.52*	*124.52*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	5,822.00	TON	466,058	724,927	724,927
			16,432.48	*25,559.76*	*25,559.76*
05 15 04 08 Boat Barrier	**2.00**	**EA**	**32,865**	**51,120**	**51,120**
			30.75	*47.84*	*47.84*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	240.00	VLF	7,381	11,481	11,481

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			74.95	*116.58*	*116.58*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	340.00	LF	25,484	39,639	39,639
			82,030.23	*127,593.22*	*127,593.22*
05 15 04 09 SWPPP	**1.00**	**EA**	**82,030**	**127,593**	**127,593**
			74.95	*116.58*	*116.58*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	980.00	LF	73,453	114,252	114,252
			1.32	*2.05*	*2.05*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	6,492.00	LF	8,577	13,341	13,341
			110,259.31	*171,501.89*	*171,501.89*
05 15 04 10 Control Building	**1.00**	**EA**	**110,259**	**171,502**	**171,502**
			838.61	*1,304.41*	*1,304.41*
RSM 033053404250 Structural concrete, in place, free-standing wall (3000 psi), 8" thick x 14' high, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	12.50	CY	10,483	16,305	16,305
			328.38	*510.78*	*510.78*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	5.30	CY	1,740	2,707	2,707
			974.95	*1,516.48*	*1,516.48*
RSM 033053402750 Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	4.40	CY	4,290	6,673	6,673
			1,805.77	*2,808.76*	*2,808.76*
RSM 033053403590 Structural concrete, in place, equipment pad (3000 psi), 10' x 10' x 12", includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	1.00	EA	1,806	2,809	2,809
			1,444.04	*2,246.11*	*2,246.11*
RSM 081313130700 Doors, commercial, steel, flush, full panel, hollow core, hollow metal, 20 ga., 4'-0" x 8'-0" x 1-3/4" thick	2.00	EA	2,888	4,492	4,492
			299.83	*466.36*	*466.36*
RSM 087120400500 Door hardware, lockset, standard duty, cylindrical, with sectional trim, lever handled, keyed, single cylinder function	2.00	EA	600	933	933
			403.41	*627.47*	*627.47*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 260533252250 Conduit fittings for rigid galvanized steel, boxes connector with set screw, insulated, 4" diameter	1.00	EA	403	627	627
			822.53	*1,279.40*	*1,279.40*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,645	2,559	2,559
			604.44	*940.17*	*940.17*
RSM 230593103600 Balancing, air conditioning equipment, supply, return, exhaust, registers and diffusers, laboratory fume hood, (Subcontractor's quote including material & labor)	6.00	EA	3,627	5,641	5,641
			3,073.48	*4,780.62*	*4,780.62*
RSM 233416107230 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 3500 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	3,073	4,781	4,781
			1,763.13	*2,742.44*	*2,742.44*
RSM 233416107140 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 815 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	1,763	2,742	2,742
			28,345.97	*44,090.49*	*44,090.49*
RSM 231323260200 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 1,000 gallon, incl. pad & pump	1.00	EA	28,346	44,090	44,090
			240.04	*373.36*	*373.36*
RSM 321123238210 Base course drainage layers, aggregate base course for concrete slabs and capillary water barrier, 1" minus graded gravel, 6" compacted thickness	8.00	CY	1,920	2,987	2,987
			1.90	*2.95*	*2.95*
RSM 334626100150 Geotextile subsurface drainage filtration, plastic filter fabric, in underground drain lines	472.00	SF	895	1,392	1,392
			46,780.22	*72,763.89*	*72,763.89*
RSM 263213132200 Generator set, diesel, 3 phase 4 wire, 277/480 V, 75 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	46,780	72,764	72,764
			22,127.87	*34,418.61*	*34,418.61*
05 15 05 Culverts CU-2	**556.00**	**LF**	**12,303,096**	**19,136,746**	**19,136,746**
05 15 05 01 Sheetpile Dewatering	**1.00**	**LS**	**5,237,006**	**8,145,856**	**8,145,856**
			27.27	*42.41*	*42.41*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	161,581.00	SF	4,405,667	6,852,756	6,852,756

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			1,049.05	*1,631.73*	*1,631.73*
RSM 312319201100 Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 LF of suction hose and 100 LF of discharge hose	410.00	DAY	430,109	669,009	669,009
			489.31	*761.09*	*761.09*
RSM 312319201120 Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 LF of suction hose and 100 LF of discharge hose, add for additional pump	820.00	DAY	401,231	624,091	624,091
			4.38	*6.81*	*6.81*
05 15 05 02 Excavation	**93,302.00**	**CY**	**408,346**	**635,159**	**635,159**
			1.43	*2.22*	*2.22*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	93,302.00	CY	133,133	207,081	207,081
			2.56	*3.99*	*3.99*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	107,297.00	LCY	275,213	428,078	428,078
			6,901.60	*10,735.04*	*10,735.04*
05 15 05 03 Concrete Culvert	**592.00**	**LF**	**4,085,748**	**6,355,142**	**6,355,142**
			317.60	*494.01*	*494.01*
05 15 05 03 01 Foundation	**2,083.00**	**CY**	**661,569**	**1,029,031**	**1,029,031**
			5.80	*9.01*	*9.01*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	2,416.00	SFC	14,002	21,779	21,779
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,291.00	CY	618,594	962,186	962,186
			12.65	*19.67*	*19.67*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	2,291.00	CY	28,973	45,066	45,066
			545.84	*849.02*	*849.02*
05 15 05 03 02 Culvert Walls	**2,105.00**	**CY**	**1,148,985**	**1,787,178**	**1,787,178**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	73,675.00	SFC	426,010	662,633	662,633
			270.01	*419.99*	*419.99*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	2,316.00	CY	625,344	972,686	972,686
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	2,316.00	CY	97,631	151,859	151,859
			453.90	*706.02*	*706.02*
05 15 05 03 03 Top Slab	**1,389.00**	**CY**	**630,474**	**980,665**	**980,665**
			7.97	*12.39*	*12.39*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	21,960.00	SF	174,956	272,134	272,134
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,528.00	CY	412,576	641,737	641,737
			28.10	*43.71*	*43.71*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	1,528.00	CY	42,942	66,794	66,794
			458.96	*713.89*	*713.89*
05 15 05 03 04 Miscellaneous Concrete	**481.00**	**CY**	**220,761**	**343,381**	**343,381**
			5.78	*8.99*	*8.99*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	9,620.00	SFC	55,626	86,522	86,522
			270.01	*419.99*	*419.99*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	529.00	CY	142,835	222,172	222,172
			42.16	*65.57*	*65.57*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	529.00	CY	22,300	34,686	34,686
			2,966.58	*4,614.35*	*4,614.35*
05 15 05 03 05 Reinforcing Steel	**480.00**	**TON**	**1,423,960**	**2,214,886**	**2,214,886**
			2,966.58	*4,614.35*	*4,614.35*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 032111600700 Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	480.00	TON	1,423,960	2,214,886	2,214,886
			52.73	*82.02*	*82.02*
05 15 05 04 Sheetpile Endwalls	**4,800.00**	**SF**	**253,099**	**393,681**	**393,681**
			48.50	*75.43*	*75.43*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	4,800.00	SF	232,787	362,086	362,086
			857.08	*1,333.14*	*1,333.14*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	23.70	CY	20,313	31,595	31,595
			80,326.63	*124,943.36*	*124,943.36*
05 15 05 05 Miscellaneous Metals	**1.00**	**EA**	**80,327**	**124,943**	**124,943**
			121.60	*189.14*	*189.14*
RSM 055213500210 Railing, pipe, aluminum, clear finish, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	404.00	LF	49,125	76,411	76,411
			86.33	*134.27*	*134.27*
RSM 055313100186 Floor grating, aluminum, 1-3/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	312.00	SF	26,934	41,894	41,894
			83.68	*130.16*	*130.16*
RSM 055133130400 Ladder, shop fabricated, aluminum, 20" W, bolted to concrete, excl cage	51.00	VLF	4,268	6,638	6,638
			770,579.01	*1,198,590.50*	*1,198,590.50*
05 15 05 06 Gates	**2.00**	**EA**	**1,541,158**	**2,397,181**	**2,397,181**
			770,579.01	*1,198,590.50*	*1,198,590.50*
USR Z 19' x 12' Steel Gate, Material and Installation	2.00	EA	1,541,158	2,397,181	2,397,181
			139.93	*217.65*	*217.65*
05 15 05 07 Riprap	**3,375.00**	**CY**	**472,257**	**734,569**	**734,569**
			3.37	*5.24*	*5.24*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	1,839.00	SY	6,199	9,642	9,642
			80.05	*124.52*	*124.52*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	5,822.00	TON	466,058	724,927	724,927

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			16,432.48	*25,559.76*	*25,559.76*
05 15 05 08 Boat Barrier	**2.00**	**EA**	**32,865**	**51,120**	**51,120**
			30.75	*47.84*	*47.84*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	240.00	VLF	7,381	11,481	11,481
			74.95	*116.58*	*116.58*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	340.00	LF	25,484	39,639	39,639
			82,030.23	*127,593.22*	*127,593.22*
05 15 05 09 SWPPP	**1.00**	**EA**	**82,030**	**127,593**	**127,593**
			74.95	*116.58*	*116.58*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	980.00	LF	73,453	114,252	114,252
			1.32	*2.05*	*2.05*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	6,492.00	LF	8,577	13,341	13,341
			110,259.31	*171,501.89*	*171,501.89*
05 15 05 10 Control Building	**1.00**	**EA**	**110,259**	**171,502**	**171,502**
			838.61	*1,304.41*	*1,304.41*
RSM 033053404250 Structural concrete, in place, free-standing wall (3000 psi), 8" thick x 14' high, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	12.50	CY	10,483	16,305	16,305
			328.38	*510.78*	*510.78*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	5.30	CY	1,740	2,707	2,707
			974.95	*1,516.48*	*1,516.48*
RSM 033053402750 Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	4.40	CY	4,290	6,673	6,673
			1,805.77	*2,808.76*	*2,808.76*
RSM 033053403590 Structural concrete, in place, equipment pad (3000 psi), 10' x 10' x 12", includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	1.00	EA	1,806	2,809	2,809
			1,444.04	*2,246.11*	*2,246.11*
RSM 081313130700 Doors, commercial, steel, flush, full panel, hollow core, hollow metal, 20 ga., 4'-0" x 8'-0" x 1-3/4" thick	2.00	EA	2,888	4,492	4,492

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			299.83	*466.36*	*466.36*
RSM 087120400500 Door hardware, lockset, standard duty, cylindrical, with sectional trim, lever handled, keyed, single cylinder function	2.00	EA	600	933	933
			403.41	*627.47*	*627.47*
RSM 260533252250 Conduit fittings for rigid galvanized steel, boxes connector with set screw, insulated, 4" diameter	1.00	EA	403	627	627
			822.53	*1,279.40*	*1,279.40*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,645	2,559	2,559
			604.44	*940.17*	*940.17*
RSM 230593103600 Balancing, air conditioning equipment, supply, return, exhaust, registers and diffusers, laboratory fume hood, (Subcontractor's quote including material & labor)	6.00	EA	3,627	5,641	5,641
			3,073.48	*4,780.62*	*4,780.62*
RSM 233416107230 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 3500 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	3,073	4,781	4,781
			1,763.13	*2,742.44*	*2,742.44*
RSM 233416107140 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 815 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	1,763	2,742	2,742
			28,345.97	*44,090.49*	*44,090.49*
RSM 231323260200 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 1,000 gallon, incl. pad & pump	1.00	EA	28,346	44,090	44,090
			240.04	*373.36*	*373.36*
RSM 321123238210 Base course drainage layers, aggregate base course for concrete slabs and capillary water barrier, 1" minus graded gravel, 6" compacted thickness	8.00	CY	1,920	2,987	2,987
			1.90	*2.95*	*2.95*
RSM 334626100150 Geotextile subsurface drainage filtration, plastic filter fabric, in underground drain lines	472.00	SF	895	1,392	1,392
			46,780.22	*72,763.89*	*72,763.89*
RSM 263213132200 Generator set, diesel, 3 phase 4 wire, 277/480 V, 75 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	46,780	72,764	72,764
			15,486,119.36	*26,316,172.90*	*26,316,172.90*
CONTRACT 6 - Reservoir Perimeter Canal & Outfall Canal Structures	**1.00**	**EA**	**15,486,119**	**26,316,173**	**26,316,173**
06 09 09 - Channels and Canals	**1.00**	**LS**	**437,719**	**743,833**	**743,833**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			22,594.34	*38,395.45*	*38,395.45*
06 09 01 Perimeter Canal Outfall Strucutres (PCOS-2 thru PCOS-4)	**3.00**	**EA**	**67,783**	**115,186**	**115,186**
			22,594.34	*38,395.45*	*38,395.45*
06 09 01 01 PCOS-2	**1.00**	**EA**	**22,594**	**38,395**	**38,395**
			18.64	*31.68*	*31.68*
06 09 01 01 01 Earthwork	**622.00**	**CY**	**11,596**	**19,705**	**19,705**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	622.00	CY	3,695	6,279	6,279
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	715.00	LCY	1,788	3,038	3,038
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	715.00	LCY	6,113	10,388	10,388
			4,438.51	*7,542.53*	*7,542.53*
06 09 01 01 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
06 09 01 01 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			22,594.34	*38,395.45*	*38,395.45*
06 09 01 02 PCOS-3	**1.00**	**EA**	**22,594**	**38,395**	**38,395**
			18.64	*31.68*	*31.68*
06 09 01 02 01 Earthwork	**622.00**	**CY**	**11,596**	**19,705**	**19,705**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	622.00	CY	3,695	6,279	6,279
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	715.00	LCY	1,788	3,038	3,038

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	715.00	LCY	6,113	10,388	10,388
			4,438.51	*7,542.53*	*7,542.53*
06 09 01 02 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
06 09 01 02 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			22,594.34	*38,395.45*	*38,395.45*
06 09 01 03 PCOS-4	**1.00**	**EA**	**22,594**	**38,395**	**38,395**
			18.64	*31.68*	*31.68*
06 09 01 03 01 Earthwork	**622.00**	**CY**	**11,596**	**19,705**	**19,705**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	622.00	CY	3,695	6,279	6,279
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	715.00	LCY	1,788	3,038	3,038
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	715.00	LCY	6,113	10,388	10,388
			4,438.51	*7,542.53*	*7,542.53*
06 09 01 03 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			164.00	*278.69*	*278.69*
06 09 01 03 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			64,017.09	*108,786.76*	*108,786.76*
06 09 02 Offsite Outfall Structures (OOS-1 thru OOS-8)	**5.00**	**EA**	**320,085**	**543,934**	**543,934**
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 01 OOS-1	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 01 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 01 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 01 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 02 OOS-2	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
07 09 02 02 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 02 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 02 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 03 OOS-3	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 03 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 03 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 03 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 04 OOS-4	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 04 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 04 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 04 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 05 OOS-5	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 05 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 05 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 05 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 06 OOS-6	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 05 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 05 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 05 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 07 OOS-7	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 05 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 05 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 05 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			40,010.68	*67,991.73*	*67,991.73*
06 09 02 08 OOS-8	**1.00**	**EA**	**40,011**	**67,992**	**67,992**
			18.65	*31.68*	*31.68*
07 09 02 05 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
07 09 02 05 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
07 09 02 05 03 Piping	**40.00**	**LF**	**6,560**	**11,148**	**11,148**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	40.00	LF	6,560	11,148	11,148
			49,850.60	*84,713.09*	*84,713.09*
06 09 03 Offsite Drainage Collection Ditch Outfall Structure (ODCD-OS-1)	**1.00**	**EA**	**49,851**	**84,713**	**84,713**
			49,850.60	*84,713.09*	*84,713.09*
06 09 03 01 OOS-1	**1.00**	**EA**	**49,851**	**84,713**	**84,713**
			18.65	*31.68*	*31.68*
06 09 03 01 01 Earthwork	**1,556.00**	**CY**	**29,012**	**49,302**	**49,302**
			5.94	*10.09*	*10.09*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
USR Z Outfall Excavation [3.5-cy hydraul. excavators]	1,556.00	CY	9,243	15,707	15,707
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,789.00	LCY	4,474	7,602	7,602
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,789.00	LCY	15,296	25,993	25,993
			4,438.51	*7,542.53*	*7,542.53*
06 09 03 01 02 Ditch Bottom Inlet	**1.00**	**EA**	**4,439**	**7,543**	**7,543**
			3,804.54	*6,465.21*	*6,465.21*
RSM 330516130100 Utility structures, utility vaults precast concrete, 6' x 10' x 6' high, I.D., 6" thick, excludes excavation and backfill	1.00	EA	3,805	6,465	6,465
			46.96	*79.80*	*79.80*
RSM 055313700502 Floor grating, steel, painted, 2-1/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	13.50	SF	634	1,077	1,077
			164.00	*278.69*	*278.69*
06 09 03 01 03 Piping	**100.00**	**LF**	**16,400**	**27,869**	**27,869**
			164.00	*278.69*	*278.69*
RSM 334113602270 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 36" diameter, 8' lengths, class 3, excludes excavation or backfill	100.00	LF	16,400	27,869	27,869
			6,777,013.35	*11,516,445.85*	*11,516,445.85*
06 13 13 - Pumping Plants	**1.00**	**EA**	**6,777,013**	**11,516,446**	**11,516,446**
06 13 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**779,467**	**1,324,579**	**1,324,579**
06 13 01 01 Mobilization	**1.00**	**LS**	**459,942**	**781,597**	**781,597**
			7,020.82	*11,930.75*	*11,930.75*
USR Z Mob / Demob Crew	60.00	DAY	421,249	715,845	715,845
			2,579.50	*4,383.45*	*4,383.45*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	15.00	EA	38,693	65,752	65,752
06 13 01 02 Demobilization	**1.00**	**LS**	**319,525**	**542,982**	**542,982**
			7,020.82	*11,930.75*	*11,930.75*
USR Z Mob / Demob Crew	40.00	DAY	280,833	477,230	477,230
			2,579.50	*4,383.45*	*4,383.45*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	15.00	EA	38,693	65,752	65,752

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			5,997,546.40	*10,191,866.95*	*10,191,866.95*
06 13 02 AGI PS-1 Agricultural Pump Station	**1.00**	**EA**	**5,997,546**	**10,191,867**	**10,191,867**
			9.76	*16.58*	*16.58*
06 13 02 01 FEB Seepage Pump Station Excavation	**1,388.00**	**CY**	**13,546**	**23,019**	**23,019**
			3.16	*5.36*	*5.36*
USR Z Pump Station Excavation [4-cy hydraul. excavators]	1,388.00	CY	4,380	7,443	7,443
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	1,596.00	LCY	3,991	6,782	6,782
			3.24	*5.51*	*5.51*
USR Z Material Spreading [Dozers]	1,596.00	LCY	5,175	8,793	8,793
			7.97	*13.55*	*13.55*
06 13 02 02 Inflow and Outflow Canal Excavation	**17,059.00**	**CY**	**136,006**	**231,120**	**231,120**
			1.37	*2.33*	*2.33*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	17,059.00	CY	23,343	39,667	39,667
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	19,618.00	LCY	49,057	83,365	83,365
			3.24	*5.51*	*5.51*
USR Z Material Spreading [Dozers]	19,618.00	LCY	63,606	108,089	108,089
			4.95	*8.42*	*8.42*
06 13 02 03 Levee Degrade	**8,661.00**	**CY**	**42,897**	**72,897**	**72,897**
			1.22	*2.08*	*2.08*
NLU 312316503170 Excavation, bulk, bank measure, 9 cycles/hour, 35 C.Y., push loaded self propelled scraper	8,661.00	BCY	10,605	18,021	18,021
			3.24	*5.51*	*5.51*
USR Z Material Spreading [Dozers]	9,960.00	LCY	32,293	54,876	54,876
			274,994.59	*467,309.14*	*467,309.14*
06 13 02 04 Demo Existing Pump Station	**1.00**	**EA**	**274,995**	**467,309**	**467,309**
			687.49	*1,168.27*	*1,168.27*
USR Z Demo Pump Station Crew	400.00	HR	274,995	467,309	467,309
			5,530,102.77	*9,397,521.57*	*9,397,521.57*
06 13 02 05 New Pump Station	**1.00**	**EA**	**5,530,103**	**9,397,522**	**9,397,522**
06 13 02 05 01 Sheetpile Dewatering	**1.00**	**LS**	**698,894**	**1,187,659**	**1,187,659**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			27.37	*46.52*	*46.52*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	10,800.00	SF	295,623	502,364	502,364
			660.56	*1,122.52*	*1,122.52*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	420.00	DAY	277,436	471,458	471,458
			182.94	*310.87*	*310.87*
USR Z Dewatering Operation and Maintenance [2 laborers]	70.00	DAY	12,806	21,761	21,761
			269.12	*457.32*	*457.32*
USR Z Dewatering Pump Operation [Fuel Costs]	420.00	DAY	113,030	192,076	192,076
			842.77	*1,432.15*	*1,432.15*
06 13 02 05 02 Reinforced Concrete	**4,135.00**	**CY**	**3,484,851**	**5,921,945**	**5,921,945**
			842.77	*1,432.15*	*1,432.15*
RSM 033053404250 Structural concrete, in place, free-standing wall (3000 psi), 8" thick x 14' high, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	4,135.00	CY	3,484,851	5,921,945	5,921,945
			992,502.23	*1,686,598.16*	*1,686,598.16*
06 13 02 05 03 Station and Building Equipment	**1.00**	**EA**	**992,502**	**1,686,598**	**1,686,598**
			12.75	*21.66*	*21.66*
RSM 055313702500 Floor grating, steel, expanded mesh, 3.14# per S.F., field fabricated from panels	9,180.00	SF	117,027	198,869	198,869
			3,805.32	*6,466.52*	*6,466.52*
RSM 083613200320 Doors, residential, garage, overhead, sectional, fiberglass, deluxe, 16' x 7', incl. hardware, excl. frame	1.00	EA	3,805	6,467	6,467
			1,942.73	*3,301.35*	*3,301.35*
RSM 081116100030 Doors & frames, aluminum, entrance, narrow stile, clear finish, 3'-6" x 7'-0" opening, incl. standard hardware, excl. glass	4.00	EA	7,771	13,205	13,205
			1,356.96	*2,305.93*	*2,305.93*
RSM 089119203390 Wall louvers, galvanized steel, fixed blades, commercial grade, 60" x 60"	8.00	EA	10,856	18,447	18,447
			141,135.12	*239,836.48*	*239,836.48*
RSM 412213130475 Overhead bridge crane, under hung hoist, electric operating, 2 girder, 25 ton, 40' span	2.00	EA	282,270	479,673	479,673
			4.15	*7.05*	*7.05*
RSM 337139131440 Overhead line conductors & devices, underbuilt circuits, per wire, 210 to 636 kcmil	2,500.00	LF	10,371	17,625	17,625

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			15,329.57	*26,050.15*	*26,050.15*
RSM 333613130220 Utility septic tank and effluent wet well, septic tanks precast concrete, 4 piece, 5,000 gallon, excludes excavation or piping	1.00	EA	15,330	26,050	26,050
			88,172.03	*149,834.20*	*149,834.20*
RSM 332113100500 Public water supply wells, wells domestic water, gravel pack well, complete, 40' deep, 24" diameter casing x 18" diameter screen, includes gravel & casing	1.00	EA	88,172	149,834	149,834
			37,476.88	*63,685.94*	*63,685.94*
RSM 231323260300 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 2,000 gallon, incl. pad & pump	1.00	EA	37,477	63,686	63,686
			333.15	*566.13*	*566.13*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	49.40	CY	16,457	27,967	27,967
			38.69	*65.74*	*65.74*
RSM 055313700432 Floor grating, steel, painted, 1-1/2" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 4" O.C., up to 300 S.F., field fabricated from panels	548.00	SF	21,201	36,027	36,027
			112.15	*190.59*	*190.59*
RSM 055133130100 Ladder, shop fabricated, steel, 20" W, bolted to concrete, excl cage	342.00	VLF	38,356	65,181	65,181
			1,327.00	*2,255.02*	*2,255.02*
HNC 321713132010 Parking barriers, bollard, concrete filled steel pipe, 8' long, 8" diameter	1.00	EA	1,327	2,255	2,255
			2,041.67	*3,469.49*	*3,469.49*
RSM 347113171500 Security vehicle barriers, concrete barrier, jersey, 10' L x 2' by 6" W x 32" H, 10 or more same site	20.00	EA	40,833	69,390	69,390
			80.55	*136.88*	*136.88*
RSM 323113200940 Fence, chain link industrial, aluminized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	2,280.00	LF	183,651	312,086	312,086
			1.78	*3.02*	*3.02*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	3,700.00	LF	6,579	11,180	11,180
			99.25	*168.65*	*168.65*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	600.00	LF	59,548	101,192	101,192
			281.73	*478.76*	*478.76*
HNC 344319100500 Junction boxes, size 1, 4 hubs, 4" x 2"	4.00	EA	1,127	1,915	1,915

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			124.39	*211.38*	*211.38*
RSM 087913100400 Metal casework, key cabinets, wall mounted, 30 key capacity	1.00	EA	124	211	211
			834.63	*1,418.32*	*1,418.32*
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	1,669	2,837	2,837
			503.40	*855.44*	*855.44*
RSM 233416107220 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 2750 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	503	855	855
			2,399.47	*4,077.51*	*4,077.51*
RSM 233416107160 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 1450 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	2,399	4,078	4,078
			45,645.85	*77,567.79*	*77,567.79*
RSM 263213132500 Generator set, diesel, 3 phase 4 wire, 277/480 V, 150 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	45,646	77,568	77,568
			83.96	*142.68*	*142.68*
06 13 02 05 04 Discharge Piping	**60.00**	**LF**	**5,038**	**8,561**	**8,561**
			83.96	*142.68*	*142.68*
RSM 334113402680 Public storm utility drainage piping, corrugated metal pipe, galvanized uncoated, 20' lengths, 12 ga., 48" diameter, excludes excavation and backfill	60.00	LF	5,038	8,561	8,561
			143.02	*243.03*	*243.03*
06 13 02 05 05 Stone Protection	**2,439.00**	**CY**	**348,817**	**592,759**	**592,759**
			82.91	*140.90*	*140.90*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	4,207.00	TON	348,817	592,759	592,759
			8,271,386.94	*14,055,893.78*	*14,055,893.78*
06 15 15 - Floodway Control/Diversion Structures	**1.00**	**EA**	**8,271,387**	**14,055,894**	**14,055,894**
06 15 01 Mobilization, Demobilization and Site Preparation	**1.00**	**LS**	**532,729**	**905,288**	**905,288**
06 15 01 01 Mobilization	**1.00**	**LS**	**336,573**	**571,952**	**571,952**
			7,020.82	*11,930.75*	*11,930.75*
USR Z Mob / Demob Crew	45.00	DAY	315,937	536,884	536,884
			2,579.50	*4,383.45*	*4,383.45*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	8.00	EA	20,636	35,068	35,068

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
06 15 01 02 Demobilization	**1.00**	**LS**	**196,156**	**333,336**	**333,336**
			7,020.82	*11,930.75*	*11,930.75*
USR Z Mob / Demob Crew	25.00	DAY	175,520	298,269	298,269
			2,579.50	*4,383.45*	*4,383.45*
RSM 015436501600 Mobilization or demobilization, delivery charge for equipment, hauled on 50-ton capacity towed trailer	8.00	EA	20,636	35,068	35,068
			21,744.18	*36,950.73*	*36,950.73*
06 15 02 Culverts CU-3	**280.00**	**LF**	**6,088,369**	**10,346,206**	**10,346,206**
06 15 02 01 Sheetpile Dewatering	**1.00**	**LS**	**3,262,769**	**5,544,552**	**5,544,552**
			27.37	*46.52*	*46.52*
RSM 314116101600 Sheet piling, steel, 27 psf, 20' excavation, per S.F., drive, extract and salvage, excludes wales	76,053.00	SF	2,081,760	3,537,617	3,537,617
			660.56	*1,122.52*	*1,122.52*
USR Z Dewatering Pump 6" w/ Discharge Pipe, Rental	1,230.00	DAY	812,492	1,380,700	1,380,700
			182.94	*310.87*	*310.87*
USR Z Dewatering Operation and Maintenance [2 laborers]	205.00	DAY	37,502	63,729	63,729
			269.12	*457.32*	*457.32*
USR Z Dewatering Pump Operation [Fuel Costs]	1,230.00	DAY	331,015	562,507	562,507
			4.24	*7.21*	*7.21*
06 15 02 02 Excavation	**32,701.00**	**CY**	**138,784**	**235,841**	**235,841**
			1.37	*2.33*	*2.33*
USR Z Canal/Culvert Excavation to Stockpile [3.5-cy hydraul. excavators]	32,701.00	CY	44,746	76,039	76,039
			2.50	*4.25*	*4.25*
USR Z Material Handling Between Local Stockpile, Levees [Dozers]	37,606.00	LCY	94,038	159,803	159,803
			7,515.87	*12,772.01*	*12,772.01*
06 15 02 03 Concrete Culvert	**280.00**	**LF**	**2,104,443**	**3,576,163**	**3,576,163**
			325.41	*552.98*	*552.98*
06 15 02 03 01 Foundation	**1,172.00**	**CY**	**381,378**	**648,090**	**648,090**
			5.82	*9.88*	*9.88*
RSM 031113653060 C.I.P. concrete forms, slab on grade, edge, wood, over 12", 4 use, includes erecting, bracing, stripping and cleaning	2,364.00	SFC	13,750	23,365	23,365
			272.56	*463.17*	*463.17*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	1,289.00	CY	351,327	597,023	597,023
			12.65	*21.49*	*21.49*
RSM 033113702950 Structural concrete, placing, foundation mat, pumped, over 20 C.Y., includes leveling (strike off) & consolidation, excludes material	1,289.00	CY	16,301	27,702	27,702
			539.62	*917.00*	*917.00*
06 15 02 03 02 Culvert Walls	**774.00**	**CY**	**417,665**	**709,755**	**709,755**
			5.79	*9.84*	*9.84*
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	25,872.00	SFC	149,845	254,638	254,638
			272.56	*463.17*	*463.17*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	851.00	CY	231,947	394,156	394,156
			42.16	*71.64*	*71.64*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	851.00	CY	35,874	60,962	60,962
			454.96	*773.14*	*773.14*
06 15 02 03 03 Top Slab	**781.00**	**CY**	**355,326**	**603,819**	**603,819**
			8.00	*13.60*	*13.60*
RSM 031113351600 C.I.P. concrete forms, elevated slab, flat plate, plywood, 21' to 35' high ceilings, 4 use, includes shoring, erecting, bracing, stripping and cleaning	12,129.00	SF	97,058	164,935	164,935
			272.56	*463.17*	*463.17*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	859.00	CY	234,127	397,861	397,861
			28.10	*47.76*	*47.76*
RSM 033113701600 Structural concrete, placing, elevated slab, pumped, over 10" thick, includes leveling (strike off) & consolidation, excludes material	859.00	CY	24,141	41,023	41,023
			461.66	*784.51*	*784.51*
06 15 02 03 04 Miscellaneous Concrete	**435.00**	**CY**	**200,821**	**341,263**	**341,263**
			5.79	*9.84*	*9.84*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 031113859460 C.I.P. concrete forms, walls, steel framed plywood, over 16' to 20' high, based on 50 uses of purchased forms, 4 uses of bracing lumber, includes erecting, bracing, stripping and cleaning	8,700.00	SFC	50,389	85,627	85,627
			272.56	*463.17*	*463.17*
RSM 033113350520 Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments	478.00	CY	130,283	221,394	221,394
			42.16	*71.64*	*71.64*
RSM 033113705350 Structural concrete, placing, walls, pumped, 15" thick, includes leveling (strike off) & consolidation, excludes material	478.00	CY	20,150	34,242	34,242
			2,987.45	*5,076.69*	*5,076.69*
06 15 02 03 05 Reinforcing Steel	**250.80**	**TON**	**749,253**	**1,273,234**	**1,273,234**
			2,987.45	*5,076.69*	*5,076.69*
RSM 032111600700 Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	250.80	TON	749,253	1,273,234	1,273,234
			53.13	*90.29*	*90.29*
06 15 02 04 Sheetpile Endwalls	**4,800.00**	**SF**	**255,041**	**433,401**	**433,401**
			48.88	*83.06*	*83.06*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	4,800.00	SF	234,617	398,694	398,694
			861.76	*1,464.42*	*1,464.42*
RSM 033053402950 Structural concrete, in place, elevated slab (4000 psi), two way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	23.70	CY	20,424	34,707	34,707
			86,800.76	*147,503.95*	*147,503.95*
06 15 02 05 Miscellaneous Metals	**1.00**	**EA**	**86,801**	**147,504**	**147,504**
			121.77	*206.93*	*206.93*
RSM 055213500210 Railing, pipe, aluminum, clear finish, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	404.00	LF	49,196	83,601	83,601
			86.92	*147.70*	*147.70*
RSM 055313100186 Floor grating, aluminum, 1-3/4" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 2" O.C., up to 300 S.F., field fabricated from panels	384.00	SF	33,377	56,718	56,718
			82.91	*140.88*	*140.88*
RSM 055133130400 Ladder, shop fabricated, aluminum, 20" W, bolted to concrete, excl cage	51.00	VLF	4,228	7,185	7,185

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			230.32	*391.39*	*391.39*
06 15 02 06 Riprap	**60.00**	**CY**	**13,819**	**23,483**	**23,483**
			3.33	*5.65*	*5.65*
HTW 334626100114 Geotextile Fabric, 170 Mil Thick Non-Woven Polypropylene	1,632.00	SY	5,427	9,222	9,222
			80.69	*137.13*	*137.13*
USR 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	104.00	TON	8,392	14,261	14,261
			16,461.57	*27,973.79*	*27,973.79*
06 15 02 07 Boat Barrier	**2.00**	**EA**	**32,923**	**55,948**	**55,948**
			30.51	*51.84*	*51.84*
RSM 316223132600 Concrete-filled steel piles, steel, pipe piles, no concrete, 50' long, 8" diameter, 29 lb/LF, excludes mobilization or demobilization	240.00	VLF	7,322	12,442	12,442
			75.30	*127.96*	*127.96*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	340.00	LF	25,601	43,506	43,506
			82,061.41	*139,450.18*	*139,450.18*
06 15 02 08 SWPPP	**1.00**	**EA**	**82,061**	**139,450**	**139,450**
			75.30	*127.96*	*127.96*
HTW 025413103731 Biological lagoons, floating lagoon separators, self buoyant, 3' depth	980.00	LF	73,792	125,398	125,398
			1.27	*2.16*	*2.16*
RSM 312514161000 Synthetic erosion control, silt fence, install and maintain, remove, 3' high	6,492.00	LF	8,269	14,052	14,052
			111,727.90	*189,863.63*	*189,863.63*
06 15 02 09 Control Building	**1.00**	**EA**	**111,728**	**189,864**	**189,864**
			857.93	*1,457.91*	*1,457.91*
RSM 033053404250 Structural concrete, in place, free-standing wall (3000 psi), 8" thick x 14' high, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	12.50	CY	10,724	18,224	18,224
			333.15	*566.13*	*566.13*
RSM 033053404700 Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing	5.30	CY	1,766	3,000	3,000
			995.83	*1,692.25*	*1,692.25*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 033053402750 Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	4.40	CY	4,382	7,446	7,446
RSM 033053403590 Structural concrete, in place, equipment pad (3000 psi), 10' x 10' x 12", includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	1.00	EA	*1,838.70* 1,839	*3,124.57* 3,125	*3,124.57* 3,125
RSM 081313130700 Doors, commercial, steel, flush, full panel, hollow core, hollow metal, 20 ga., 4'-0" x 8'-0" x 1-3/4" thick	2.00	EA	*1,459.58* 2,919	*2,480.32* 4,961	*2,480.32* 4,961
RSM 087120400500 Door hardware, lockset, standard duty, cylindrical, with sectional trim, lever handled, keyed, single cylinder function	2.00	EA	*303.90* 608	*516.44* 1,033	*516.44* 1,033
RSM 260533252250 Conduit fittings for rigid galvanized steel, boxes connector with set screw, insulated, 4" diameter	1.00	EA	*409.37* 409	*695.65* 696	*695.65* 696
RSM 104413532200 Fire equipment cabinets, portable extinguisher, large, steel box, recessed, D.S. glass in door, stainless steel door & frame, 8" x 12" x 36", excludes equipment	2.00	EA	*834.63* 1,669	*1,418.32* 2,837	*1,418.32* 2,837
RSM 230593103600 Balancing, air conditioning equipment, supply, return, exhaust, registers and diffusers, laboratory fume hood, (Subcontractor's quote including material & labor)	6.00	EA	*604.44* 3,627	*1,027.14* 6,163	*1,027.14* 6,163
RSM 233416107230 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, V belt drive, 1/4" S.P., 3500 CFM, 12" galvanized curb, 21" sq. damper	1.00	EA	*3,109.53* 3,110	*5,284.15* 5,284	*5,284.15* 5,284
RSM 233416107140 Fans, roof exhauster, centrifugal, aluminum housing, bird screen, back draft damper, direct drive, 1/4" S.P., 815 CFM, 12" galvanized curb, 13" sq. damper	1.00	EA	*1,786.11* 1,786	*3,035.21* 3,035	*3,035.21* 3,035
RSM 231323260200 Storage tank, horizontal, concrete, above ground, fuel-oil, vaulted, 1,000 gallon, incl. pad & pump	1.00	EA	*28,647.19* 28,647	*48,681.30* 48,681	*48,681.30* 48,681
RSM 321123238210 Base course drainage layers, aggregate base course for concrete slabs and capillary water barrier, 1" minus graded gravel, 6" compacted thickness	8.00	CY	*242.45* 1,940	*412.01* 3,296	*412.01* 3,296

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			1.96	*3.32*	*3.32*
RSM 334626100150 Geotextile subsurface drainage filtration, plastic filter fabric, in underground drain lines	472.00	SF	923	1,569	1,569
			47,380.04	*80,514.77*	*80,514.77*
RSM 263213132200 Generator set, diesel, 3 phase 4 wire, 277/480 V, 75 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	EA	47,380	80,515	80,515
			196,761.58	*334,364.71*	*334,364.71*
06 15 03 Perimeter Canal Weir, Manually Adjustable (PCW-1)	**1.00**	**EA**	**196,762**	**334,365**	**334,365**
			969.94	*1,648.26*	*1,648.26*
06 15 03 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 03 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 03 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 03 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			141.91	*241.15*	*241.15*
06 15 03 05 Riprap	**41.70**	**CY**	**5,917**	**10,056**	**10,056**
			82.19	*139.66*	*139.66*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	5,917	10,056	10,056
			5.40	*9.18*	*9.18*
06 15 03 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			196,761.58	*334,364.71*	*334,364.71*
06 15 04 Perimeter Canal Weir, Manually Adjustable (PCW-2)	**1.00**	**EA**	**196,762**	**334,365**	**334,365**
			969.94	*1,648.26*	*1,648.26*
06 15 04 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 04 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 04 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 04 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			141.91	*241.15*	*241.15*
06 15 04 05 Riprap	**41.70**	**CY**	**5,917**	**10,056**	**10,056**

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			82.19	*139.66*	*139.66*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	5,917	10,056	10,056
			5.40	*9.18*	*9.18*
06 15 04 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			196,761.58	*334,364.71*	*334,364.71*
06 15 05 Perimeter Canal Weir, Manually Adjustable (PCW-3)	**1.00**	**EA**	**196,762**	**334,365**	**334,365**
			969.94	*1,648.26*	*1,648.26*
06 15 05 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 05 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 05 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 05 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			141.91	*241.15*	*241.15*
06 15 05 05 Riprap	**41.70**	**CY**	**5,917**	**10,056**	**10,056**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			82.19	*139.66*	*139.66*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	5,917	10,056	10,056
			5.40	*9.18*	*9.18*
06 15 05 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			200,047.29	*339,948.25*	*339,948.25*
06 15 06 Perimeter Canal Weir, Manually Adjustable (PCW-4)	**1.00**	**EA**	**200,047**	**339,948**	**339,948**
			969.94	*1,648.26*	*1,648.26*
06 15 06 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 06 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 06 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 06 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			220.70	*375.04*	*375.04*
06 15 06 05 Riprap	**41.70**	**CY**	**9,203**	**15,639**	**15,639**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			127.82	*217.21*	*217.21*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	9,203	15,639	15,639
			5.40	*9.18*	*9.18*
06 15 06 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			200,047.29	*339,948.25*	*339,948.25*
06 15 07 Perimeter Canal Weir, Manually Adjustable (PCW-5)	**1.00**	**EA**	**200,047**	**339,948**	**339,948**
			969.94	*1,648.26*	*1,648.26*
06 15 07 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 07 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 07 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 07 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			220.70	*375.04*	*375.04*
06 15 07 05 Riprap	**41.70**	**CY**	**9,203**	**15,639**	**15,639**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			127.82	*217.21*	*217.21*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	9,203	15,639	15,639
			5.40	*9.18*	*9.18*
06 15 07 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			196,761.58	*334,364.71*	*334,364.71*
06 15 08 Perimeter Canal Weir, Manually Adjustable (PCW-6)	**1.00**	**EA**	**196,762**	**334,365**	**334,365**
			969.94	*1,648.26*	*1,648.26*
06 15 08 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 08 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 08 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 08 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			141.91	*241.15*	*241.15*
06 15 08 05 Riprap	**41.70**	**CY**	**5,917**	**10,056**	**10,056**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			82.19	*139.66*	*139.66*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	5,917	10,056	10,056
			5.40	*9.18*	*9.18*
06 15 08 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			196,761.58	*334,364.71*	*334,364.71*
06 15 09 Perimeter Canal Weir, Manually Adjustable (PCW-7)	**1.00**	**EA**	**196,762**	**334,365**	**334,365**
			969.94	*1,648.26*	*1,648.26*
06 15 09 01 Sheet Piles	**160.00**	**LF**	**155,191**	**263,722**	**263,722**
			48.50	*82.41*	*82.41*
RSM 314116101500 Sheet piling, steel, 27 psf, 20' excavation, per S.F., left in place, excludes wales	3,200.00	SF	155,191	263,722	263,722
			98.30	*167.04*	*167.04*
06 15 09 02 Concrete Cap	**75.00**	**LF**	**7,372**	**12,528**	**12,528**
			441.45	*750.18*	*750.18*
RSM 033053405950 Structural concrete, in place, pile cap (3000 psi), square or rectangular, over 10 C.Y., includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	16.70	CY	7,372	12,528	12,528
			987.59	*1,678.26*	*1,678.26*
06 15 09 03 Concrete Gate Opening	**6.00**	**CY**	**5,926**	**10,070**	**10,070**
			897.81	*1,525.69*	*1,525.69*
RSM 033053402500 Structural concrete, in place, elevated slab (4000 psi), one way joists, 125 psf superimposed load, 30" pans, 15' span, includes forms(4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing	6.60	CY	5,926	10,070	10,070
			78.77	*133.86*	*133.86*
06 15 09 04 Handrail	**150.00**	**LF**	**11,816**	**20,079**	**20,079**
			78.77	*133.86*	*133.86*
RSM 055213500560 Railing, pipe, steel, galvanized, 2 rails, 3'-6" high, posts @ 5' O.C., 1-1/2" dia, shop fabricated	150.00	LF	11,816	20,079	20,079
			141.91	*241.15*	*241.15*
06 15 09 05 Riprap	**41.70**	**CY**	**5,917**	**10,056**	**10,056**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			82.19	*139.66*	*139.66*
RSM 313713100350 Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	72.00	TON	5,917	10,056	10,056
			5.40	*9.18*	*9.18*
06 15 09 06 Geotextile Filter Fabric	**1,950.00**	**SY**	**10,539**	**17,910**	**17,910**
			5.15	*8.74*	*8.74*
RSM 313219161510 Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty, 600 lb. tensile strength	2,048.00	SY	10,539	17,910	17,910
			66,596.49	*113,170.04*	*113,170.04*
06 15 10 Perimeter Canal Culvert Ungated (PCCU-1)	**1.00**	**EA**	**66,596**	**113,170**	**113,170**
			15.99	*27.17*	*27.17*
06 15 10 01 Earthwork	**1,327.00**	**CY**	**21,218**	**36,057**	**36,057**
			6.16	*10.46*	*10.46*
USR Z Pipe Excavation [3.5-cy hydraul. excavators]	1,327.00	CY	8,171	13,885	13,885
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,526.00	LCY	13,047	22,171	22,171
			283.61	*481.96*	*481.96*
06 15 10 02 48" RCP	**160.00**	**LF**	**45,378**	**77,113**	**77,113**
			283.61	*481.96*	*481.96*
RSM 334113602290 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 48" diameter, 8' lengths, class 3, excludes excavation or backfill	160.00	LF	45,378	77,113	77,113
			66,596.49	*113,170.04*	*113,170.04*
06 15 11 Perimeter Canal Culvert Ungated (PCCU-2)	**1.00**	**EA**	**66,596**	**113,170**	**113,170**
			15.99	*27.17*	*27.17*
06 15 11 01 Earthwork	**1,327.00**	**CY**	**21,218**	**36,057**	**36,057**
			6.16	*10.46*	*10.46*
USR Z Pipe Excavation [3.5-cy hydraul. excavators]	1,327.00	CY	8,171	13,885	13,885
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,526.00	LCY	13,047	22,171	22,171
			283.61	*481.96*	*481.96*
06 15 11 02 48" RCP	**160.00**	**LF**	**45,378**	**77,113**	**77,113**
			283.61	*481.96*	*481.96*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
RSM 334113602290 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 48" diameter, 8' lengths, class 3, excludes excavation or backfill	160.00	LF	45,378	77,113	77,113
			66,596.49	*113,170.04*	*113,170.04*
06 15 12 Perimeter Canal Culvert Ungated (PCCU-3)	**1.00**	**EA**	**66,596**	**113,170**	**113,170**
			15.99	*27.17*	*27.17*
06 15 12 01 Earthwork	**1,327.00**	**CY**	**21,218**	**36,057**	**36,057**
			6.16	*10.46*	*10.46*
USR Z Pipe Excavation [3.5-cy hydraul. excavators]	1,327.00	CY	8,171	13,885	13,885
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,526.00	LCY	13,047	22,171	22,171
			283.61	*481.96*	*481.96*
06 15 12 02 48" RCP	**160.00**	**LF**	**45,378**	**77,113**	**77,113**
			283.61	*481.96*	*481.96*
RSM 334113602290 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 48" diameter, 8' lengths, class 3, excludes excavation or backfill	160.00	LF	45,378	77,113	77,113
			66,596.49	*113,170.04*	*113,170.04*
06 15 13 Perimeter Canal Culvert Ungated (PCCU-4)	**1.00**	**EA**	**66,596**	**113,170**	**113,170**
			15.99	*27.17*	*27.17*
06 15 13 01 Earthwork	**1,327.00**	**CY**	**21,218**	**36,057**	**36,057**
			6.16	*10.46*	*10.46*
USR Z Pipe Excavation [3.5-cy hydraul. excavators]	1,327.00	CY	8,171	13,885	13,885
			8.55	*14.53*	*14.53*
USR Z Fill and Compact Random Fill, Canals [Dozers, Compactor]	1,526.00	LCY	13,047	22,171	22,171
			283.61	*481.96*	*481.96*
06 15 13 02 48" RCP	**160.00**	**LF**	**45,378**	**77,113**	**77,113**
			283.61	*481.96*	*481.96*
RSM 334113602290 Public storm utility drainage piping, reinforced concrete pipe (RCP) with gaskets, 48" diameter, 8' lengths, class 3, excludes excavation or backfill	160.00	LF	45,378	77,113	77,113
			725,164.35	*1,327,688.67*	*1,327,688.67*
CONTRACT 7 - Recreation Features	**1.00**	**EA**	**725,164**	**1,327,689**	**1,327,689**
			725,164.35	*1,327,688.67*	*1,327,688.67*
07 14 14 - Recreational Facilities	**1.00**	**EA**	**725,164**	**1,327,689**	**1,327,689**

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			395,989.26	*722,583.76*	*722,583.76*
07 14 01 Site A Recreation Features	**1.00**	**EA**	**395,989**	**722,584**	**722,584**
			6,618.58	*12,737.09*	*12,737.09*
07 14 01 01 Vehicle Gate	**1.00**	**EA**	**6,619**	**12,737**	**12,737**
			6,618.58	*12,737.09*	*12,737.09*
HNC 111233130500 Automatic gates, parking equipment, one way, 8' arm	1.00	EA	6,619	12,737	12,737
			2,007.18	*3,862.72*	*3,862.72*
07 14 01 02 Vehicle Gate with Pedestrian Pass Through	**6.00**	**EA**	**12,043**	**23,176**	**23,176**
			2,007.18	*3,862.72*	*3,862.72*
RSM 111233135050 Parking gates, barrier gate, non-programmable, with reader and 12' arm	6.00	EA	12,043	23,176	23,176
			39,458.72	*75,257.71*	*75,257.71*
07 14 01 03 Large Shelter	**1.00**	**EA**	**39,459**	**75,258**	**75,258**
			64.26	*123.66*	*123.66*
RSM 133419500180 Pre-engineered steel building, clear span rigid frame, 30 psf roof and 20 psf wind load, 20' to 29' W x 20' eave H, excl. footings, slab, anchor bolts	540.00	SF	34,700	66,777	66,777
			6.36	*11.34*	*11.34*
RSM 033053405010 Structural concrete, in place, slab on grade (3000 psi), 6" thick, includes concrete (Portland cement Type I), placing and broom finish, excludes forms and reinforcing	748.00	SF	4,759	8,480	8,480
			1,595.35	*3,070.17*	*3,070.17*
07 14 01 04 6' Picnic Tables	**2.00**	**EA**	**3,191**	**6,140**	**6,140**
			1,595.35	*3,070.17*	*3,070.17*
RSM 323343131010 Site seating, picnic tables, recycled plastic, various colors, 6' long	2.00	EA	3,191	6,140	6,140
			1,972.14	*3,795.28*	*3,795.28*
07 14 01 05 8' ADA Accessible Picnic Table	**2.00**	**EA**	**3,944**	**7,591**	**7,591**
			1,972.14	*3,795.28*	*3,795.28*
RSM 323343131020 Site seating, picnic tables, recycled plastic, various colors, 8' long	2.00	EA	3,944	7,591	7,591
			707.92	*1,362.35*	*1,362.35*
07 14 01 06 Bike Rack	**1.00**	**EA**	**708**	**1,362**	**1,362**
			707.92	*1,362.35*	*1,362.35*
RSM 116813100200 Playground equipment, bike rack, permanent, 10' long	1.00	EA	708	1,362	1,362
			115.95	*223.14*	*223.14*

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Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
07 14 01 07 Parking Space Wheel Stops	**41.00**	**EA**	**4,754**	**9,149**	**9,149**
			115.95	*223.14*	*223.14*
RSM 321713191100 Precast concrete parking bumpers, wheel stops, precast concrete, 8" x 13" x 6' - 0", includes 2 dowels per each	41.00	EA	4,754	9,149	9,149
			51,544.44	*99,194.45*	*99,194.45*
07 14 01 08 Vault Toilet	**1.00**	**EA**	**51,544**	**99,194**	**99,194**
			51,544.44	*99,194.45*	*99,194.45*
USR Z Vault Toilet [Material and Installation]	1.00	EA	51,544	99,194	99,194
			176.98	*340.58*	*340.58*
07 14 01 09 Recreation Area Rules Sign	**1.00**	**EA**	**177**	**341**	**341**
			176.98	*340.58*	*340.58*
HNC 101453200570 Signs, stock, reflectorized, UTMCD standard, information sign, 12" x 18", with posts	1.00	EA	177	341	341
			147.57	*284.00*	*284.00*
07 14 01 10 ADA Accessible Parking Sign	**4.00**	**EA**	**590**	**1,136**	**1,136**
			147.57	*284.00*	*284.00*
HNC 101453200580 Signs, stock, reflectorized, UTMCD standard, handicap parking sign, 12" x 18", with posts	4.00	EA	590	1,136	1,136
			176.98	*340.58*	*340.58*
07 14 01 11 Parking Area Rules Sign	**3.00**	**EA**	**531**	**1,022**	**1,022**
			176.98	*340.58*	*340.58*
HNC 101453200570 Signs, stock, reflectorized, UTMCD standard, information sign, 12" x 18", with posts	3.00	EA	531	1,022	1,022
			132.65	*255.28*	*255.28*
07 14 01 12 Entrance Sign	**1.00**	**EA**	**133**	**255**	**255**
			132.65	*255.28*	*255.28*
HNC 101453200500 Signs, stock, reflectorized, UTMCD standard, 24" x 24", with posts	1.00	EA	133	255	255
			132.65	*255.28*	*255.28*
07 14 01 13 Entrance Gate Sign	**1.00**	**EA**	**133**	**255**	**255**
			132.65	*255.28*	*255.28*
HNC 101453200500 Signs, stock, reflectorized, UTMCD standard, 24" x 24", with posts	1.00	EA	133	255	255
			1.73	*3.08*	*3.08*
07 14 01 14 Pavement Marking	**1,032.00**	**LF**	**1,781**	**3,174**	**3,174**

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			1.73	*3.08*	*3.08*
RSM 321723130020 Painted pavement markings, acrylic waterborne, white or yellow, 4" wide, less than 3000 LF	1,032.00	LF	1,781	3,174	3,174
			6.91	*12.32*	*12.32*
07 14 01 15 Improved Vehicle Access Road	**11,264.00**	**SF**	**77,876**	**138,767**	**138,767**
			19.27	*34.33*	*34.33*
RSM 321123230303 Base course drainage layers, aggregate base course for roadways and large paved areas, crushed stone base, compacted, crushed 1-1/2" stone base, to 8" deep	1,439.00	SY	27,727	49,406	49,406
			12.61	*22.47*	*22.47*
RSM 321216130120 Plant-mix asphalt paving, for highways and large paved areas, binder course, 2" thick, no hauling included	1,377.00	SY	17,367	30,946	30,946
			14.23	*25.36*	*25.36*
RSM 321216130380 Plant-mix asphalt paving, for highways and large paved areas, wearing course, 2" thick, no hauling included	1,377.00	SY	19,595	34,916	34,916
			28.73	*51.20*	*51.20*
RSM 312323203086 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 16.5 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	459.00	LCY	13,188	23,499	23,499
			6.92	*12.33*	*12.33*
07 14 01 16 Ramp to Levee Top Parking	**2,667.00**	**SF**	**18,453**	**32,881**	**32,881**
			19.27	*34.33*	*34.33*
RSM 321123230303 Base course drainage layers, aggregate base course for roadways and large paved areas, crushed stone base, compacted, crushed 1-1/2" stone base, to 8" deep	341.00	SY	6,570	11,708	11,708
			12.61	*22.47*	*22.47*
RSM 321216130120 Plant-mix asphalt paving, for highways and large paved areas, binder course, 2" thick, no hauling included	326.00	SY	4,112	7,326	7,326
			14.23	*25.36*	*25.36*
RSM 321216130380 Plant-mix asphalt paving, for highways and large paved areas, wearing course, 2" thick, no hauling included	326.00	SY	4,639	8,266	8,266
			28.73	*51.20*	*51.20*
RSM 312323203086 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 16.5 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	109.00	LCY	3,132	5,580	5,580
			6.91	*12.32*	*12.32*
07 14 01 17 Improved Vehicle Access Road	**15,111.00**	**SF**	**104,483**	**186,177**	**186,177**

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			19.27	*34.33*	*34.33*
RSM 321123230303 Base course drainage layers, aggregate base course for roadways and large paved areas, crushed stone base, compacted, crushed 1-1/2" stone base, to 8" deep	1,931.00	SY	37,207	66,298	66,298
			12.61	*22.47*	*22.47*
RSM 321216130120 Plant-mix asphalt paving, for highways and large paved areas, binder course, 2" thick, no hauling included	1,847.00	SY	23,294	41,508	41,508
			14.23	*25.36*	*25.36*
RSM 321216130380 Plant-mix asphalt paving, for highways and large paved areas, wearing course, 2" thick, no hauling included	1,847.00	SY	26,283	46,834	46,834
			28.73	*51.20*	*51.20*
RSM 312323203086 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 16.5 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	616.00	LCY	17,699	31,537	31,537
			49.78	*88.71*	*88.71*
07 14 01 18 Guard Rails in Parking Area	**600.00**	**LF**	**29,870**	**53,225**	**53,225**
			49.78	*88.71*	*88.71*
HNC 347113260360 Guide/Guard rail, corrugated steel, galvanized steel posts, install metal guide/guard rail, steel posts 12' - 6" O.C., W6x8 posts	600.00	LF	29,870	53,225	53,225
			39,701.69	*70,744.18*	*70,744.18*
07 14 01 19 Boat Ramps	**1.00**	**EA**	**39,702**	**70,744**	**70,744**
			39.85	*71.02*	*71.02*
RSM 321123231523 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 1-1/2", 12" deep	213.00	ECY	8,489	15,126	15,126
			48.77	*86.90*	*86.90*
RSM 321126130560 Asphalt paving, plant mixed asphaltic base courses for roadways and large paved areas, bituminous concrete, 8" thick	640.00	SY	31,213	55,618	55,618
			329,175.08	*605,104.90*	*605,104.90*
07 14 02 Site B Recreation Features	**1.00**	**EA**	**329,175**	**605,105**	**605,105**
			39,458.72	*75,257.71*	*75,257.71*
07 14 02 01 Large Shelter	**1.00**	**EA**	**39,459**	**75,258**	**75,258**
			64.26	*123.66*	*123.66*
RSM 133419500180 Pre-engineered steel building, clear span rigid frame, 30 psf roof and 20 psf wind load, 20' to 29' W x 20' eave H, excl. footings, slab, anchor bolts	540.00	SF	34,700	66,777	66,777

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			6.36	*11.34*	*11.34*
RSM 033053405010 Structural concrete, in place, slab on grade (3000 psi), 6" thick, includes concrete (Portland cement Type I), placing and broom finish, excludes forms and reinforcing	748.00	SF	4,759	8,480	8,480
			1,595.35	*3,070.17*	*3,070.17*
07 14 02 02 6' Picnic Tables	**2.00**	**EA**	**3,191**	**6,140**	**6,140**
			1,595.35	*3,070.17*	*3,070.17*
RSM 323343131010 Site seating, picnic tables, recycled plastic, various colors, 6' long	2.00	EA	3,191	6,140	6,140
			1,972.14	*3,795.28*	*3,795.28*
07 14 02 03 8' ADA Accessible Picnic Table	**2.00**	**EA**	**3,944**	**7,591**	**7,591**
			1,972.14	*3,795.28*	*3,795.28*
RSM 323343131020 Site seating, picnic tables, recycled plastic, various colors, 8' long	2.00	EA	3,944	7,591	7,591
			29,988.94	*57,712.07*	*57,712.07*
07 14 02 04 Stand Alone Kiosk	**1.00**	**EA**	**29,989**	**57,712**	**57,712**
			29,988.94	*57,712.07*	*57,712.07*
RSM 133423450600 Kiosks, rectangular, 5' x 9' x 7' 6" h, aluminum wall, non-illuminated	1.00	EA	29,989	57,712	57,712
			707.92	*1,362.35*	*1,362.35*
07 14 02 05 Bike Rack	**1.00**	**EA**	**708**	**1,362**	**1,362**
			707.92	*1,362.35*	*1,362.35*
RSM 116813100200 Playground equipment, bike rack, permanent, 10' long	1.00	EA	708	1,362	1,362
			115.95	*223.14*	*223.14*
07 14 02 06 Parking Space Wheel Stops	**41.00**	**EA**	**4,754**	**9,149**	**9,149**
			115.95	*223.14*	*223.14*
RSM 321713191100 Precast concrete parking bumpers, wheel stops, precast concrete, 8" x 13" x 6' - 0", includes 2 dowels per each	41.00	EA	4,754	9,149	9,149
			51,544.44	*99,194.45*	*99,194.45*
07 14 02 07 Vault Toilet	**1.00**	**EA**	**51,544**	**99,194**	**99,194**
			51,544.44	*99,194.45*	*99,194.45*
USR Z Vault Toilet [Material and Installation]	1.00	EA	51,544	99,194	99,194
			176.98	*340.58*	*340.58*
07 14 02 08 Recreation Area Rules Sign	**1.00**	**EA**	**177**	**341**	**341**
			176.98	*340.58*	*340.58*

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
HNC 101453200570 Signs, stock, reflectorized, UTMCD standard, information sign, 12" x 18", with posts	1.00	EA	177	341	341
			147.57	*284.00*	*284.00*
07 14 02 09 ADA Accessible Parking Sign	**4.00**	**EA**	**590**	**1,136**	**1,136**
			147.57	*284.00*	*284.00*
HNC 101453200580 Signs, stock, reflectorized, UTMCD standard, handicap parking sign, 12" x 18", with posts	4.00	EA	590	1,136	1,136
			176.98	*340.58*	*340.58*
07 14 02 10 Parking Area Rules Sign	**3.00**	**EA**	**531**	**1,022**	**1,022**
			176.98	*340.58*	*340.58*
HNC 101453200570 Signs, stock, reflectorized, UTMCD standard, information sign, 12" x 18", with posts	3.00	EA	531	1,022	1,022
			1.73	*3.08*	*3.08*
07 14 02 11 Pavement Marking	**1,032.00**	**LF**	**1,781**	**3,174**	**3,174**
			1.73	*3.08*	*3.08*
RSM 321723130020 Painted pavement markings, acrylic waterborne, white or yellow, 4" wide, less than 3000 LF	1,032.00	LF	1,781	3,174	3,174
			6.92	*12.33*	*12.33*
07 14 02 12 Ramp to Levee Top Parking Lot	**2,667.00**	**SF**	**18,453**	**32,881**	**32,881**
			19.27	*34.33*	*34.33*
RSM 321123230303 Base course drainage layers, aggregate base course for roadways and large paved areas, crushed stone base, compacted, crushed 1-1/2" stone base, to 8" deep	341.00	SY	6,570	11,708	11,708
			12.61	*22.47*	*22.47*
RSM 321216130120 Plant-mix asphalt paving, for highways and large paved areas, binder course, 2" thick, no hauling included	326.00	SY	4,112	7,326	7,326
			14.23	*25.36*	*25.36*
RSM 321216130380 Plant-mix asphalt paving, for highways and large paved areas, wearing course, 2" thick, no hauling included	326.00	SY	4,639	8,266	8,266
			28.73	*51.20*	*51.20*
RSM 312323203086 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 16.5 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	109.00	LCY	3,132	5,580	5,580
			6.91	*12.32*	*12.32*
07 14 02 13 Levee Top Parking Area	**15,111.00**	**SF**	**104,483**	**186,177**	**186,177**

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

Description	Quantity	UOM	CostToPrime	ContractCost	ProjectCost
			19.27	*34.33*	*34.33*
RSM 321123230303 Base course drainage layers, aggregate base course for roadways and large paved areas, crushed stone base, compacted, crushed 1-1/2" stone base, to 8" deep	1,931.00	SY	37,207	66,298	66,298
			12.61	*22.47*	*22.47*
RSM 321216130120 Plant-mix asphalt paving, for highways and large paved areas, binder course, 2" thick, no hauling included	1,847.00	SY	23,294	41,508	41,508
			14.23	*25.36*	*25.36*
RSM 321216130380 Plant-mix asphalt paving, for highways and large paved areas, wearing course, 2" thick, no hauling included	1,847.00	SY	26,283	46,834	46,834
			28.73	*51.20*	*51.20*
RSM 312323203086 Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 15 min load/wait/unload, 16.5 C.Y. truck, cycle 50 miles, 40 MPH, excludes loading equipment	616.00	LCY	17,699	31,537	31,537
			49.78	*88.71*	*88.71*
07 14 02 14 Guard Rails in Parking Area	**600.00**	**LF**	**29,870**	**53,225**	**53,225**
			49.78	*88.71*	*88.71*
HNC 347113260360 Guide/Guard rail, corrugated steel, galvanized steel posts, install metal guide/guard rail, steel posts 12' - 6" O.C., W6x8 posts	600.00	LF	29,870	53,225	53,225
			39,701.69	*70,744.18*	*70,744.18*
07 14 02 15 Boat Ramps	**1.00**	**EA**	**39,702**	**70,744**	**70,744**
			39.85	*71.02*	*71.02*
RSM 321123231523 Base course drainage layers, aggregate base course for roadways and large paved areas, alternate method to figure base course, crushed stone, compacted, 1-1/2", 12" deep	213.00	ECY	8,489	15,126	15,126
			48.77	*86.90*	*86.90*
RSM 321126130560 Asphalt paving, plant mixed asphaltic base courses for roadways and large paved areas, bituminous concrete, 8" thick	640.00	SY	31,213	55,618	55,618

Labor ID: NLS2021 EQ ID: EP22R03 Currency in US dollars TRACES MII Version 4.4

ATTACHMENT 5

COST AND SCHEDULE RISK ANALYSIS RISK REGISTER

Lake Okeechobee Component A Reservoir - Risk Register

				Project Cost			Project Schedule		
CREF	Risk/Opportunity Event	Risk Event Description	PDT Discussions on Impact and Likelihood	Likelihood (cost)	Impact (cost)	Risk Level (cost)	Likelihood (sched)	Impact (sched)	Risk Level (sched)
Project & Program Management (PM)									
PM1	Planning process review revisions	This project will require significant review and approvals from USACE and other entities.	The concern is during development of the required documents delays could be encountered post-submission to various parties..	Very Likely	Negligible	Low	Likely	Significant	High
PM2	Multiple overlapping projects	There are multiple overlapping projects in the region, and accounting for costs and benefits may be overlapping. Overall system needs to work together to provide benefits.	There are numerous projects within the area that may have different purposes and overlapping features. This may cause accounting and authorization issues due to cost share and project purposes.	Unlikely	Moderate	Low	Unlikely	Significant	Medium
PM3	PED start date	PED phase start date is undetermined, and could push out current schedules.	No official date is set for PED, but start date is key to when construction can start and begin. Provided schedule has already been moved out, and local sponsors are relatively confident of current dates.	Likely	Moderate	Medium	Likely	Moderate	Medium
PM4	Funding profile	Project implementation is dependent on both the federal and local sponsor being able to meet finacial obligation to meet the project.	Equal contributions or cost share from the sponsor and from USACE will be needed for future work. Progress could vary based on actual financial contributions in funding the project.	Likely	Moderate	Medium	Likely	Significant	High
PM5	Escalation/Inflation rates	When dealing with large multiple year projects there are concerns for localized inflation above CWCCIS.	The concern is that due to funding restrictions and multiple contracts that inflation in CWCCIS will be outpaced in future years. However, inflation in this region is not anticipated to rise beyond regular inflation levels used in CWCCIS.	Unlikely	Moderate	Low	Unlikely	Moderate	Low
PM6	Late, and or during construction, scope changes/requests from owners	Concern of late, or after award of contract, changes to scope or requests for betterments.	This has occurred on other projects in region, whether from regulation changes, or sponsor requests. But risk is not assumed to be significant impact overall to costs or schedule.	Likely	Moderate	Medium	Likely	Marginal	Medium
Contract Acquisition (CA)									
CA1	Large project size/multiple projects	Most likely due to the large size of the project the project will be broken up into smalindividual contracts. Labor availability is a high risk due to size of project.	Coordination and sequencing may change significantly due to acquisition approach. Some thought has been put into contract acquisition into base case estimate. However schedule and cost could change based on actual implementation. Also, large number of crews likely required could max out space available.	Likely	Significant	High	Likely	Significant	High
CA2	Borrow/placement conflicts with multiple contracts	Concern for scoping of projects to ensure that the backfill and excavation and structure modifications are in the same contract.	Certain features and structures likely require specific coordination for completion. Current estimate and schedule need more work to balance this risk. However, it is not likely to be a low risk overall to current total costs and schedules.	Unlikely	Marginal	Low	Unlikely	Marginal	Low
CA3	Underbid project	Ris of contractor underbidding their work and requiring new contractors to take over..	This risk has already happened on other reservoir pojects in area. Team needs to ensure contractor(s) is properly prepared, with detailed documents (plans, specs) to accurately bid project. Hard to build this risk into estimate/schedules at this time, but is an overall risk to budgeting and scheduling during construction.	Likely	Significant	High	Likely	Moderate	Medium
CA4	Modifications and design changes during construction	On-going projects in area have incurred significant modifications to their contracts.	Design changes slow construction and add delay/changes to complete mods, or work through claims. Properly detailed design documents and reports can help mitigate, but this is simply a high risk to most construction projects.	Likely	Significant	High	Likely	Significant	High
Technical Design (TD) / Project Scope Growth									

Lake Okeechobee Component A Reservoir - Risk Register

				Project Cost			Project Schedule		
CREF	Risk/Opportunity Event	Risk Event Description	PDT Discussions on Impact and Likelihood	Likelihood (cost)	Impact (cost)	Risk Level (cost)	Likelihood (sched)	Impact (sched)	Risk Level (sched)
TD1	Internal water conveyance	Water comes from long distances (Caloosahatchee) to reach reservoirs.	There is the possibility of different conveyance needs being required as more design work is performed. Project could require additional piping through the proposed location of the perimeter levees, among other activities not currently included in estimate.	Very Likely	Moderate	High	Very Likely	Marginal	Medium
TD2	Seepage	Seepage from deeper storage can be significant and is based on limited geotechnical data at this time.	Relatively unknown geotechnical data. There is concern that there could be a need for additional work to mitigate seepage impacts based on current cutoff wall designs. Cost estimate has significant water control costs in it already, as such risk is considered medium overall for impacts to cost and schedule.	Possible	Significant	Medium	Possible	Significant	Medium
TD3	Flood control operations	Isolated area, dam failure is risk for flood control, and Seminole tribe is in the area.	A plan and appropriate costs have been incorporated in the features effected by the operation of the S-8 pump station. This includes the gated culverts down stream of the pump station including diversion canals. If any additional work is needed to ensure flood protection it will cause additional cost and could lengthen the schedule.	Likely	Marginal	Medium	Likely	Marginal	Medium
TD4	Pump Station Designs	Current pump station designs are based on previous work, and further design changes could occur.	The Engineering appendix does not provided sufficient information to determine detailed design info for some of the proposed pump stations. It is likely that the pump station design will need additional work to ensure that the pumps are capable of handling the flood waters. this could range from a new pump station to a rehab of the existing pump station.	Likely	Moderate	Medium	Likely	Moderate	Medium
TD5	Global geo tech assumptions	The team used global assumptions for the material strata for entire project although past experience shows that these can vary throughout the region.	Clay layer is relatively thin, so risk of geotech issues is at bottom of cutoff walls. Could significant cost impact if further geotech analysis shows changes to cutoff wall design is required.	Possible	Significant	Medium	Likely	Negligible	Low
TD6	Disposal of excess on site material	Currently there is no design for location or technique of onsite disposal of excess material.	Estimate is based on reasonable assumptions for handling of excess material. Currently assumes wasting any excess on-site in borrow pits, or spread across reservoir. Changes in assumptions are not likely to significantly impact current cost or schedule.	Unlikely	Marginal	Low	Possible	Negligible	Low
TD7	System not performing as intended	There is a technical risk that the system may not perform as expected and that some additional work may be required.	Some reformulation, rework or changes may be required due to unforseen issues. This will need to be monitored to ensure the system performs as intended and changes are efficently incorperated into the project	Likely	Significant	High	Unlikely	Negligible	Low
TD8	Wave Wall designs	Wave walls have subsequently been removed from the project and replaced with increased embankment heights.	No risk of this, as it has already occurred and has been incorporated into design and cost products.	Unlikely	Negligible	Low	Unlikely	Negligible	Low
Lands and Damages (LD)									
LD1	Project Area HTRW	There is the possibility that the Farm Land may have HTRWin the area.	There is a small chance that areas will encounter HTRWs and need additional work to ensure that the area is free of hazardous material prior to starting the construction of the reservoir.	Unlikely	Marginal	Low	Very Likely	Negligible	Low
LD2	Land ownership	All of the land is privately owned and negotiations for sale are on-going. Risk of land owner not agreeing to sale.	Some land owners may be holding out for "right price" for their land. Also, other areas may only require 12,500-acres but owner may choose all or nothing approach for selling their property. These risks are critial, but would likely stop the project, as opposed to increase costs or schedule (so risk is not included in model at this time)	Possible	Critical	High	Possible	Critical	High
Regulatory & Environmental (RE)									

Lake Okeechobee Component A Reservoir - Risk Register

				Project Cost			Project Schedule		
CREF	Risk/Opportunity Event	Risk Event Description	PDT Discussions on Impact and Likelihood	Likelihood (cost)	Impact (cost)	Risk Level (cost)	Likelihood (sched)	Impact (sched)	Risk Level (sched)
RE1	Endangered species on levees and construction sites	Endangered species known to be in area- Snakes, Birds, etc.	Normal endangered species clauses should be included in construction contract to include nesting seasons, work windows, and monitoring plans. There is likely room in our current schedule to account for some species impacts, but overall it could be likely with moderate changes to cost/schedule.	Likely	Moderate	Medium	Likely	Moderate	Medium
RE2	Water quality legal issues project wide	Water quality in system has been challenged before.	It is assumed that this will be resolved and water quality will be acceptable prior to the construction of LOWRP. Legal action or delays could significantly delay the project if this is not resolved the project will not move forward, this issue must be resolved prior to authorization of the project.	Unlikely	Negligible	Low	Unlikely	Critical	Medium
RE3	Cultural resources	Due to the nature of the area historical artifacts may be found during excavation.	During excavation there is the possibility of encountering cultural resources. Due to the small qty of top soil and the current usage of the land as agricultural may decrease the likelihood in this area. Although culturally sensitive material has been found in the area previously.	Very Likely	Negligible	Low	Very Likely	Negligible	Low
RE4	Costs for cultural resources	Cultural Resource preservation.	Ensure adequate costs for cultural resource preservation are added to estimate. This is usually accounted for in PED and CM costs.	Unlikely	Negligible	Low	Unlikely	Negligible	Low
Construction (CO)									
CO1	Fuel price	Due to the large quantity of hauling that will take place on the job there is a chance that fuel prices increasing could impact the job.	It is unknown at this time what the future of fuel prices wildo this will be studied and determined what different increases in how fuel prices will effect the job.	Very Likely	Marginal	Medium	Likely	Negligible	Low
CO2	Cut/fill quantities based on implementation	Cut/Fill quantities could vary from what is currently in estimate.	The concern is that you will need off site borrow or to create an excavation pit to ensure that all features have sufficient material. Additional processing of onsite materials as needed. This could also change based once contractor is in field. However, previous projects have not seen signficant variance in cut/fill, but impacts of different hauling assumptions could have significant impact on cost.	Possible	Significant	Medium	Very Likely	Negligible	Low
CO3	Storm water management during construction	The concern is that there will be water influx to the area during a storm.	There is the possibility that the water will need to be pumped or allowed to dry. There is concern that during the process of scheduling the work there will be delays that adversely impact the operations of the features. Lessons learned from preious work also showed that rising groundwater and surface water due to storms is a high risk. Significant dewatering costs are included in estimate, but still a high risk.	Likely	Significant	High	Likely	Significant	High
CO4	Weather impacts and delays	Extended wet weather and/or large storm events could impact the project.	Wet weather, large storms (hurricanes), flooding, and other weather risks are likely to occur during the construction. Contractor will likely prepare for typical weather impacts, but large events could cause significant delays and rework.	Likely	Significant	High	Likely	Significant	High
Cost and Schedule (ES)									
ES1	Labor Rates	Local wage rate assumptions could vary from assumed and impact the estimate	Generally wage rates are low in the area however skiled workers generally can command higher wages similar to those in other areas. Wage rates in estiamte are based on local market research and are current.	Likely	Marginal	Medium	Likely	Negligible	Low

Lake Okeechobee Component A Reservoir - Risk Register

				Project Cost			Project Schedule		
CREF	Risk/Opportunity Event	Risk Event Description	PDT Discussions on Impact and Likelihood	Likelihood (cost)	Impact (cost)	Risk Level (cost)	Likelihood (sched)	Impact (sched)	Risk Level (sched)
ES2	Estimate assumptions/like similar	Features were estimated using plans from similar structures with minimal design for the LOWRP. The assumption that local like similar features would be adequate to capturee the necessary scope to construct the feature.	This concern has been somewhat addressed for this project. A detailed MCACES and BODR level design have been prepared. However, a significant uncertainty exists for procurement, permit and production rates utilized for project planning stage.	Likely	Moderate	Medium	Likely	Marginal	Medium
ES3	Delays in fabrication equipment (supply chain issues)	Due to the number of specialty fabricated gates, pumps and motors, etc., there could be an impact to the project.	When dealing with specialty materials (gates pumps etc.) there is always concern that the raw materials may not be available. The risk is either that a premium will have to be paid for the material or equipment or a delay to the delivery schedule of the material or equipment will cause a delay to the project.	Likely	Significant	High	Likely	Significant	High
ES4	Price quotes	Number of quotes received/used and accuracy of quotes used in current estimate.	The current MCACES uses many pricing sources, including recent bids on other reservoir pojects in area. Risk that these bids and costs are simply low bids, or underbid, and thus current costs could be low. However, additional markups have been added to many quotes/bids to increase unit prices and ensure reasonable costs have been developed. Risk is likely medium to the current cost estimate.	Possible	Significant	Medium	Unlikely	Negligible	Low
External									
EX1	Close out of other projects	Project dependencies may require successful and timely completion of predecessor projects.	Prioritization and closeout of other projects could effect the start and funding for this project. These effects could substantially change the project formulation and execution schedule. This risk will be noted but not modeled.	Likely	Marginal	Medium	Likely	Moderate	Medium
EX2	Political or public opposition to project	There are many different agencies, orginizations, and stakeholders in the project vicininity that could oppose portions of the project or its impacts real or perceived.	One public meeting held thus far, which received positive attendance and feedback. At this time, this risk is considered low, but should be continually monitored to gauge potential opposition issues.	Possible	Marginal	Low	Possible	Marginal	Low
END									

ATTACHMENT 6

TOTAL PROJECT COST SUMMARY

****** TOTAL PROJECT COST SUMMARY ******

PROJECT: **Lake Okeechobee Component A Reservoir**
PROJECT NO: P2 xxxxxx
LOCATION: Lake Okeechobee, FL

DISTRICT: **Jacksonville District**
POC: **CHIEF, COST ENGINEERING, xxx**

PREPARED: **11/9/2023**

This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
						Program Year (Budget EC): 2024									
						Effective Price Level Date: 1 OCT 23									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	**TOTAL ($K)**	Spent Thru: **1-Oct-23** ($K)	**TOTAL FIRST COST** ($K)	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*		*K*	*L*	*M*	*N*	*O*
03	RESERVOIRS	$1,170,511	$632,076	54.0%	$1,802,587	0.0%	$1,170,511	$632,076	$1,802,587	$0	$1,802,587	20.4%	$1,408,812	$760,759	$2,169,571
09	CHANNELS & CANALS	$3,762	$2,031	54.0%	$5,793	0.0%	$3,762	$2,031	$5,793	$0	$5,793	20.8%	$4,543	$2,453	$6,997
11	LEVEES & FLOODWALLS	$4,409	$2,381	54.0%	$6,790	0.0%	$4,409	$2,381	$6,790	$0	$6,790	21.2%	$5,345	$2,886	$8,232
13	PUMPING PLANT	$203,088	$109,667	54.0%	$312,755	0.0%	$203,088	$109,667	$312,755	$0	$312,755	20.2%	$244,025	$131,774	$375,799
14	RECREATION FACILITIES	$1,328	$717	54.0%	$2,045	0.0%	$1,328	$717	$2,045	$0	$2,045	29.4%	$1,718	$928	$2,646
15	FLOODWAY CONTROL & DIVERSION STRU	$79,759	$43,070	54.0%	$122,829	0.0%	$79,759	$43,070	$122,829	$0	$122,829	20.9%	$96,397	$52,054	$148,451
	CONSTRUCTION ESTIMATE TOTALS:	$1,462,857	$789,943		$2,252,800	0.0%	$1,462,857	$789,943	$2,252,800	$0	$2,252,800	20.4%	$1,760,840	$950,854	$2,711,694
01	LANDS AND DAMAGES	$130,005	$89,238	68.6%	$219,243	0.0%	$130,005	$89,238	$219,243	$0	$219,243	5.5%	$137,198	$94,175	$231,373
30	PLANNING, ENGINEERING & DESIGN	$365,714	$197,486	54.0%	$563,200	0.0%	$365,714	$197,486	$563,200	$0	$563,200	8.1%	$395,476	$213,557	$609,033
31	CONSTRUCTION MANAGEMENT	$134,583	$72,675	54.0%	$207,258	0.0%	$134,583	$72,675	$207,258	$0	$207,258	17.0%	$157,503	$85,052	$242,554
	PROJECT COST TOTALS:	$2,093,159	$1,149,341	54.9%	$3,242,500		$2,093,159	$1,149,341	**$3,242,500**	$0	**$3,242,500**	17.0%	$2,451,017	$1,343,638	$3,794,655

ESTIMATED TOTAL PROJECT COST: **$3,794,655**

_____ **CHIEF, COST ENGINEERING, xxx**

_____ **PROJECT MANAGER, xxx**

_____ **CHIEF, REAL ESTATE, xxx**

_____ **CHIEF, PLANNING, xxx**

_____ **CHIEF, ENGINEERING, xxx**

_____ **CHIEF, OPERATIONS, xxx**

_____ **CHIEF, CONSTRUCTION, xxx**

_____ **CHIEF, CONTRACTING,xxx**

_____ **CHIEF, PM-PB, xxxx**

_____ **CHIEF, DPM, xxx**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 1

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx

PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 9-Nov-23 Effective Price Level: 1-Oct-23				Program Year (Budget EC): 2024 Effective Price Level Date: 1 OCT 23								
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	RISK BASED CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 1 or CONTRACT 1													
03	RESERVOIRS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
09	CHANNELS & CANALS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
11	LEVEES & FLOODWALLS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
13	PUMPING PLANT	$78,114	$42,182	54.0%	$120,296	0.0%	$78,114	$42,182	$120,296	2030Q3	18.1%	$92,259	$49,820	$142,078
14	RECREATION FACILITIES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
15	FLOODWAY CONTROL & DIVERSION STRU	$11,240	$6,070	54.0%	$17,310	0.0%	$11,240	$6,070	$17,310	2030Q3	18.1%	$13,275	$7,169	$20,444
	CONSTRUCTION ESTIMATE TOTALS:	$89,354	$48,251	54.0%	**$137,606**		$89,354	$48,251	$137,606			$105,534	$56,988	$162,522
01	LANDS AND DAMAGES	$130,005	$89,238	68.6%	$219,243	0.0%	$130,005	$89,238	$219,243	2026Q2	5.5%	$137,198	$94,175	$231,373
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$1,787	$965	54.0%	$2,752	0.0%	$1,787	$965	$2,752	2026Q2	5.0%	$1,877	$1,013	$2,890
2.0%	Planning & Environmental Compliance	$1,787	$965	54.0%	$2,752	0.0%	$1,787	$965	$2,752	2026Q2	5.0%	$1,877	$1,013	$2,890
9.0%	Engineering & Design	$8,042	$4,343	54.0%	$12,384	0.0%	$8,042	$4,343	$12,384	2026Q2	5.0%	$8,445	$4,560	$13,005
2.0%	Reviews, ATRs, IEPRs, VE	$1,787	$965	54.0%	$2,752	0.0%	$1,787	$965	$2,752	2026Q2	5.0%	$1,877	$1,013	$2,890
2.0%	Life Cycle Updates (cost, schedule, risks)	$1,787	$965	54.0%	$2,752	0.0%	$1,787	$965	$2,752	2026Q2	5.0%	$1,877	$1,013	$2,890
1.0%	Contracting & Reprographics	$894	$483	54.0%	$1,376	0.0%	$894	$483	$1,376	2026Q2	5.0%	$938	$507	$1,445
4.0%	Engineering During Construction	$3,574	$1,930	54.0%	$5,504	0.0%	$3,574	$1,930	$5,504	2030Q3	15.2%	$4,117	$2,223	$6,341
2.0%	Planning During Construction	$1,787	$965	54.0%	$2,752	0.0%	$1,787	$965	$2,752	2030Q3	15.2%	$2,059	$1,112	$3,170
0.5%	Adaptive Management & Monitoring	$447	$241	54.0%	$688	0.0%	$447	$241	$688	2030Q3	15.2%	$515	$278	$793
0.5%	Project Operations	$447	$241	54.0%	$688	0.0%	$447	$241	$688	2026Q2	5.0%	$469	$253	$723
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$6,434	$3,474	54.0%	$9,908	0.0%	$6,434	$3,474	$9,908	2030Q3	15.2%	$7,411	$4,002	$11,413
1.0%	Project Operation:	$894	$483	54.0%	$1,376	0.0%	$894	$483	$1,376	2030Q3	15.2%	$1,029	$556	$1,585
1.0%	Project Management	$894	$483	54.0%	$1,376	0.0%	$894	$483	$1,376	2030Q3	15.2%	$1,029	$556	$1,585
	CONTRACT COST TOTALS:	$249,918	$153,991		$403,910		$249,918	$153,991	**$403,910**			$276,251	$169,264	**$445,515**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 2

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx

PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:			9-Nov-23	Program Year (Budget EC):			2024					
		Effective Price Level:			1-Oct-23	Effective Price Level Date:			1 OCT 23					
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 2 or CONTRACT 2													
03	RESERVOIRS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
09	CHANNELS & CANALS	$3,018	$1,630	54.0%	$4,647	0.0%	$3,018	$1,630	$4,647	2031Q4	22.0%	$3,682	$1,988	$5,670
11	LEVEES & FLOODWALLS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
13	PUMPING PLANT	$113,457	$61,267	54.0%	$174,724	0.0%	$113,457	$61,267	$174,724	2031Q4	22.0%	$138,430	$74,752	$213,183
14	RECREATION FACILITIES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
15	FLOODWAY CONTROL & DIVERSION STRU	$10,905	$5,889	54.0%	$16,794	0.0%	$10,905	$5,889	$16,794	2031Q4	22.0%	$13,305	$7,185	$20,490
	CONSTRUCTION ESTIMATE TOTALS:	$127,380	$68,785	54.0%	**$196,164**		$127,380	$68,785	$196,164			$155,418	$83,926	$239,343
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$2,548	$1,376	54.0%	$3,923	0.0%	$2,548	$1,376	$3,923	2026Q2	5.0%	$2,675	$1,445	$4,120
2.0%	Planning & Environmental Compliance	$2,548	$1,376	54.0%	$3,923	0.0%	$2,548	$1,376	$3,923	2026Q2	5.0%	$2,675	$1,445	$4,120
9.0%	Engineering & Design	$11,464	$6,191	54.0%	$17,655	0.0%	$11,464	$6,191	$17,655	2026Q2	5.0%	$12,039	$6,501	$18,540
2.0%	Reviews, ATRs, IEPRs, VE	$2,548	$1,376	54.0%	$3,923	0.0%	$2,548	$1,376	$3,923	2026Q2	5.0%	$2,675	$1,445	$4,120
2.0%	Life Cycle Updates (cost, schedule, risks)	$2,548	$1,376	54.0%	$3,923	0.0%	$2,548	$1,376	$3,923	2026Q2	5.0%	$2,675	$1,445	$4,120
1.0%	Contracting & Reprographics	$1,274	$688	54.0%	$1,962	0.0%	$1,274	$688	$1,962	2026Q2	5.0%	$1,338	$722	$2,060
4.0%	Engineering During Construction	$5,095	$2,751	54.0%	$7,847	0.0%	$5,095	$2,751	$7,847	2031Q4	18.4%	$6,031	$3,257	$9,288
2.0%	Planning During Construction	$2,548	$1,376	54.0%	$3,923	0.0%	$2,548	$1,376	$3,923	2031Q4	18.4%	$3,016	$1,628	$4,644
0.5%	Adaptive Management & Monitoring	$637	$344	54.0%	$981	0.0%	$637	$344	$981	2031Q4	18.4%	$754	$407	$1,161
0.5%	Project Operations	$637	$344	54.0%	$981	0.0%	$637	$344	$981	2026Q2	5.0%	$669	$361	$1,030
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$9,171	$4,953	54.0%	$14,124	0.0%	$9,171	$4,953	$14,124	2031Q4	18.4%	$10,856	$5,862	$16,719
1.0%	Project Operation:	$1,274	$688	54.0%	$1,962	0.0%	$1,274	$688	$1,962	2031Q4	18.4%	$1,508	$814	$2,322
1.0%	Project Management	$1,274	$688	54.0%	$1,962	0.0%	$1,274	$688	$1,962	2031Q4	18.4%	$1,508	$814	$2,322
	CONTRACT COST TOTALS:	$170,943	$92,309		$263,253		$170,943	$92,309	**$263,253**			$203,837	$110,072	**$313,909**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 3

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx

PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 9-Nov-23 Effective Price Level: 1-Oct-23				Program Year (Budget EC): 2024 Effective Price Level Date: 1 OCT 23								
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 3 or CONTRACT 3													
03	RESERVOIRS	$168,035	$90,739	54.0%	$258,774	0.0%	$168,035	$90,739	$258,774	2029Q3	15.1%	$193,331	$104,398	$297,729
09	CHANNELS & CANALS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
11	LEVEES & FLOODWALLS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
13	PUMPING PLANT	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
14	RECREATION FACILITIES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
15	FLOODWAY CONTROL & DIVERSION STRU	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$168,035	$90,739	54.0%	**$258,774**		$168,035	$90,739	$258,774			$193,331	$104,398	$297,729
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$3,361	$1,815	54.0%	$5,175	0.0%	$3,361	$1,815	$5,175	2026Q2	5.0%	$3,529	$1,906	$5,435
2.0%	Planning & Environmental Compliance	$3,361	$1,815	54.0%	$5,175	0.0%	$3,361	$1,815	$5,175	2026Q2	5.0%	$3,529	$1,906	$5,435
9.0%	Engineering & Design	$15,123	$8,167	54.0%	$23,290	0.0%	$15,123	$8,167	$23,290	2026Q2	5.0%	$15,881	$8,576	$24,457
2.0%	Reviews, ATRs, IEPRs, VE	$3,361	$1,815	54.0%	$5,175	0.0%	$3,361	$1,815	$5,175	2026Q2	5.0%	$3,529	$1,906	$5,435
2.0%	Life Cycle Updates (cost, schedule, risks)	$3,361	$1,815	54.0%	$5,175	0.0%	$3,361	$1,815	$5,175	2026Q2	5.0%	$3,529	$1,906	$5,435
1.0%	Contracting & Reprographics	$1,680	$907	54.0%	$2,588	0.0%	$1,680	$907	$2,588	2026Q2	5.0%	$1,765	$953	$2,717
4.0%	Engineering During Construction	$6,721	$3,630	54.0%	$10,351	0.0%	$6,721	$3,630	$10,351	2029Q3	12.7%	$7,576	$4,091	$11,667
2.0%	Planning During Construction	$3,361	$1,815	54.0%	$5,175	0.0%	$3,361	$1,815	$5,175	2029Q3	12.7%	$3,788	$2,046	$5,834
0.5%	Adaptive Management & Monitoring	$840	$454	54.0%	$1,294	0.0%	$840	$454	$1,294	2029Q3	12.7%	$947	$511	$1,458
0.5%	Project Operations	$840	$454	54.0%	$1,294	0.0%	$840	$454	$1,294	2026Q2	5.0%	$882	$476	$1,359
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$12,099	$6,533	54.0%	$18,632	0.0%	$12,099	$6,533	$18,632	2029Q3	12.7%	$13,637	$7,364	$21,001
1.0%	Project Operation:	$1,680	$907	54.0%	$2,588	0.0%	$1,680	$907	$2,588	2029Q3	12.7%	$1,894	$1,023	$2,917
1.0%	Project Management	$1,680	$907	54.0%	$2,588	0.0%	$1,680	$907	$2,588	2029Q3	12.7%	$1,894	$1,023	$2,917
	CONTRACT COST TOTALS:	$225,503	$121,772		**$347,275**		$225,503	$121,772	**$347,275**			$255,711	$138,084	**$393,796**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 4

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx
PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:			9-Nov-23	Program Year (Budget EC):			2024					
		Effective Price Level:			1-Oct-23	Effective Price Level Date:			1 OCT 23	FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 4 or CONTRACT 4													
03	RESERVOIRS	$989,509	$534,335	54.0%	$1,523,843	0.0%	$989,509	$534,335	$1,523,843	2031Q3	21.2%	$1,199,543	$647,753	$1,847,296
09	CHANNELS & CANALS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
11	LEVEES & FLOODWALLS	$4,409	$2,381	54.0%	$6,790	0.0%	$4,409	$2,381	$6,790	2031Q3	21.2%	$5,345	$2,886	$8,232
13	PUMPING PLANT	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
14	RECREATION FACILITIES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
15	FLOODWAY CONTROL & DIVERSION STRU	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$993,918	$536,716	54.0%	**$1,530,634**		$993,918	$536,716	$1,530,634			$1,204,888	$650,640	$1,855,528
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$19,878	$10,734	54.0%	$30,613	0.0%	$19,878	$10,734	$30,613	2026Q2	5.0%	$20,875	$11,272	$32,147
2.0%	Planning & Environmental Compliance	$19,878	$10,734	54.0%	$30,613	0.0%	$19,878	$10,734	$30,613	2026Q2	5.0%	$20,875	$11,272	$32,147
9.0%	Engineering & Design	$89,453	$48,304	54.0%	$137,757	0.0%	$89,453	$48,304	$137,757	2026Q2	5.0%	$93,937	$50,726	$144,664
2.0%	Reviews, ATRs, IEPRs, VE	$19,878	$10,734	54.0%	$30,613	0.0%	$19,878	$10,734	$30,613	2026Q2	5.0%	$20,875	$11,272	$32,147
2.0%	Life Cycle Updates (cost, schedule, risks)	$19,878	$10,734	54.0%	$30,613	0.0%	$19,878	$10,734	$30,613	2026Q2	5.0%	$20,875	$11,272	$32,147
1.0%	Contracting & Reprographics	$9,939	$5,367	54.0%	$15,306	0.0%	$9,939	$5,367	$15,306	2026Q2	5.0%	$10,437	$5,636	$16,074
4.0%	Engineering During Construction	$39,757	$21,469	54.0%	$61,225	0.0%	$39,757	$21,469	$61,225	2031Q3	17.7%	$46,805	$25,275	$72,080
2.0%	Planning During Construction	$19,878	$10,734	54.0%	$30,613	0.0%	$19,878	$10,734	$30,613	2031Q3	17.7%	$23,403	$12,637	$36,040
0.5%	Adaptive Management & Monitoring	$4,970	$2,684	54.0%	$7,653	0.0%	$4,970	$2,684	$7,653	2031Q3	17.7%	$5,851	$3,159	$9,010
0.5%	Project Operations	$4,970	$2,684	54.0%	$7,653	0.0%	$4,970	$2,684	$7,653	2026Q2	5.0%	$5,219	$2,818	$8,037
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$71,562	$38,644	54.0%	$110,206	0.0%	$71,562	$38,644	$110,206	2031Q3	17.7%	$84,249	$45,494	$129,744
1.0%	Project Operation:	$9,939	$5,367	54.0%	$15,306	0.0%	$9,939	$5,367	$15,306	2031Q3	17.7%	$11,701	$6,319	$18,020
1.0%	Project Management	$9,939	$5,367	54.0%	$15,306	0.0%	$9,939	$5,367	$15,306	2031Q3	17.7%	$11,701	$6,319	$18,020
	CONTRACT COST TOTALS:	$1,333,838	$720,273		**$2,054,111**		$1,333,838	$720,273	**$2,054,111**			$1,581,691	$854,113	**$2,435,805**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 5

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx
PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:			9-Nov-23		Program Year (Budget EC):		2024					
		Effective Price Level:			1-Oct-23		Effective Price Level Date:		1 OCT 23	FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 5 or CONTRACT 5													
03	RESERVOIRS	$12,967	$7,002	54.0%	$19,970	0.0%	$12,967	$7,002	$19,970	2032Q1	22.9%	$15,939	$8,607	$24,546
09	CHANNELS & CANALS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
11	LEVEES & FLOODWALLS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
13	PUMPING PLANT	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
14	RECREATION FACILITIES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
15	FLOODWAY CONTROL & DIVERSION STRU	$43,559	$23,522	54.0%	$67,080	0.0%	$43,559	$23,522	$67,080	2032Q1	22.9%	$53,540	$28,911	$82,451
	CONSTRUCTION ESTIMATE TOTALS:	$56,526	$30,524	54.0%	**$87,050**		$56,526	$30,524	$87,050			$69,478	$37,518	$106,997
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$1,131	$610	54.0%	$1,741	0.0%	$1,131	$610	$1,741	2026Q2	5.0%	$1,187	$641	$1,828
2.0%	Planning & Environmental Compliance	$1,131	$610	54.0%	$1,741	0.0%	$1,131	$610	$1,741	2026Q2	5.0%	$1,187	$641	$1,828
9.0%	Engineering & Design	$5,087	$2,747	54.0%	$7,835	0.0%	$5,087	$2,747	$7,835	2026Q2	5.0%	$5,342	$2,885	$8,227
2.0%	Reviews, ATRs, IEPRs, VE	$1,131	$610	54.0%	$1,741	0.0%	$1,131	$610	$1,741	2026Q2	5.0%	$1,187	$641	$1,828
2.0%	Life Cycle Updates (cost, schedule, risks)	$1,131	$610	54.0%	$1,741	0.0%	$1,131	$610	$1,741	2026Q2	5.0%	$1,187	$641	$1,828
1.0%	Contracting & Reprographics	$565	$305	54.0%	$871	0.0%	$565	$305	$871	2026Q2	5.0%	$594	$321	$914
4.0%	Engineering During Construction	$2,261	$1,221	54.0%	$3,482	0.0%	$2,261	$1,221	$3,482	2032Q1	19.0%	$2,691	$1,453	$4,144
2.0%	Planning During Construction	$1,131	$610	54.0%	$1,741	0.0%	$1,131	$610	$1,741	2032Q1	19.0%	$1,346	$727	$2,072
0.5%	Adaptive Management & Monitoring	$283	$153	54.0%	$435	0.0%	$283	$153	$435	2032Q1	19.0%	$336	$182	$518
0.5%	Project Operations	$283	$153	54.0%	$435	0.0%	$283	$153	$435	2026Q2	5.0%	$297	$160	$457
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$4,070	$2,198	54.0%	$6,268	0.0%	$4,070	$2,198	$6,268	2032Q1	19.0%	$4,844	$2,616	$7,459
1.0%	Project Operation:	$565	$305	54.0%	$871	0.0%	$565	$305	$871	2032Q1	19.0%	$673	$363	$1,036
1.0%	Project Management	$565	$305	54.0%	$871	0.0%	$565	$305	$871	2032Q1	19.0%	$673	$363	$1,036
	CONTRACT COST TOTALS:	$75,858	$40,963		**$116,821**		$75,858	$40,963	**$116,821**			$91,022	$49,152	**$140,174**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 6

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx
PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 9-Nov-23 Effective Price Level: 1-Oct-23				Program Year (Budget EC): 2024 Effective Price Level Date: 1 OCT 23				FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 6 or CONTRACT 6													
03	RESERVOIRS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
09	CHANNELS & CANALS	$744	$402	54.0%	$1,146	0.0%	$744	$402	$1,146	2029Q4	15.8%	$861	$465	$1,326
11	LEVEES & FLOODWALLS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
13	PUMPING PLANT	$11,516	$6,219	54.0%	$17,735	0.0%	$11,516	$6,219	$17,735	2029Q4	15.8%	$13,336	$7,201	$20,537
14	RECREATION FACILITIES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
15	FLOODWAY CONTROL & DIVERSION STRU	$14,056	$7,590	54.0%	$21,646	0.0%	$14,056	$7,590	$21,646	2029Q4	15.8%	$16,277	$8,789	$25,066
	CONSTRUCTION ESTIMATE TOTALS:	$26,316	$14,211	54.0%	**$40,527**		$26,316	$14,211	$40,527			$30,474	$16,456	$46,930
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$526	$284	54.0%	$811	0.0%	$526	$284	$811	2026Q2	5.0%	$553	$298	$851
2.0%	Planning & Environmental Compliance	$526	$284	54.0%	$811	0.0%	$526	$284	$811	2026Q2	5.0%	$553	$298	$851
9.0%	Engineering & Design	$2,368	$1,279	54.0%	$3,647	0.0%	$2,368	$1,279	$3,647	2026Q2	5.0%	$2,487	$1,343	$3,830
2.0%	Reviews, ATRs, IEPRs, VE	$526	$284	54.0%	$811	0.0%	$526	$284	$811	2026Q2	5.0%	$553	$298	$851
2.0%	Life Cycle Updates (cost, schedule, risks)	$526	$284	54.0%	$811	0.0%	$526	$284	$811	2026Q2	5.0%	$553	$298	$851
1.0%	Contracting & Reprographics	$263	$142	54.0%	$405	0.0%	$263	$142	$405	2026Q2	5.0%	$276	$149	$426
4.0%	Engineering During Construction	$1,053	$568	54.0%	$1,621	0.0%	$1,053	$568	$1,621	2029Q4	13.3%	$1,193	$644	$1,837
2.0%	Planning During Construction	$526	$284	54.0%	$811	0.0%	$526	$284	$811	2029Q4	13.3%	$596	$322	$919
0.5%	Adaptive Management & Monitoring	$132	$71	54.0%	$203	0.0%	$132	$71	$203	2029Q4	13.3%	$149	$81	$230
0.5%	Project Operations	$132	$71	54.0%	$203	0.0%	$132	$71	$203	2026Q2	5.0%	$138	$75	$213
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$1,895	$1,023	54.0%	$2,918	0.0%	$1,895	$1,023	$2,918	2029Q4	13.3%	$2,147	$1,160	$3,307
1.0%	Project Operation:	$263	$142	54.0%	$405	0.0%	$263	$142	$405	2029Q4	13.3%	$298	$161	$459
1.0%	Project Management	$263	$142	54.0%	$405	0.0%	$263	$142	$405	2029Q4	13.3%	$298	$161	$459
	CONTRACT COST TOTALS:	$35,316	$19,071		**$54,387**		$35,316	$19,071	**$54,387**			$40,269	$21,745	**$62,014**

****** TOTAL PROJECT COST SUMMARY ******

CONTRACT 7

****** CONTRACT COST SUMMARY ******

PROJECT: Lake Okeechobee Component A Reservoir
LOCATION: Lake Okeechobee, FL
This Estimate reflects the scope and schedule in report; LOCAR Feasibility Report

DISTRICT: Jacksonville District
POC: CHIEF, COST ENGINEERING, xxx
PREPARED: 11/9/2023

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 9-Nov-23 Effective Price Level: 1-Oct-23				Program Year (Budget EC): 2024 Effective Price Level Date: 1 OCT 23				FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 7 or CONTRACT 7													
03	RESERVOIRS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
09	CHANNELS & CANALS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
11	LEVEES & FLOODWALLS	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
13	PUMPING PLANT	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
14	RECREATION FACILITIES	$1,328	$717	54.0%	$2,045	0.0%	$1,328	$717	$2,045	2034Q1	29.4%	$1,718	$928	$2,646
15	FLOODWAY CONTROL & DIVERSION STRU	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$1,328	$717	54.0%	**$2,045**		$1,328	$717	$2,045			$1,718	$928	$2,646
01	LANDS AND DAMAGES	$0	$0	54.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$27	$14	54.0%	$41	0.0%	$27	$14	$41	2026Q2	5.0%	$28	$15	$43
2.0%	Planning & Environmental Compliance	$27	$14	54.0%	$41	0.0%	$27	$14	$41	2026Q2	5.0%	$28	$15	$43
9.0%	Engineering & Design	$119	$65	54.0%	$184	0.0%	$119	$65	$184	2026Q2	5.0%	$125	$68	$193
2.0%	Reviews, ATRs, IEPRs, VE	$27	$14	54.0%	$41	0.0%	$27	$14	$41	2026Q2	5.0%	$28	$15	$43
2.0%	Life Cycle Updates (cost, schedule, risks)	$27	$14	54.0%	$41	0.0%	$27	$14	$41	2026Q2	5.0%	$28	$15	$43
1.0%	Contracting & Reprographics	$13	$7	54.0%	$20	0.0%	$13	$7	$20	2026Q2	5.0%	$14	$8	$21
4.0%	Engineering During Construction	$53	$29	54.0%	$82	0.0%	$53	$29	$82	2034Q1	24.2%	$66	$36	$102
2.0%	Planning During Construction	$27	$14	54.0%	$41	0.0%	$27	$14	$41	2034Q1	24.2%	$33	$18	$51
0.5%	Adaptive Management & Monitoring	$7	$4	54.0%	$10	0.0%	$7	$4	$10	2034Q1	24.2%	$8	$4	$13
0.5%	Project Operations	$7	$4	54.0%	$10	0.0%	$7	$4	$10	2026Q2	5.0%	$7	$4	$11
31	CONSTRUCTION MANAGEMENT													
7.2%	Construction Management	$96	$52	54.0%	$147	0.0%	$96	$52	$147	2034Q1	24.2%	$119	$64	$183
1.0%	Project Operation:	$13	$7	54.0%	$20	0.0%	$13	$7	$20	2034Q1	24.2%	$16	$9	$25
1.0%	Project Management	$13	$7	54.0%	$20	0.0%	$13	$7	$20	2034Q1	24.2%	$16	$9	$25
	CONTRACT COST TOTALS:	$1,782	$962		**$2,744**		$1,782	$962	**$2,744**			$2,235	$1,207	**$3,442**

ATTACHMENT 7

DESIGN MATURITY DETERMINATION FOR COST CERTIFICATION

Design Maturity Determination for Cost Certification

Date: 1/23/24

P2 Designation/Project Name: Lake Okeechobee Component A Reservoir (LOCAR) Section 203 Feasibility Study

The Chief of Engineering is responsible for the technical content and engineering sufficiency for all engineering products produced by the command. As such, I have performed the Management Control Evaluation per Engineer Regulation (ER) 1110-2-1150, Engineering and Design for Civil Works Projects, Appendix H, Internal Management Control Review Checklist.

The current design DOES NOT . require HQ approval (i.e., engineering waivers), requiring a deviation from mandatory requirements and mandatory standards, as defined in ERs, Engineering Manuals, Engineering Technical letters, and Engineering Circulars.

The current hydrology and hydraulics modeling is at 20 % design maturity, per reference (h) below.

The current geotechnical data and subsurface investigations are at 20 % design maturity, per reference (h) below. Subsurface investigations shall also include investigations of potential borrow and spoil areas.

The current survey data is at 20 % design maturity, per reference (h) below.

Other major technical and/or scope assumptions and risks include the following, which will be refined as the design progresses.

Many design assumptions are based on SFWMD standard design practice and past construction experience for several other recent similar projects in similar geologic/construction settings. While data collection for survey and geotechnical are considered preliminary, confidence in concept design details presented are appropriate for feasibility level cost estimating for the project. Please refer to the risk register for additional identified risk items.

Due to potential conservative assumptions in overwash rates and the elimination of the wave wall feature from the proposed design, the embankment height estimates at this stage are considered to be conservative. Stability and seepage analysis indicate the proposed dam geometry is conservative. It is expected, during PED, that refinements in embankment height are possible for potential future cost savings during design.

The aggregate for all features is 20 % design maturity. Therefore, per the CECW-EC memorandum dated 05-June-2023, I certify that the design deliverables used to generate the cost products for this project and the estimate meet the requirements for a CLASS 3 estimate, as per reference (a) below. Design risks, impacts and remaining efforts are summarized on page 2.

Considering risks and assumptions noted above, along with all other concerns documented in the Risk Register, the Cost and Schedule Risk Analysis has developed a contingency of 55 % at the 80 % confidence level for the defined project scope.

Chief of Engineering & Construction

Lucine Dadrian 1/24/24

Printed Name

Signature

Design Maturity Determination for Cost Certification, Remaining Work

If an engineering waiver is required, list the risks and remaining design work needed to mitigate this issue in the current design. Identify remaining effort to complete the design required for 100% design.

N/A at this time.

Identify remaining effort to complete geotechnical design effort required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

Additional geotechnical investigations/program, materials testing, along with pump testing to verify seepage assumptions on the 12,000-acre reservoir footprint are required to finalize the Geotechnical Design. The schedule for the additional site investigations are programmed into the cost estimate and are presented in the Feasibility Study. It has been determined that sufficient quantities of materials are available on-site for construction of the dam. Rip rap slope protection and drain materials will be imported in from off-site sources. The final geotechnical investigations are expected to confirm current assumptions.

Identify remaining effort required to complete H&H required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

Due to limited geotechnical data for seepage and groundwater conditions adjacent to the reservoir, additional 3D groundwater seepage modeling will be required to finalize the seepage management system design and establish operations to maintain compliance with the Savings Clause requirements. The current design incorporates sufficient operational flexibility to accommodate variations in anticipated seepage impacts around the reservoir. Final H&H conveyance analysis is also required to verify compliance with the Savings Clause. The schedule for the final H&H modeling are programmed into the cost estimate and are presented in the Feasibility Study.

Identify remaining effort needed to complete survey data required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

At the Feasibility stage, topography is based on Highlands County LiDAR 2018, with a level of vertical accuracy of +/- 0.12'. Upon acquisition of the property, a detailed site survey is required including boundary, utility and topographic verification. The schedule for the final survey is programmed into the cost estimate and presented in the Feasibility Study. Risks are low for a large quantity variance due to the Reservoir being built on existing ground. Minor elevation differences will only impact structures adjacent to the canal and the appropriate contingency is added to the risk register.

If the project is anticipated to be executed in parts, provide a design assessment (percent complete) of each part/phase below.

N/A

References:

a. ER 1110-2-1302 – Civil Works Cost Engineering
b. CECW-EC memorandum dated 05-June-2023MFR, Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering
c. ER 1165-2-217 – Civil Works Review Policy
d. ER 1110-2-1150 – Engineering and Design for Civil Works Projects
e. ER 1110-3-12 – Quality Management
f. ER 1110-345-700 – Design Analysis, Drawings and Specifications
g. EM 5-1-11 – Project Delivery Business Process (PDBP)
h. Engineering and Construction Bulletin (ECB) 2023-9 – Civil Works Design Milestone Checklists

Design Maturity Determination for Cost Certification – Instructions

Paragraph 1 – Design Date: Use the drop-down menu to populate the date of the design.

Paragraph 1 – Project Information: Enter the P2 Project number and Project name.

Paragraph 3 – Engineering Waivers: Use the drop-down menu to populate this field with either "Does," or "Does not." If an engineering waiver is needed, or anticipated to be needed, provide the specific waiver required for the Project. A waiver is any deviation from current mandatory standards, as indicated.

Paragraph 4 – Hydrology and Hydraulics: Populate this field with the % design maturity.

Paragraph 5 – Geotechnical Information: Populate this field with the % design maturity.

Paragraph 6 – Survey Data: Populate this field with the % design maturity.

Paragraph 7 – Other Technical Assumptions and/or Scope: Enter any other major technical assumptions or scope assumptions here. Only include assumptions that pertain to design. Template discussion fields are provided as a courtesy. Please include additional pages as necessary.

Paragraph 8 – Signature: Print the name and title and provide the signature for the District's Chief of Engineering. This authority cannot be delegated; however, the Deputy Chief of Engineering and Design may sign the form in the absence of the Chief of Engineering. All fillable fields must be populated (use N/A if not applicable) in order for the document to be signed.

Page 2 – Remaining Work: Identify the current baseline design assumptions and the remaining design effort and risks to complete 100% design for the authorized project. If the project is to be broken into parts or phases, provide details on the aggregate design level of each phase and anticipated timeline for completion.

This form is required for all Civil Works projects for initial Cost Certification and Recertification, based on Policy Clarification MFR dated 05 June 2023, *Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering*.
The Point of Contact for this action is Mr. Mukesh Kumar, Cost Engineering Community of Practice Leader, CECW-EC, Mukesh.Kumar@usace.army.mil.
Version 1: 01 October 2023.