

C-51 Reservoir Independent Cost Estimate and Financial Analysis Summary Presentation



MWH[®]

BUILDING A BETTER WORLD

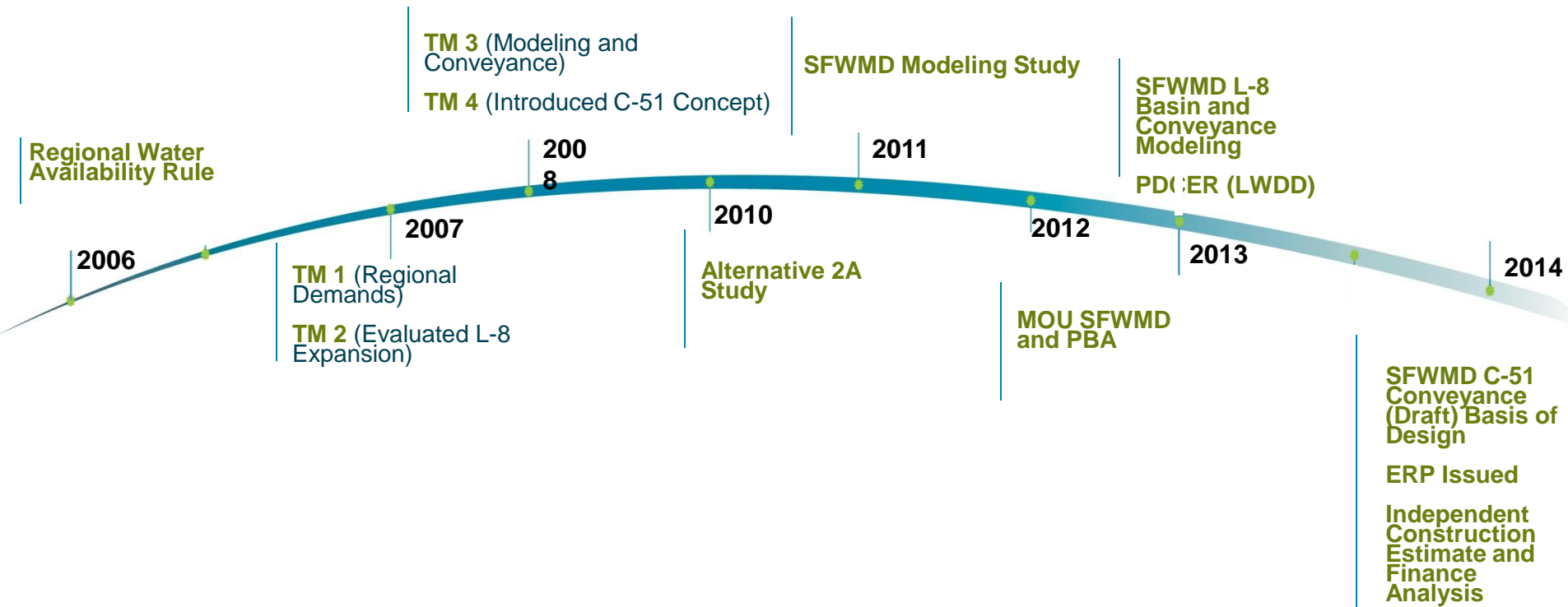
Section 1– Acknowledgements



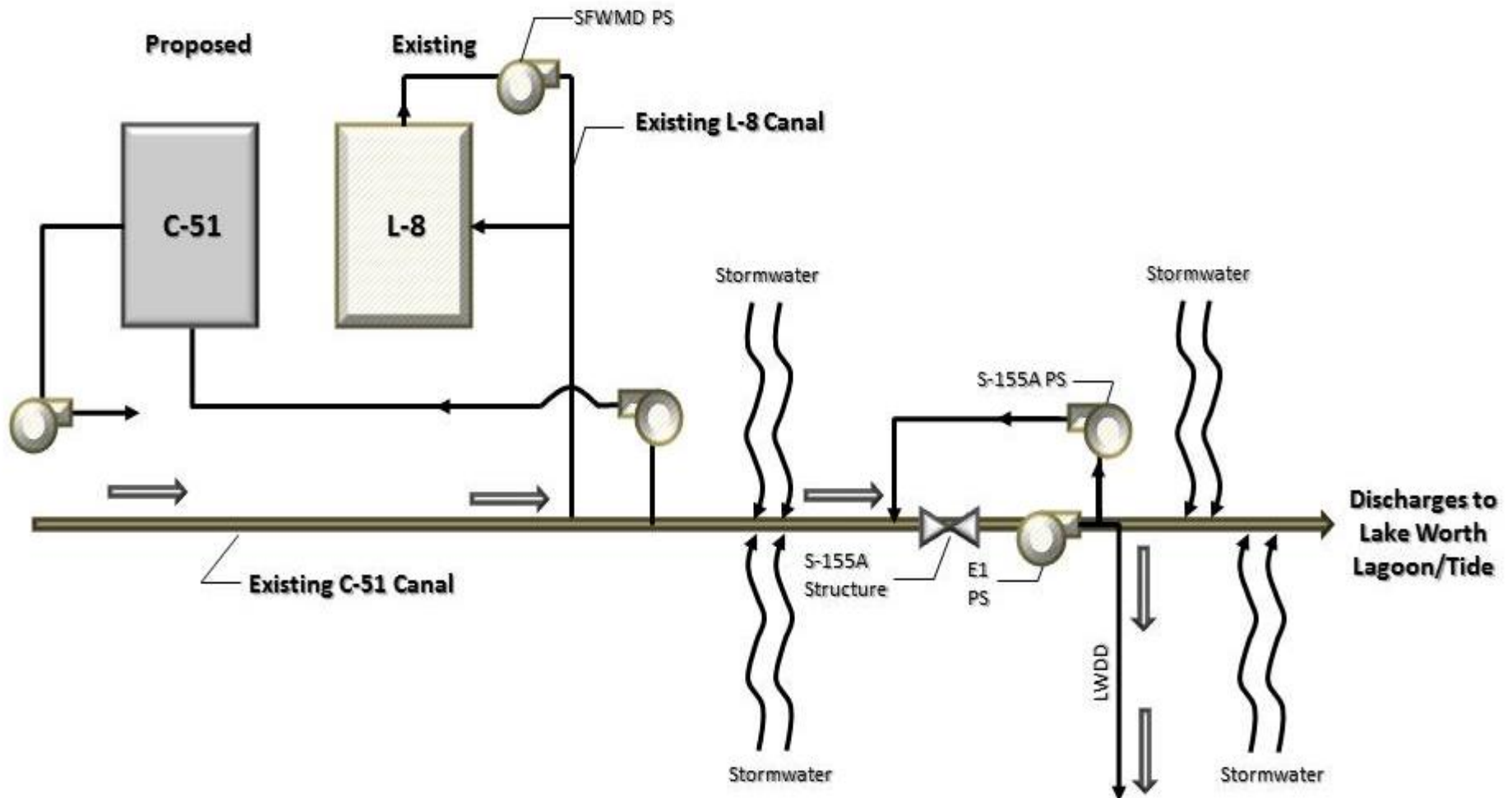
Boca Raton, City of
Boynton Beach, City of
Broward County
Davie, Town of
Fort Lauderdale, City of
Hallandale Beach, City of
Sunrise, City of
West Palm Beach, City of
Lake Worth Drainage District



Section 3 - Background

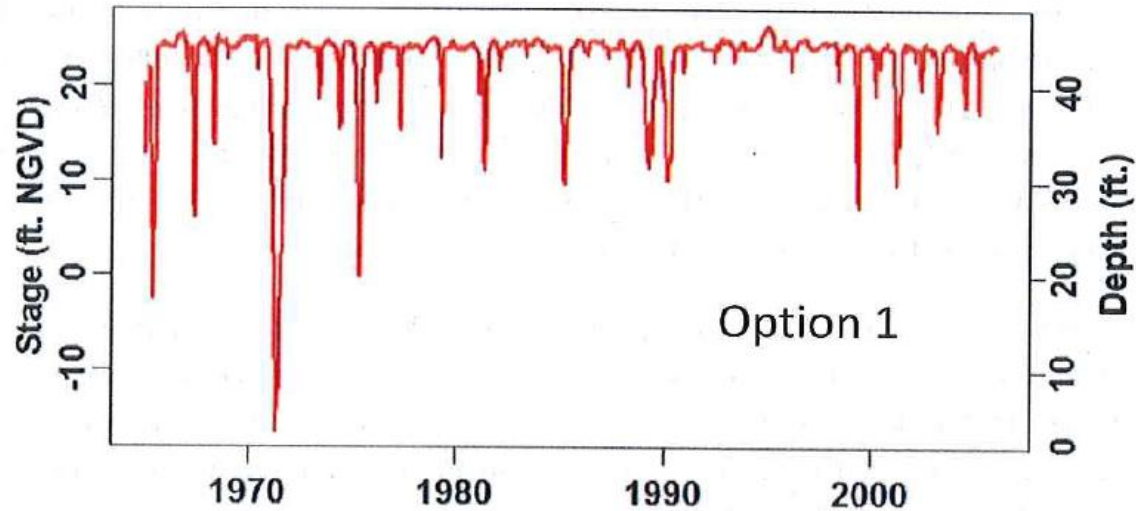


Section 3 – 2013 PDCER Configuration



Source Water Drought Sufficiency

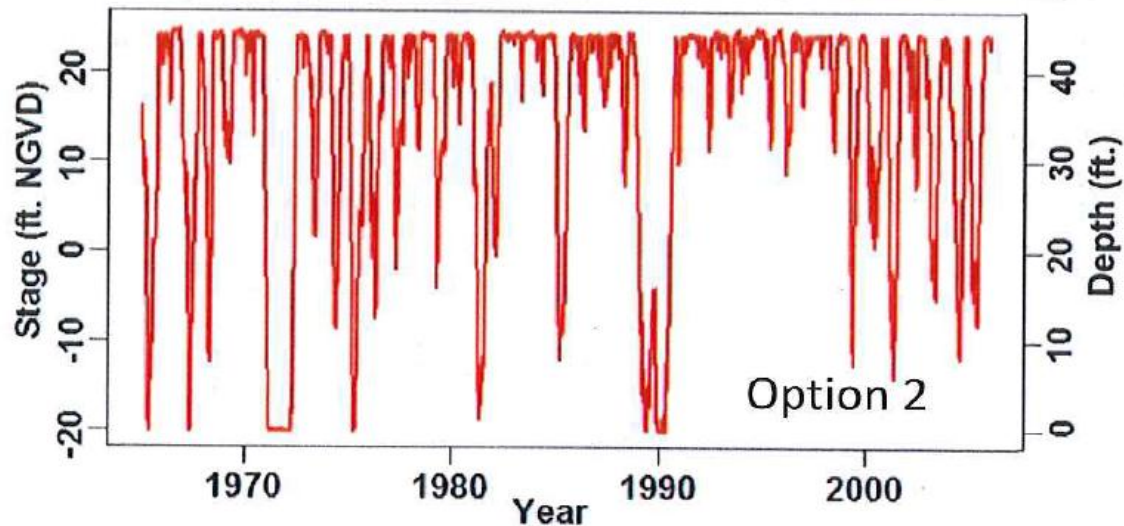
Moderate Demands
2060



SFWMD
Simulation
Period
1965-2005

85 MGD
1-10 Year
Drought

High Demands
2060



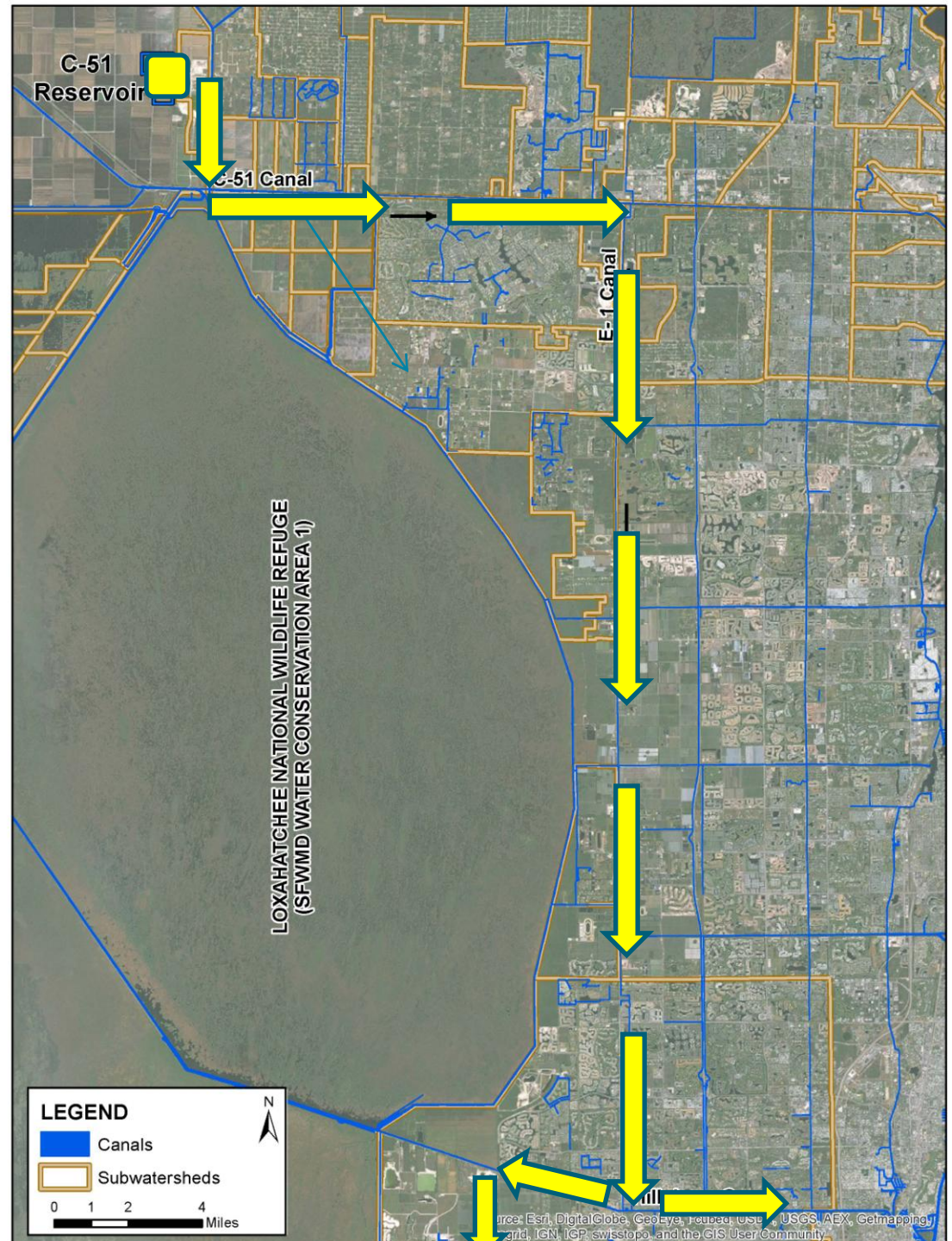
1-100 Year
Drought
Sufficiency
Not Assured



Water Conveyance Sufficiency

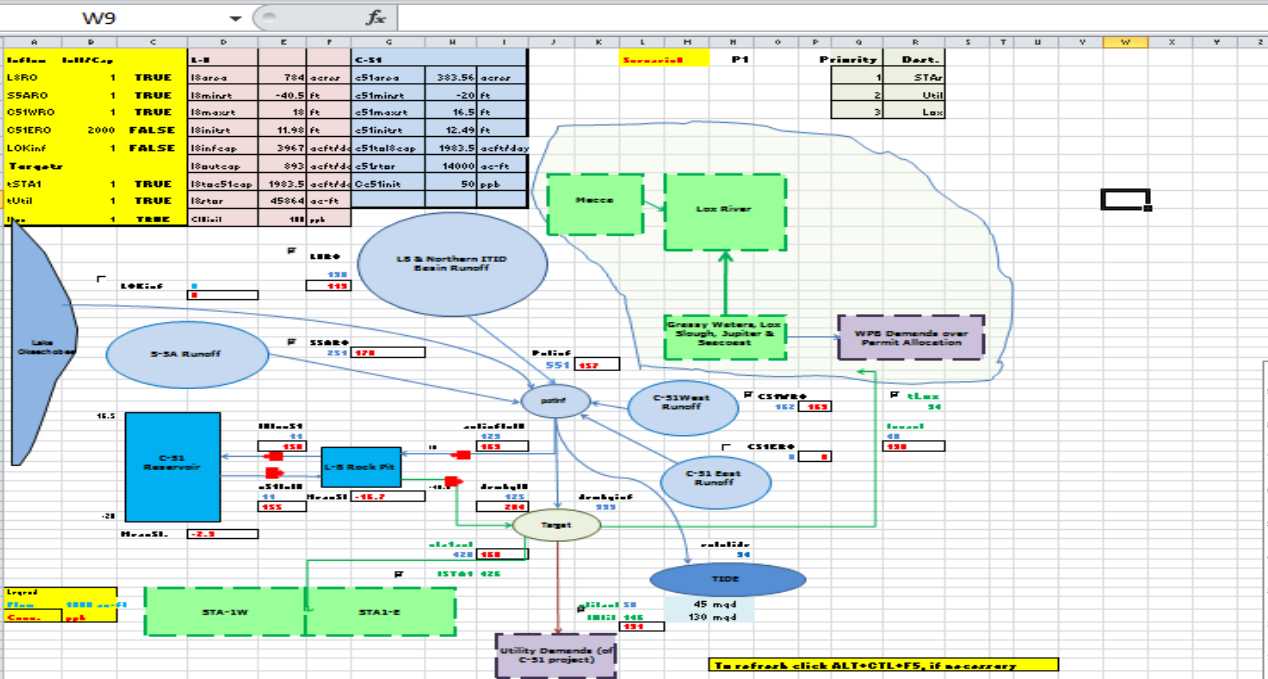
Phase 1 - No
Improvements
Required

Phase 2,
S155A PS
LWDD PS (4)
Broward DD
Specific

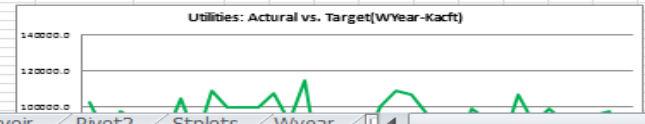
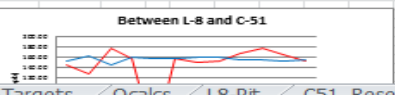
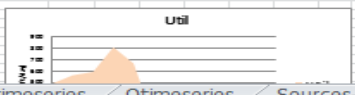
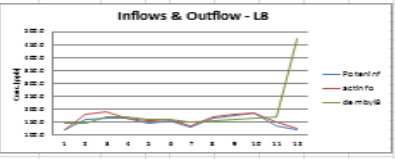
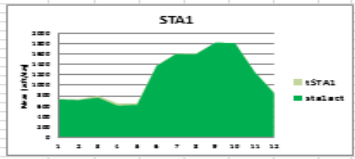
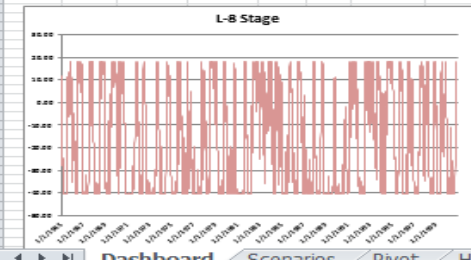
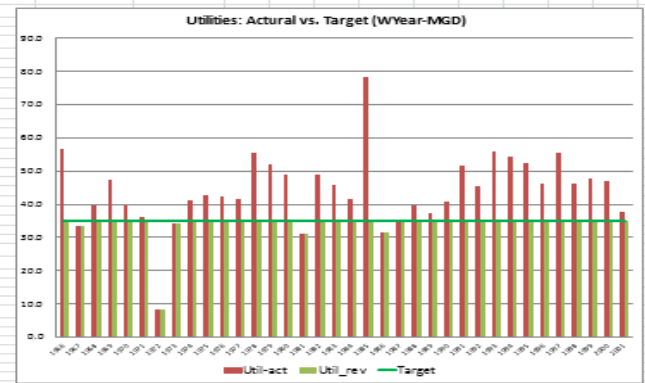


Source Water Availability C-51 & L-8 Basins

Microsoft Excel ribbon showing: File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Add-Ins, Acrobat. Font: Verdana, 10. Alignment: Wrap Text, Merge & Center. Number: \$, %, .00, .00. Styles: Normal 2, Normal 2 2, Normal 3, Normal 4.

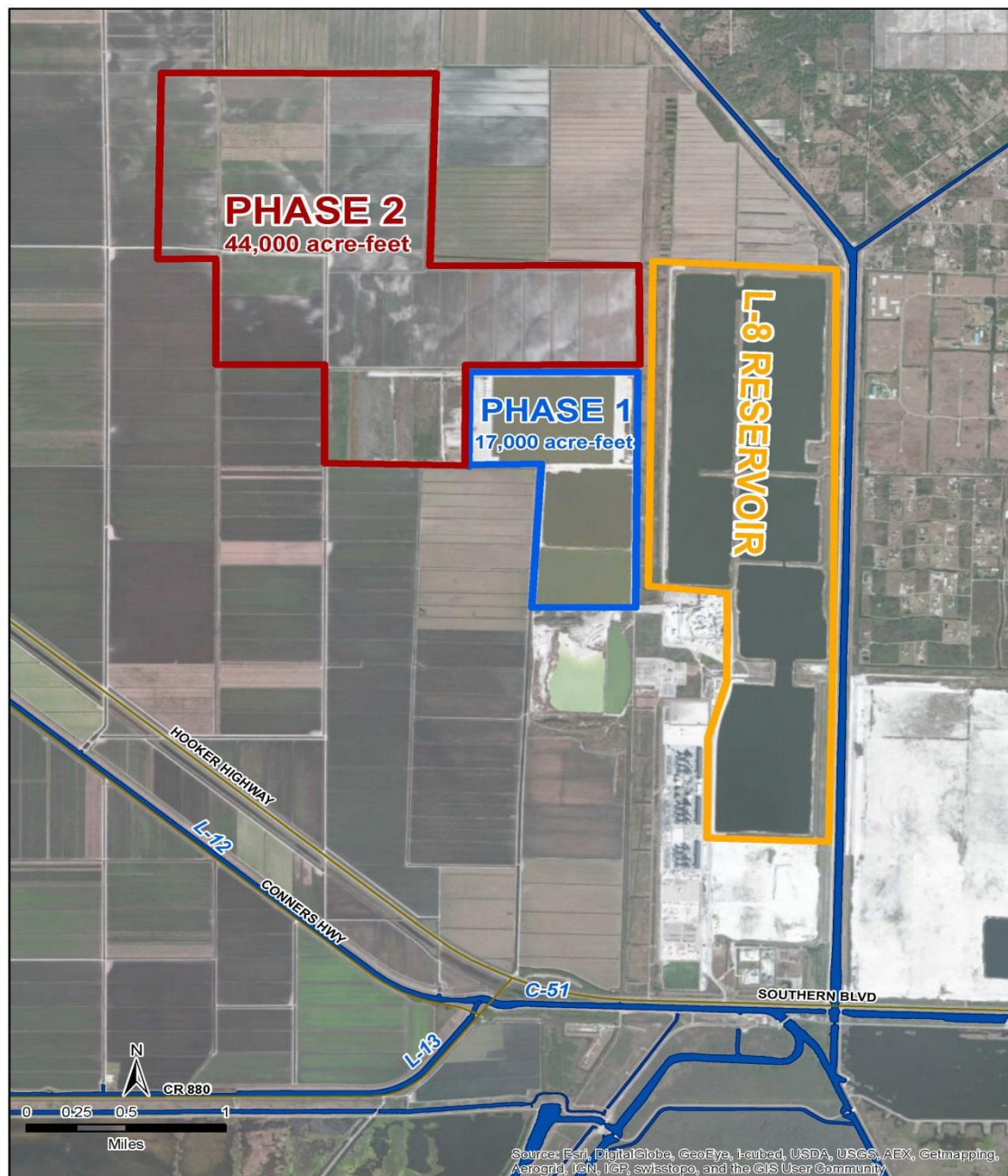


Category	Value	Unit
Drought Target	40.63	MGD
Target	35	MGD
Mean	35	MGD
Target	44.51	MGD
Mean	10	%
Target %yrs dnn	14.29	%yrs



Section 6 – Basis of Design

ERP Configuration



Section 7 – Opinion of Probable Construction Costs

- Phase 1 \$106,782,765 (contingencies excluded)
 - Contingencies \$ 20,288,765
 - Range \$ 108,010,977 – 158,839,673 (contingencies included)
- Phase 2 \$182,019,449
 - Contingencies \$ 34,583,695
 - Range \$ 184,110,000 – 207,750,000 (contingencies included)

Assume mined cells
No land cost included
Not cost escalation included
OPCC per AACE Level 4



Section 7 – Economic Evaluation

C-51 Phase 1 Construction Costs (OPCC) [1]	\$106,782,793
Land Costs	0
Project Management / Fees [2]	1,067,828
Engineering, Design, Permitting and Construction Mgt. [3]	17,085,247
Interest During Construction at 6% [4]	7,785,249
Value at 12% of Construction Cost [5]	12,813,935
LWDD Projection Initiation Cost [6]	350,000
LWDD Canal User Fee [7]	380,160
Total Project Capital Costs (Phase 1)	<u><u>\$146,265,212</u></u>



Section 8 – Economic Evaluation

Total Phase 1 Project Capital Costs	\$146,265,212
Cost of Issuance at 2.0%	3,159,423
Debt Service Reserve Fund	11,705,963
Total Amount to be Financed	<u>\$161,130,598</u>
Repayment Term (Years)	30
Interest Rate	6.0%
Annual Debt Service	<u><u>\$11,705,963</u></u>



Section 8 – Economic Evaluation

C-51 & L8 Pumping Cost	\$2,068
LWDD Pumping Cost	<u>8,272</u>
Total Phase 2 Annual Pumping Cost	\$10,340
C-51 Maintenance Expense	\$917,969
LWDD Maintenance Expense	<u>76,032</u>
Total Phase 2 Annual Maintenance Expense	\$994,001
Total Phase 2 Operations and Maintenance Expense	<u><u>\$1,004,341</u></u>



Section 2 - Executive Summary

C-51 Configuration	Dry Season Water Availability ¹ (MGD)	Cost of Storage (\$/gal)	Project Capital Costs (\$M)	Annual Costs (\$M) ⁵
ERP Phase 1 ²	37	3.96	146.2 ⁶	14.1
ERP Phase 2 ²	96	3.00	286.4 ⁷	N/A
ERP Consolidated ²	132.5	3.26	432.6	41.9
PDCER ³	163	4.08	755.6	N/A
PBA	35	4.30 ⁴	158.9	14.9



SFWMD Clarified Its Needs for the C-51 Reservoir

Added Features

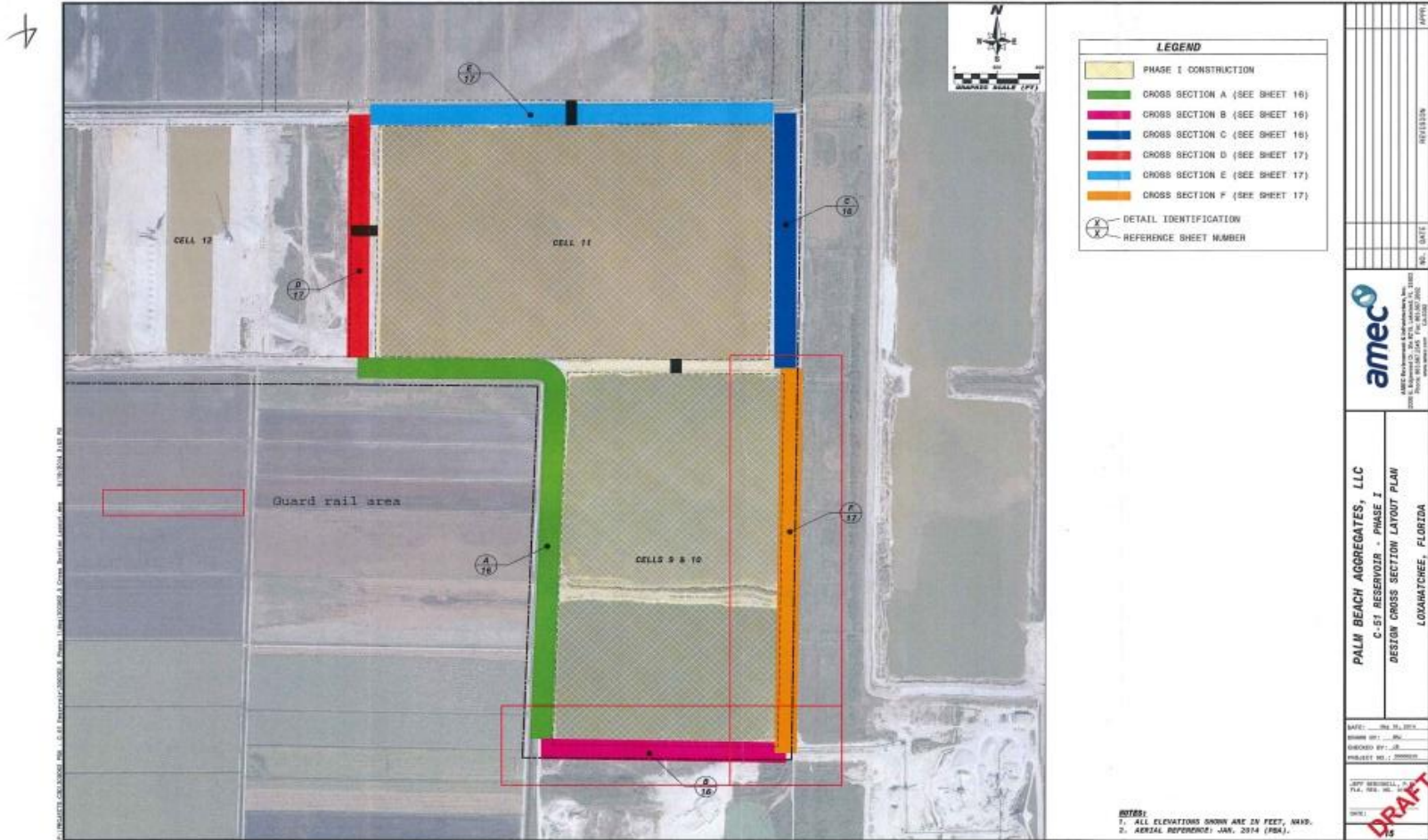
1. Guard Railing
2. Boat Ramp
3. Topping –off Pumping Station

Construction Conditions

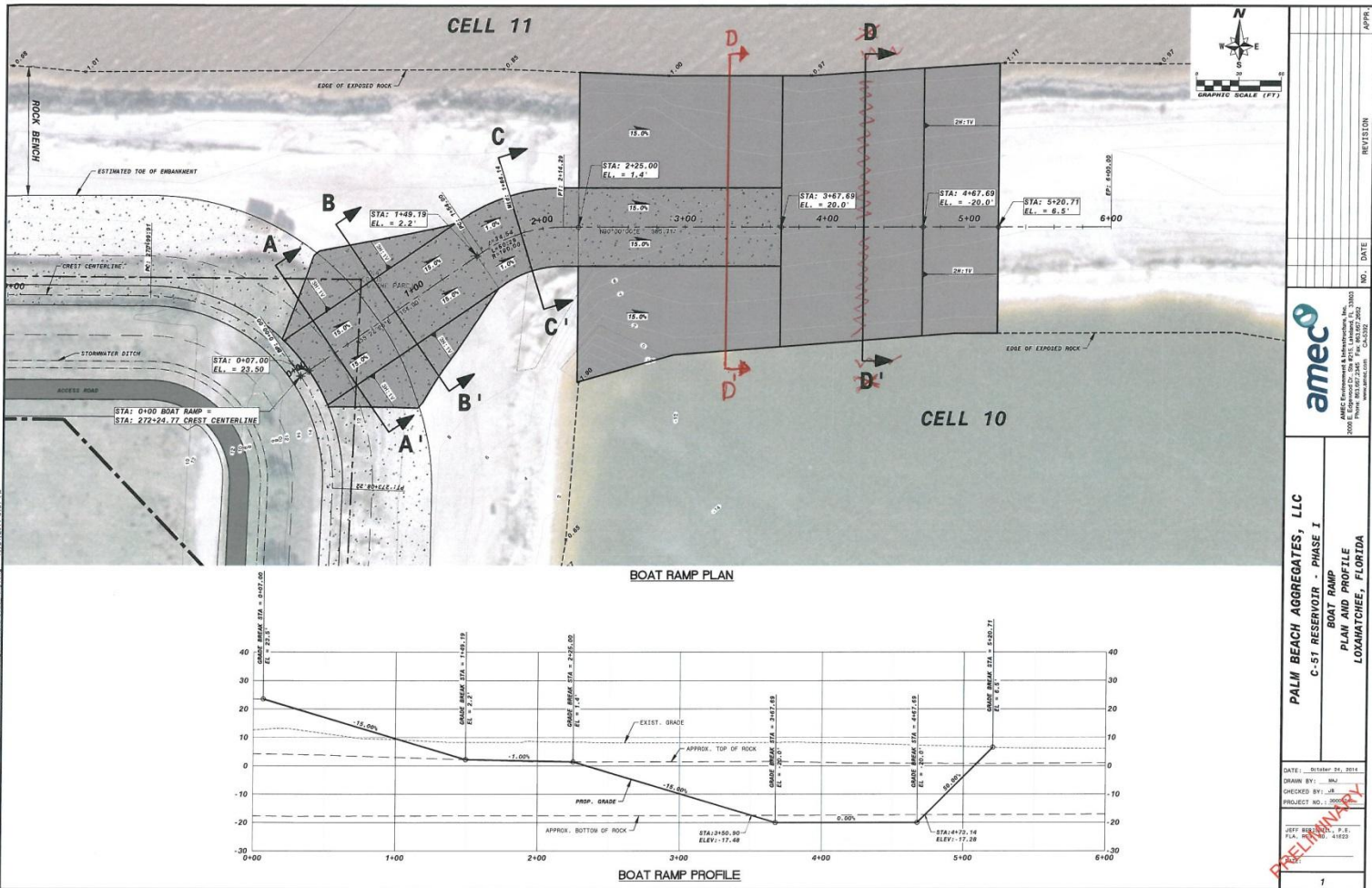
1. Assume Construction after L-8 Reservoir Operational will be “in the wet”



Guard Rail



Boat Ramp

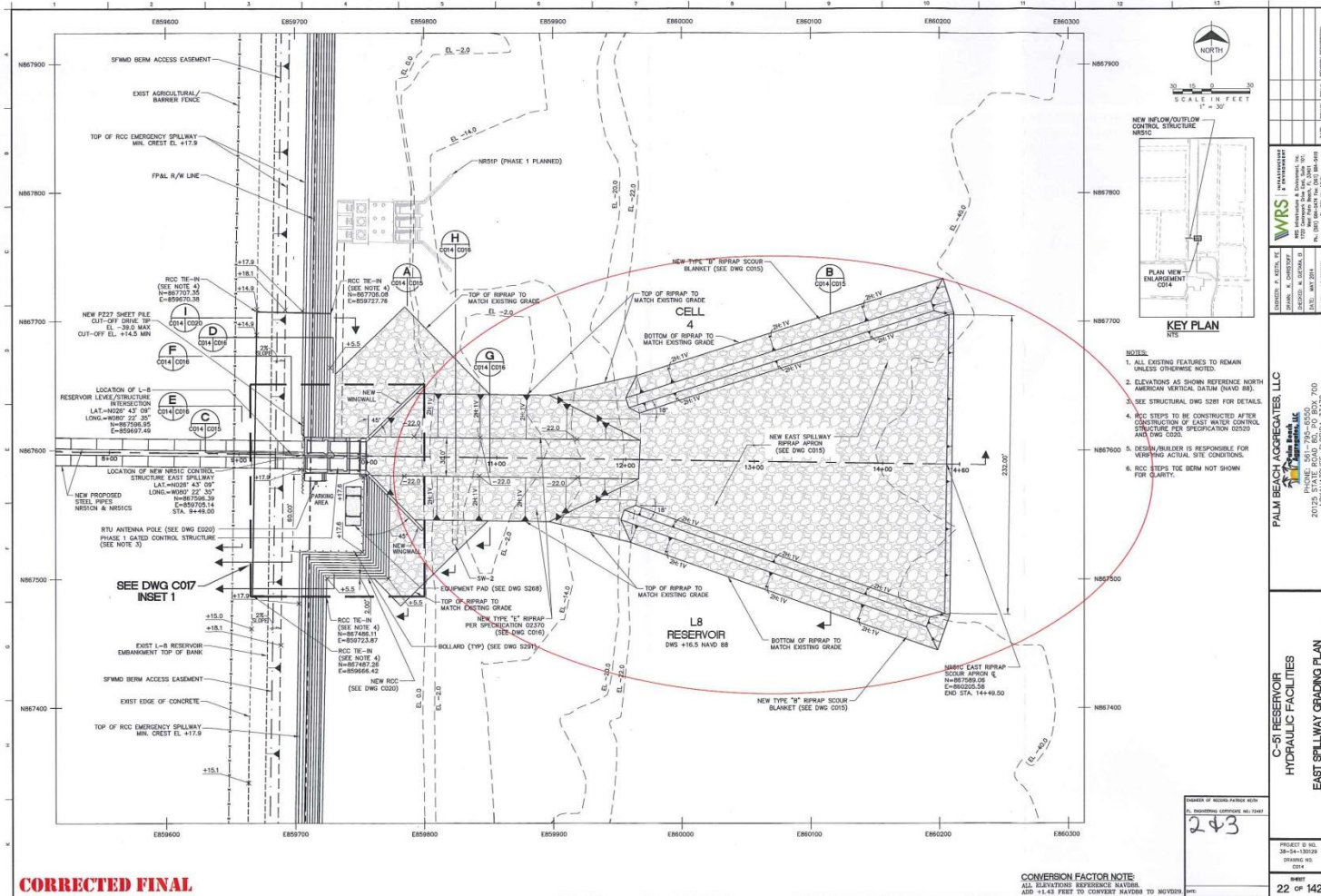


		AMCO Environmental & Infrastructure, Inc. 2000 E. Highway 77, Ste. 401, Lakeland, FL 34002 Phone: 888.666.6666 Fax: 888.666.6666 www.amco.com
PALM BEACH AGGREGATES, LLC C-ST RESERVOIR - PHASE I BOAT RAMP PLAN AND PROFILE LODWATCHEE, FLORIDA		NO. _____ DATE _____ REVISION _____ APPR. _____
DATE: 01/24/2014 DRAWN BY: JRM CHECKED BY: JRM PROJECT NO.: 10000000	JEFF BERGHAUSE, P.E. P.L.A. NO. 12100 - 11503	PRELIMINARY

I:\PROJECTS\CSD\10000000_P1 - C-ST Reservoir\10000000_P1 - Boat Ramp.dwg 10/24/2014 3:31 PM



Control Structure, Spillway



CORRECTED FINAL

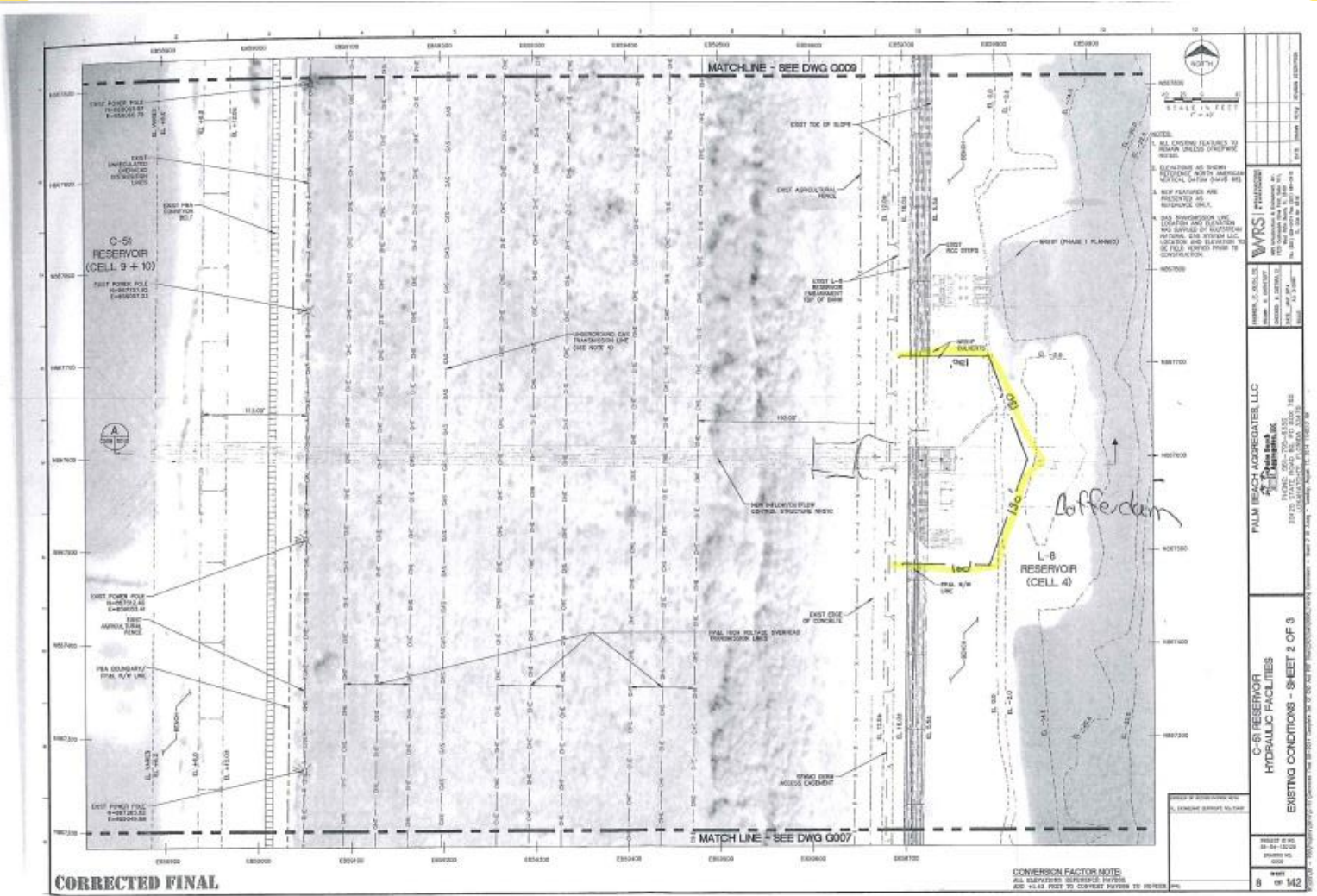
CONVERSION FACTOR NOTE
ALL ELEVATIONS REFERENCE NAVD83
ADD +1.43 FEET TO CONVERT NAVD83 TO NAD83

243

WRS WRS CONSULTANTS & ENGINEERS, INC. 10000 W. BOULEVARD, SUITE 100 WEST PALM BEACH, FL 33411 PHONE: 561.831.1111 FAX: 561.831.1112 WWW.WRS-INC.COM	
PALM BEACH AGGREGATES, LLC 20125 STATE ROAD 600, P.O. BOX 700 COVINGTON, FL 32035 PHONE: 904.392.4444 FAX: 904.392.4445 WWW.PALMBEACHAGGREGATES.COM	
C-81 RESERVOIR HYDRAULIC FACILITIES EAST SPILLWAY GRADING PLAN	
PROJECT NO. 34-24-10018 DRAWING NO. 014	SHEET 22 OF 142



Control Structure Cofferdam



Representative of Topping PS



Scenario 1

Scenario 1

Boat Ramp	\$586,921
Guard Rail	\$261,607
Wet Install of Spillway & Pump Station	\$5,803,024
Pump Station for Topping off C-51 Reservoir	\$13,020,899
Total Additional Construction Costs¹	\$19,672,451

Description	Amounts
Modified Construction Cost	\$130,303,671
Land Costs	0
Project Management / Fees	1,303,037
Engineering, Design, Permitting & Const. Mgt.	20,848,587
Interest during Construction	9,500,094
Value @ 12% construction	15,636,441
LWDD Project Initiation Cost	350,000
LWDD Canal User Fee	380,160
Total Project Capital Costs	\$178,321,989
Cost of Issuance (2%)	\$3,913,000
Annual Debt Service (6% @ 30 yrs.)	\$14,278,000
Annual Operating Costs	1,031,276
Total Annual Costs	\$15,309,276
Annual Water Available (Kgal) ²	12,775,000
Equivalent Rate Without Debt Service Coverage (\$/1000 gal)	\$1.20



Scenario 1 continued

Description	Amounts
Annual Debt Service (6% @ 30 yrs.)	\$14,278,000
Annual Debt Service Coverage (15% of Debt Payment)	2,141,700
Annual Operating Costs	1,031,276
Total Annual Costs	\$17,450,976
Annual Water Available (Kgal) ²	12,775,000
Equivalent Rate With Debt Service Coverage (\$/1000 gal)	\$1.37
Total Project Capital Costs	\$178,321,989
Total Capacity (gallons)	35,000,000
Capacity Cost (\$/gal)	\$5.09



Scenario 2

Scenario 2

Boat Ramp	\$586,920
Guard Rail	\$261,606
Wet Install of Spillway only	\$4,995,970
Pump Station for Topping off C-51 Reservoir	Deferred
Total Additional Construction Costs¹	\$5,844,496

<u>Description</u>	<u>Amounts</u>
Modified Construction Cost	\$116,247,556
Land Costs	0
Project Management / Fees	1,162,476
Engineering, Design, Permitting & Const Mgt.	18,599,609
Interest during Construction	8,475,300
Value @ 12% construction	13,949,707
LWDD Project Initiation Cost	350,000
LWDD Canal User Fee	380,160
Total Project Capital Costs	\$159,164,807
Cost of Issuance (2%)	\$3,508,343
Annual Debt Service (6% @ 30 yrs.)	\$12,744,000
Annual Operating Costs	1,031,276
Total Annual Costs	\$13,775,276
Annual Water Available (Kgal) ²	12,775,000
Equivalent Rate Without Debt Service Coverage (\$/1000 gal)	\$1.08



Scenario 2 continued

Description	Amounts
Annual Debt Service (6% @ 30 yrs.)	\$12,744,000
Annual Debt Service Coverage (15% of Debt Payment)	1,911,600
Annual Operating Costs	1,031,276
Total Annual Costs	<u>\$15,686,876</u>
Annual Water Available (Kgal) ²	<u>12,775,000</u>
Equivalent Rate With Debt Service Coverage (\$/1000 gal)	\$1.23
Total Project Capital Costs	\$159,164,807
Total Capacity (gallons)	<u>35,000,000</u>
Capacity Cost (\$/gal)	\$4.55



Scenario 3

Scenario 3

Boat Ramp	\$586,631
Guard Rail	\$261,606
Dry Install of Spillway only	No Change
Pump Station for Topping off C-51 Reservoir	Deferred
Total Additional Construction Costs¹	\$850,000

<u>Description</u>	<u>Amounts</u>
Modified Construction Cost	\$111,168,858
Land Costs	0
Project Management / Fees	1,111,689
Engineering, Design, Permitting & Const Mgt.	17,787,017
Interest during Construction	7,847,092
Value @ 12% construction	13,340,263
LWDD Project Initiation Cost	350,000
LWDD Canal User Fee	380,160
Total Project Capital Costs	\$151,985,078
Cost of Issuance (2%)	\$3,249,476
Annual Debt Service (6% @ 30 yrs.)	\$12,161,113
Annual Operating Costs	1,031,276
Total Annual Costs	\$13,192,389
Annual Water Available (Kgal) ²	12,775,000
Equivalent Rate Without Debt Service Coverage (\$/1000 gal)	\$1.03



Scenario 3 continued

Description	Amounts
Annual Debt Service (6% @ 30 yrs.)	\$12,161,113
Annual Debt Service Coverage (15% of Debt Payment)	1,824,167
Annual Operating Costs	1,031,276
Total Annual Costs	\$15,016,556
Annual Water Available (Kgal) ²	12,775,000
Equivalent Rate With Debt Service Coverage (\$/1000 gal)	\$1.18
Total Project Capital Costs	\$151,985,078
Total Capacity (gallons)	35,000,000
Capacity Cost (\$/gal)	\$4.34



Cost Summary

	Project Capital Cost (\$)	Annual Costs (\$)	Equivalent Rate Charge (\$/1000/gal)	Capacity Cost (\$/gal)
Scenario 1	178,321,989	17,450,976	1.37	5.09
Scenario 2	159,164,807	15,686,876	1.23	4.55
Scenario 3	151,985,078	15,016,556	1.18	4.34
June 2014 @ 35MGD	146,265,212	12,391,458	1.11	4.18
June 2014 @ 37MGD	146,265,212	12,391,458	1.05	3.96



Questions?

