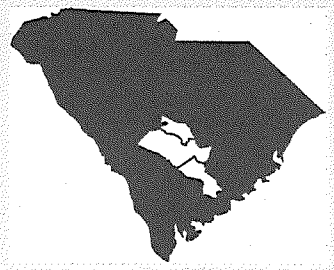
Attachment A

Design Presentation



Lake Marion Regional Water System

Modification

HAZEN AND SAWYER
Environmental Engineers & Scientists

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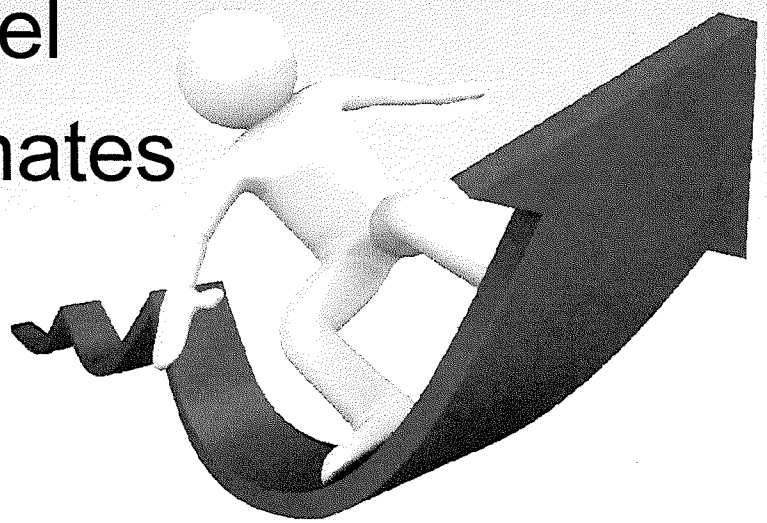
November 25, 2014

Outline

Project Scope (Year 2040)

- Population Projections
- Project Water Demands
- Evaluate Pipeline Routes
- Update Hydraulic Model
- Preliminary Cost Estimates



Population Projections

BCD COG Population and Anticipated Growth Lake Marion Regional Water System										
County						Population Projection				
	1990	2000	2010	2015	2020	2030	2035	% increase/year (2000-2035)	2040	Equiv. Growth Rate (2015-2040)
Calhoun	12,753	15,185	15,175	15,940	16,660	17,980	18,640	0.55%	19,152	20.15%
Dorchester	83,060	96,413	136,555	139,370	149,300	170,210	180,580	1.41%	193,336	38.72%
Orangeburg	84,804	91,582	92,501	93,920	96,400	100,700	102,890	0.32%	104,541	11.31%

Water Demands

LMRWS Expansion Demands (Year 2040)

Member	2040 ADD (MGD)	2040 MDD (MGD)
Town of Santee	incl. below	incl. below
Orangeburg Co.	1.76	2.64
Dorchester Co.	1.91	2.33
Calhoun Co.	0.29	0.44
TOTAL	3.96	5.41

Hydraulic Modeling/Routes

Lake Marion Regional Water System

User	Project	Siz	Length		Cost
Calhoun	0.3MGD BPS Lone Star			$	375,000
Calhoun	12" main to connect to Belleville System	12	73,000	$	6,570,000
Calhoun	12" main near LMRWS Meter Station	12	10,300	$	927,000
Dorchester	Water Main North of Harleyville to Winding Woods Rd	14	9,400	$	987,000
Dorchester	Water Main North of Harleyville to Winding Woods Rd	12	36,000	$	3,240,000
Dorchester	New Elevated Tank in Winding Woods (0.5MG)			$	1,250,000
Dorchester	Water Main Dorchester to Ridgeville	12	18,200	$	1,638,000
Dorchester	Water Main Hwy 178 to Shady Grove	12	30,000	$	2,700,000
Dorchester	Water Main Harleyville to Dorchester	16	43,000	$	5,160,000
Orangeburg	Water Main Hwy 176 to Wells Crossroads	12	5,600	$	600,000
Orangeburg	Water Main I26 to Providence (210/176)	12	23,000	$	2,070,000
Orangeburg	Water Main Providence to Hwy 15	12	4,700	$	423,000
Orangeburg	New Elevated Tank in Vance (0.3MG)			$	750,000
Orangeburg	New Elevated Tank at Pilot Station on I26 (0.5MG)			$	1,250,000
Orangeburg	Water Main Hwy 15 to Vance	10	21,300	$	1,597,500
Orangeburg	Water Main Lodge Hall Area	12	17,800	$	1,602,000
			Total	$	31,139,500
	Total Project		TOTAL	$	**31,200,000**

Note: These construction costs do not include Corps oversight, design, construction administration, or property acquisition.

Estimated Construction Costs

Orangeburg County

- 72,400LF – 12” New Water Mains
- New 0.3 MG Elevated Tank Vance
- New 0.5 MG Elevated Tank Exit 159

- Estimated Construction Cost:
  $8.3 Million

Estimated Construction Costs

Dorchester County

- 137,000LF – 16”-12” New Water Mains
- New 0.5 MG Elevated Tank in Winding Woods Industrial Park

- Estimated Construction Cost:

  $15.0 Million

Estimated Construction Costs

Calhoun County – Total

- 83,300LF – 12” New Water Mains
- New 0.3MGD Booster Pump Station

- Total Estimated Construction Cost:
  $7.9 Million

CALHOUN COUNTY

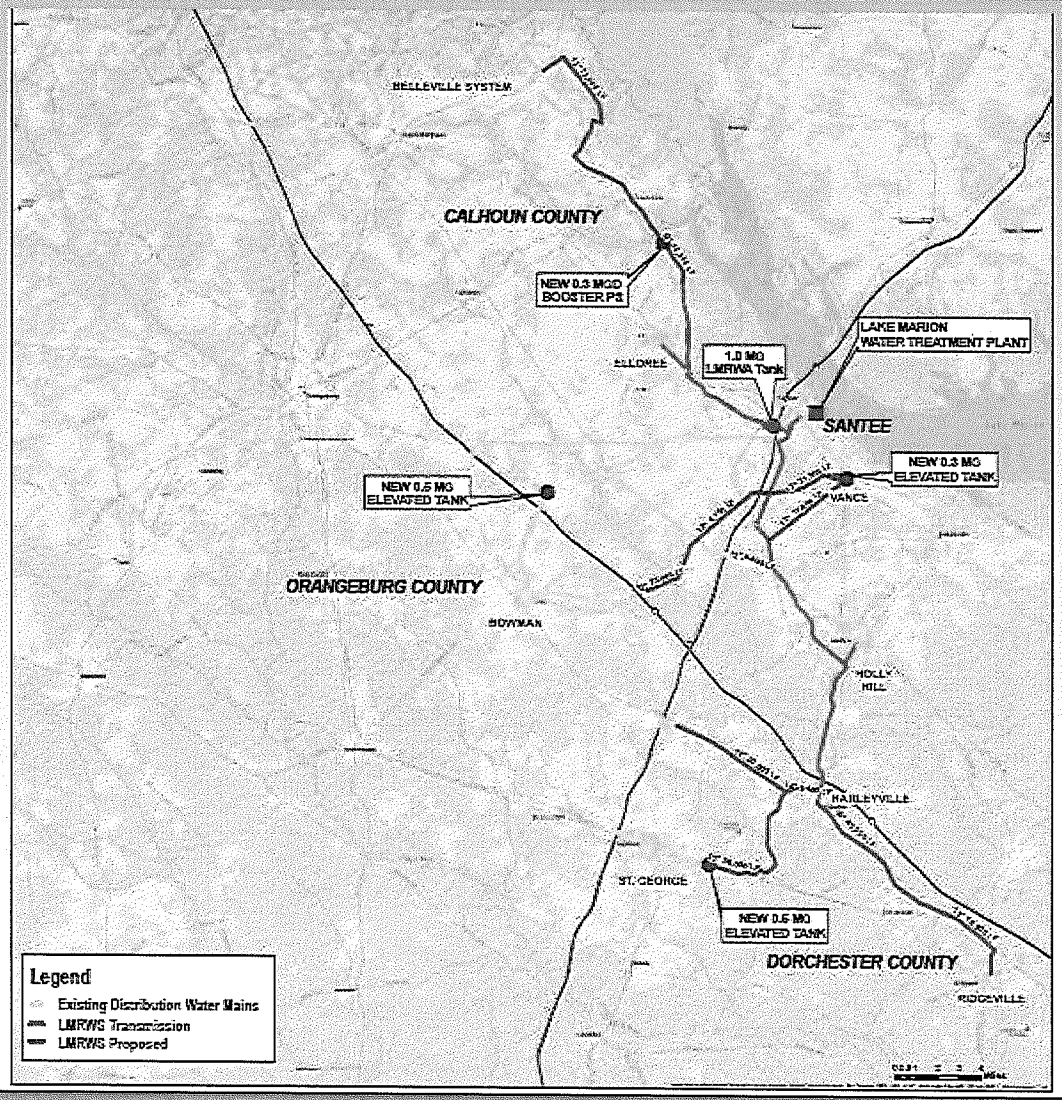
Summary

TOTAL Construction Cost Summary

Orangeburg County	$ 8.3 Million
Dorchester County	$15.0 Million
Calhoun County	$ 7.9 Million
TOTAL	$31.2 Million

55 miles of water mains, booster pump station & 3 elevated storage tanks

Project Map


CALHOUN COUNTY
ORANGEBURG COUNTY
DORCHESTER COUNTY
SANTEE
ELLOREE
VANCE
BOWMAN
HOLLY HILL
HANAHANVILLE
ST. GEORGE
RIDGEVILLE
NEW 0.3 MGD BOOSTER PS
1.0 MG LMRWA Tank
LAKE MARION WATER TREATMENT PLANT
NEW 0.3 MG ELEVATED TANK
NEW 0.5 MG ELEVATED TANK
NEW 0.5 MG ELEVATED TANK
Legend
Existing Distribution Water Mains
LMRWS Transmission
LMRWS Proposed