



BEAUFORT COUNTY, SC

STORMWATER FUNDING NEEDS
and SOLUTIONS

OCTOBER 20, 2016

TODAY

- Eric Larson, PE, CPSWQ, AICP, CFM
Beaufort County – Director, Environmental Engineering & Land Management
- Keith Reading, PE
Executive Vice President – Raftelis Financial Consultants
- Jennifer Fitts
Senior Consultant – Raftelis Financial Consultants

TODAY

- Beaufort County's stormwater program and the growing predicament - ERIC
- Solution strategies and options - KEITH
- Analysis and ratemaking - JENNIFER
- Outcomes and lessons learned - ERIC

Item 1 of 4

- Beaufort County's stormwater program and the growing predicament
- Solution strategies and options
- Analysis and ratemaking
- Outcomes and lessons learned

Beaufort County

- Nearly unique relationship with water
- Utility funding since 2001
- Four incorporated municipalities
- Challenges of unincorporated service area
- Emerging needs for capital, MS4

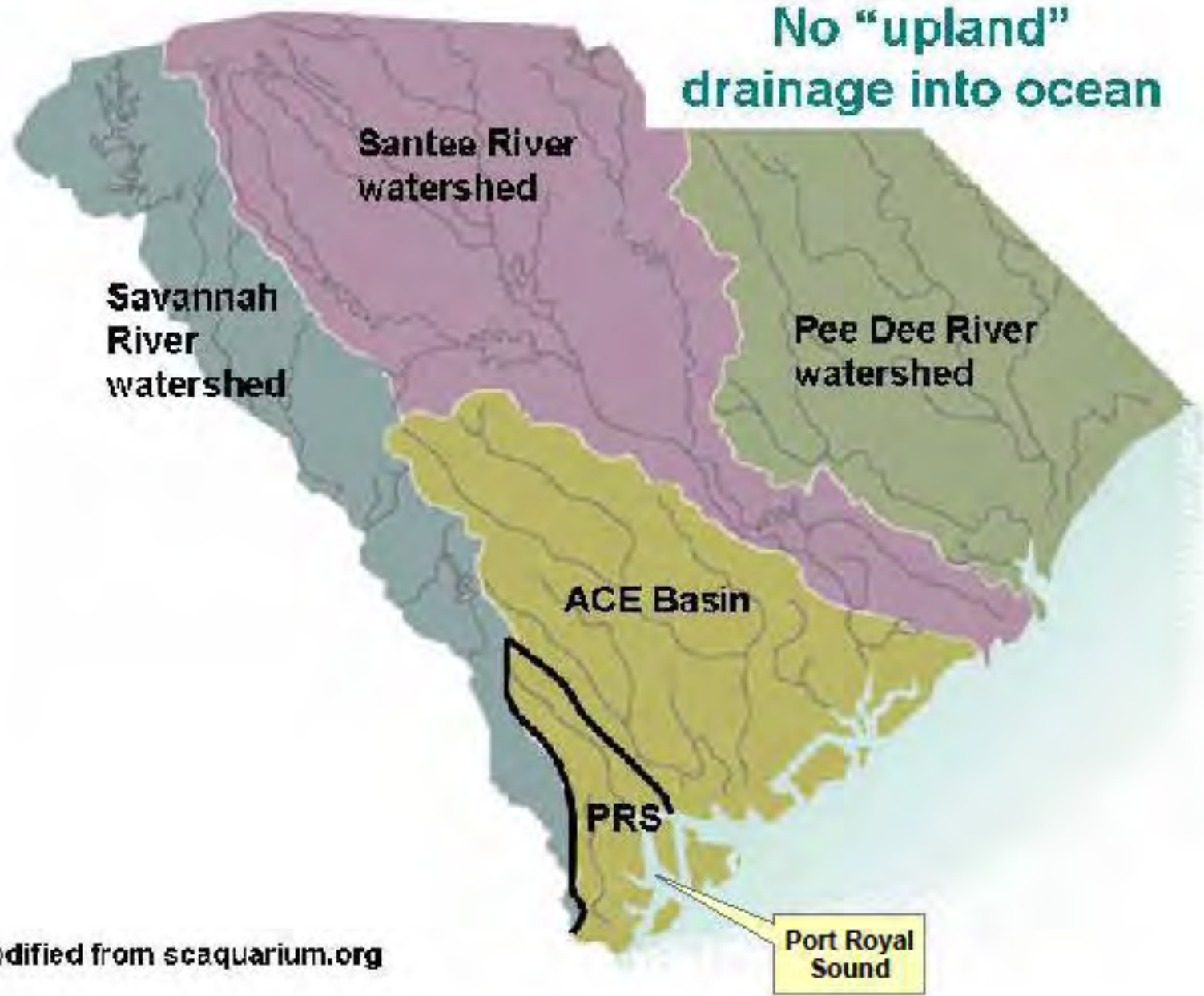


Characteristics



- **Coastal Economy**
- **50% Open and Salt Marshes**
- **Limited Freshwater Input**
- **Major Shellfish Harvesting**
- **Rapid Population Growth**

**No "upland"
drainage into ocean**



Modified from scaquarium.org

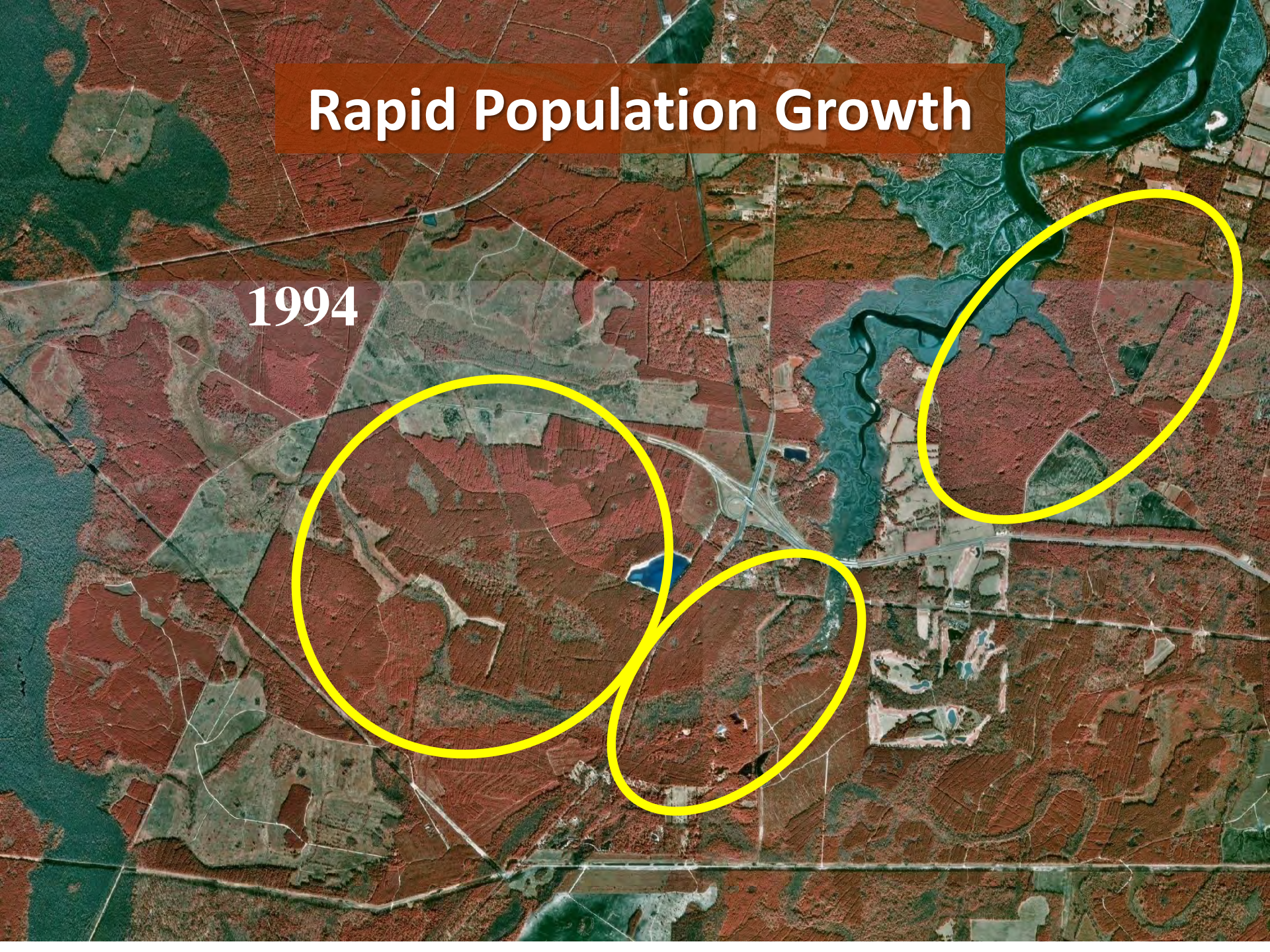
Surrounded by water

- Over half of the county geographical area is water
 - 923 square miles, with approx. 471 square miles being open water or tidal marsh.

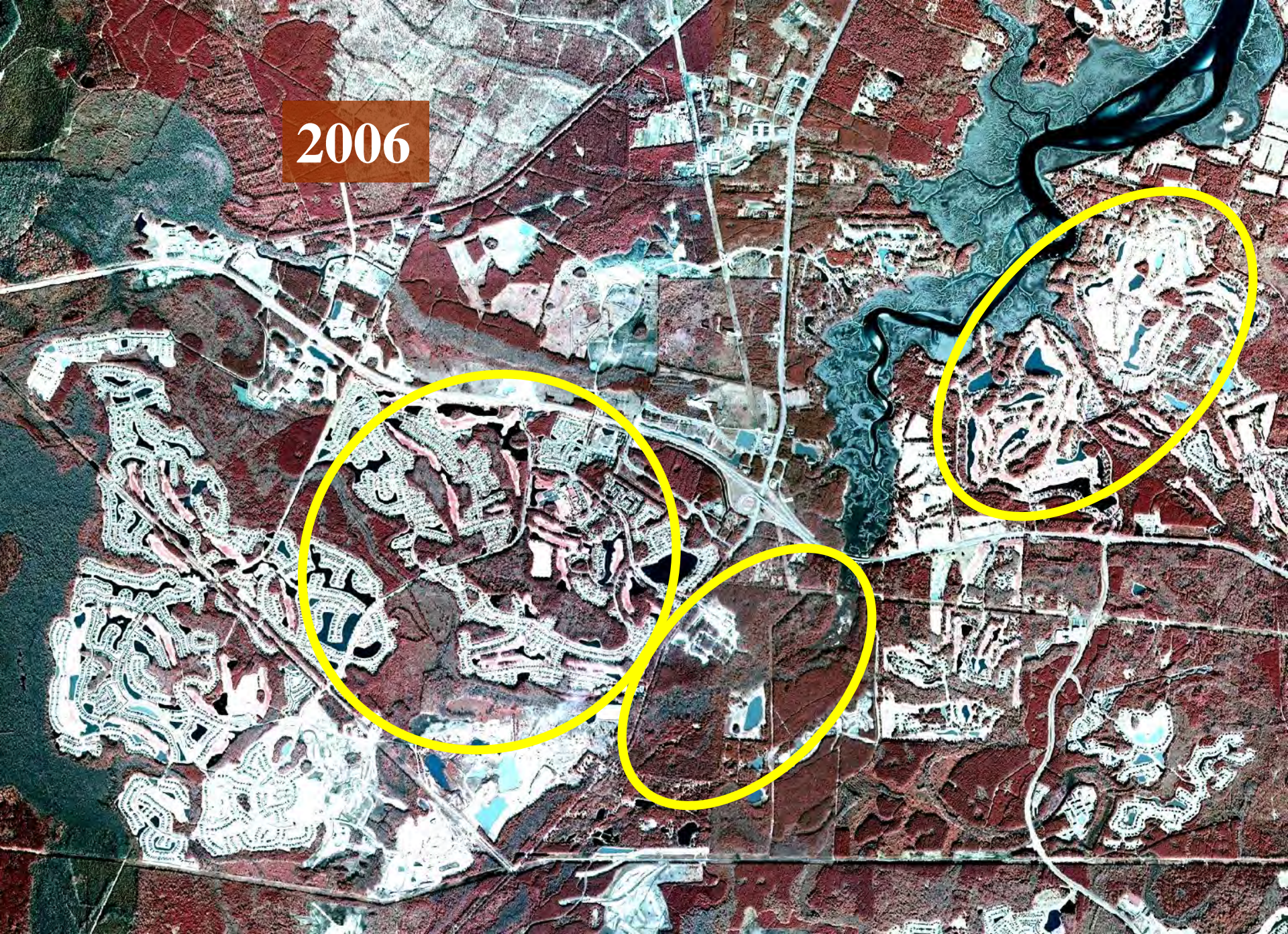


Rapid Population Growth

1994



2006



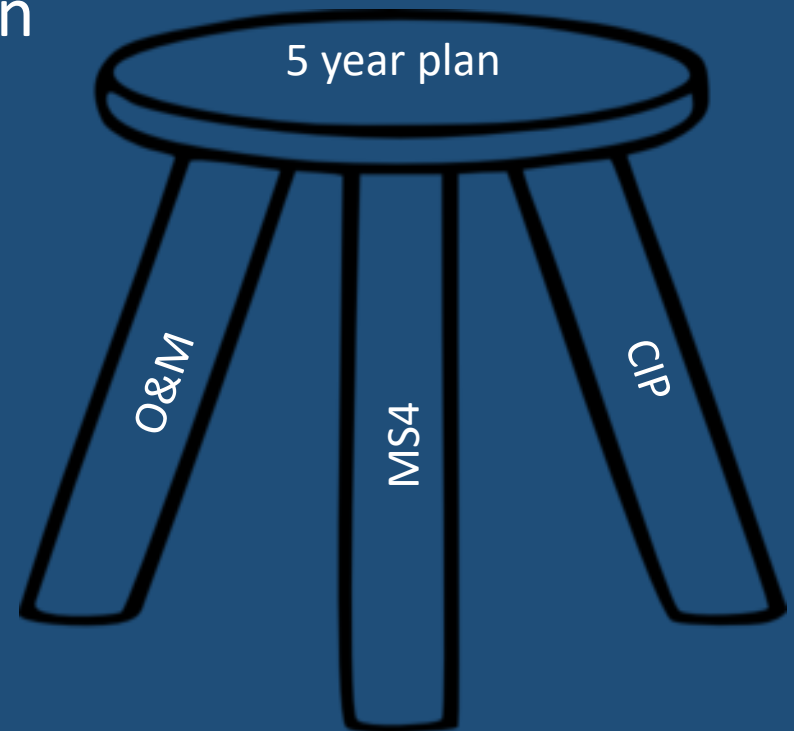
Unique land use considerations

- Beaufort County is diverse
 - Native populations
 - Service populations
 - Working class
 - Retirement communities
 - Ocean front, resort properties
- One size doesn't fit all when it comes to the typical SFU (or ERU)
- SC Ag use exemption policies

Updated 5 year plan and funding needs

In 2015, the Stormwater Utility staff recommended the proposed five year plan, which contains proactive initiatives to improve our program and comply with federally mandated permit programs

- Update the 10 yr. Master Plan
- Fund capital projects
- Update the LOS and EOS
- Expand crew and resources
- Implement a MS4 program

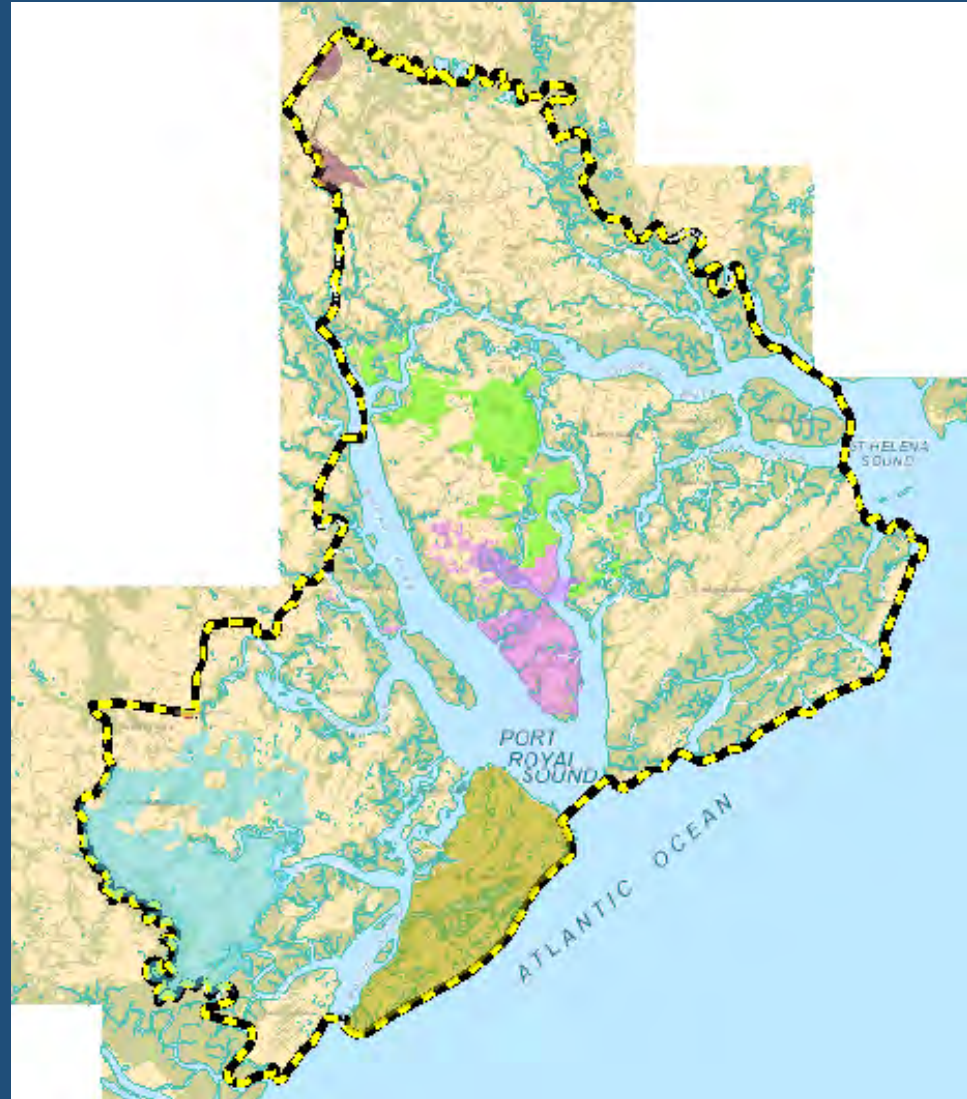


MS4 = the “UNFUNDED” mandate

‘nuff said!

Intertwined jurisdictions

- Town of Hilton Head Island
 - Town of Bluffton
 - Town of Port Royal
 - City of Beaufort
- also
- Town of Yemmassee
 - City of Hardeeville



Annexation nightmares

- South Carolina law is unique
- Annexation of land can occur without the assumption of infrastructure serving the area
- Creates a un-sustainable model were SWU revenues shift from the County to the Towns and Cities while the cost of O&M remains with the County
- Problem will continue to grow
 - Currently 47 of our 281 miles of road are in municipal boundaries
- County needed a way to re-coup that lost revenue from the users of the facilities

Town of Bluffton Annexation Plan

ATTACHMENT 2.M

Town of Bluffton
Beaufort County, SC

Growth Management
Department



Future Annexation Area
Map 8.1

Legend

JURISDICTIONAL

-  Hilton Head Island
-  Hardeeville
-  Beaufort County
-  Jasper County
-  Town of Bluffton
-  Town of Bluffton Future Limits

TRANSPORTATION

-  Paved Road
-  Proposed Roads

HYDROLOGY

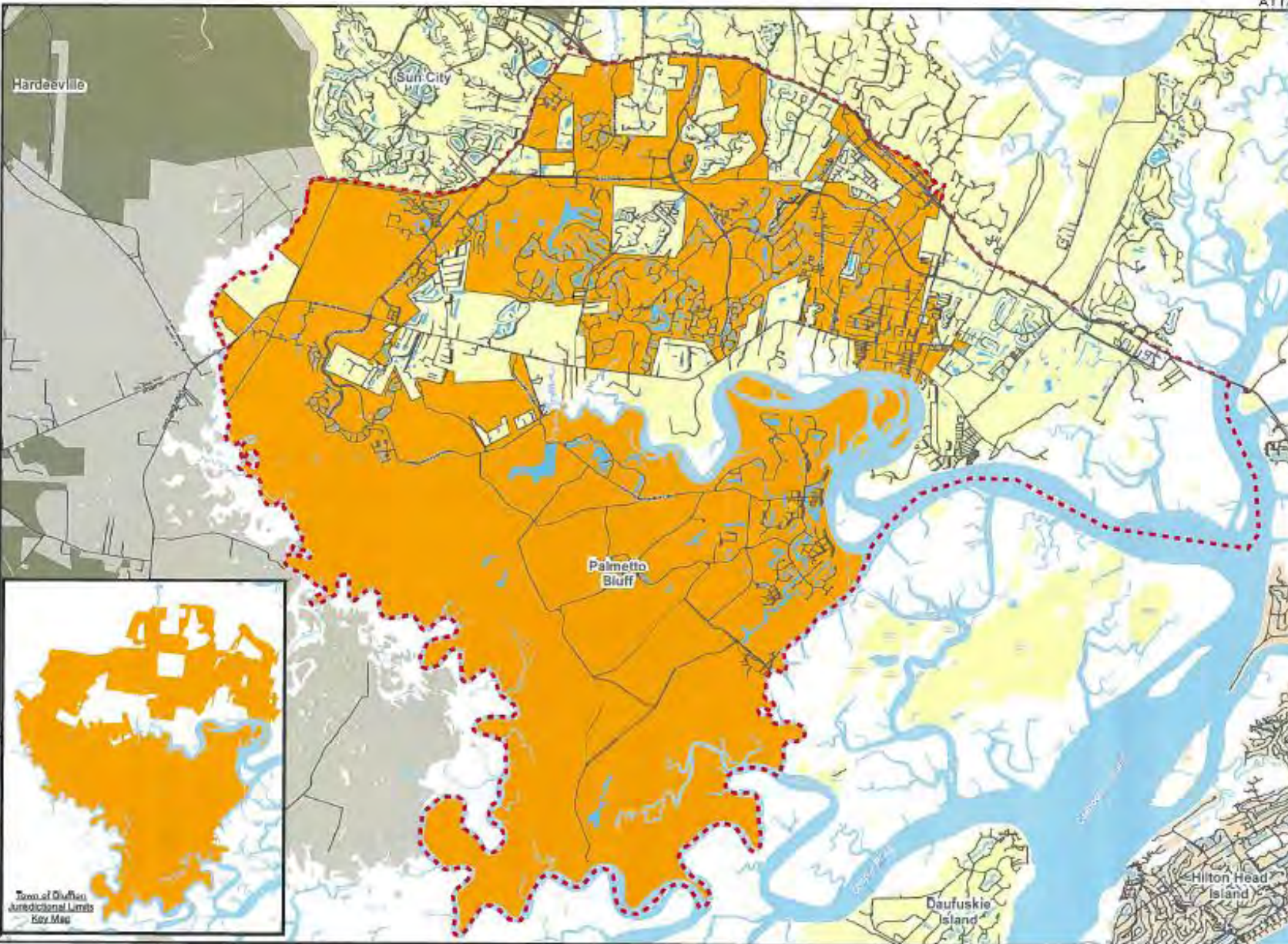
-  Marsh
-  Water

Effective 2014-11-13

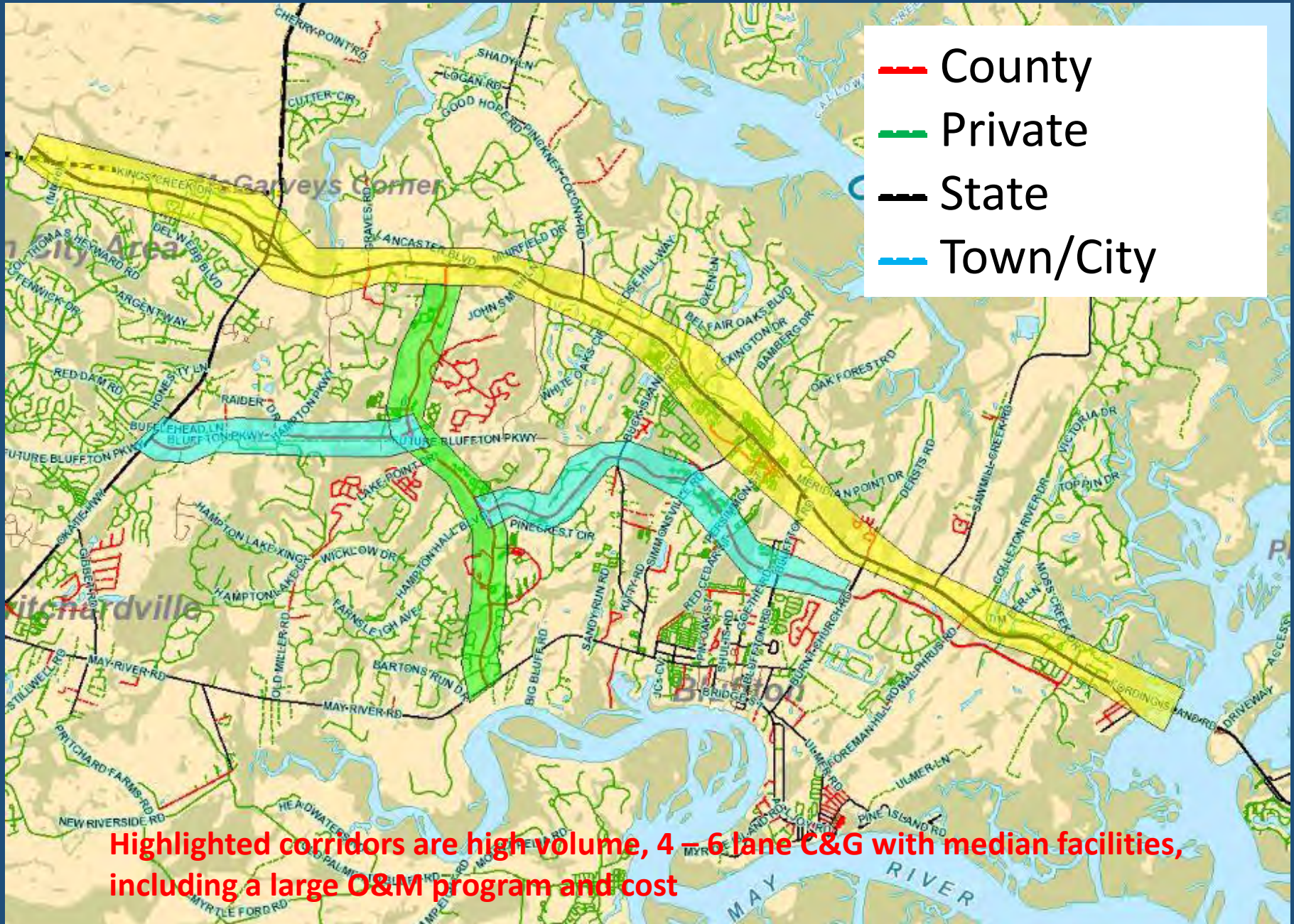
Prepared by GIS Office



This map was created for the GIS Office of the Town of Bluffton's Information Technology Services under a contract awarded to the contractor, Geospatial Information Systems, Inc. The map and data distributed herein are the property of the Town of Bluffton. The contractor, Geospatial Information Systems, Inc. and its employees, subcontractors and licensors shall not be held responsible for any errors, omissions, or inaccuracies in any products or services provided by the Town of Bluffton. The contractor, Geospatial Information Systems, Inc. and its employees, subcontractors and licensors shall not be held responsible for any errors, omissions, or inaccuracies in any products or services provided by the Town of Bluffton. The contractor, Geospatial Information Systems, Inc. and its employees, subcontractors and licensors shall not be held responsible for any errors, omissions, or inaccuracies in any products or services provided by the Town of Bluffton.



Countywide Infrastructure - Bluffton



Night sweats over State DOT roads

- Adding to the problems with annexation, SC road system is unique as well
- The SC-DOT own and operate an overwhelming majority of the roads in the County
- 2328 miles of road in the County
 - 1362 miles are Private
 - 538 miles are State
 - 281 miles are County
 - 147 miles municipal, military owned
- Drainage infrastructure serving DOT roads not maintained outside of ROW

Poorly funded Capital Program

- The 2006 Master Plan identified projects to mainly deal with:
 - Alleviate road flooding
 - Infrastructure rehabilitation
 - Pollutant removal (to a limited degree)
- We currently have 14 projects identified to:
 - Meet 2006 Master Plan goals, and
 - Stormwater runoff volume reduction
 - Fully address pollutant removal
 - Promote growth
- Scheduled over 10 years
- Total cost = \$22 million

Fail to Plan, Plan to Fail

- We had an obvious need to look into the future
- We had Applied Technology and Management (ATM) on ID/IQ contract for MS4 needs, master planning, and civil engineering on CIP projects
- ATM had Raftelis on board to support the funding analysis
- Our Utility had five rates for five jurisdictions, all having differing needs but all needing more \$\$\$!
- Cost sharing MOAs allowed the Towns and City to join the County in a contract with the ATM / Raftelis team to conduct a rate study

Item 2 of 4

- Beaufort County's stormwater program and the growing predicament
- **Solution strategies and options**
- Analysis and ratemaking
- Outcomes and lessons learned

The Situation for the County

- Steeply rising costs
- Shrinking rate base
- Customers within the Towns/City are not helping fund county-wide drainage operations
- Capital needs becoming more urgent
- Desirable place with growth in our future and a strong dependence on environmental quality

The Situation More Broadly

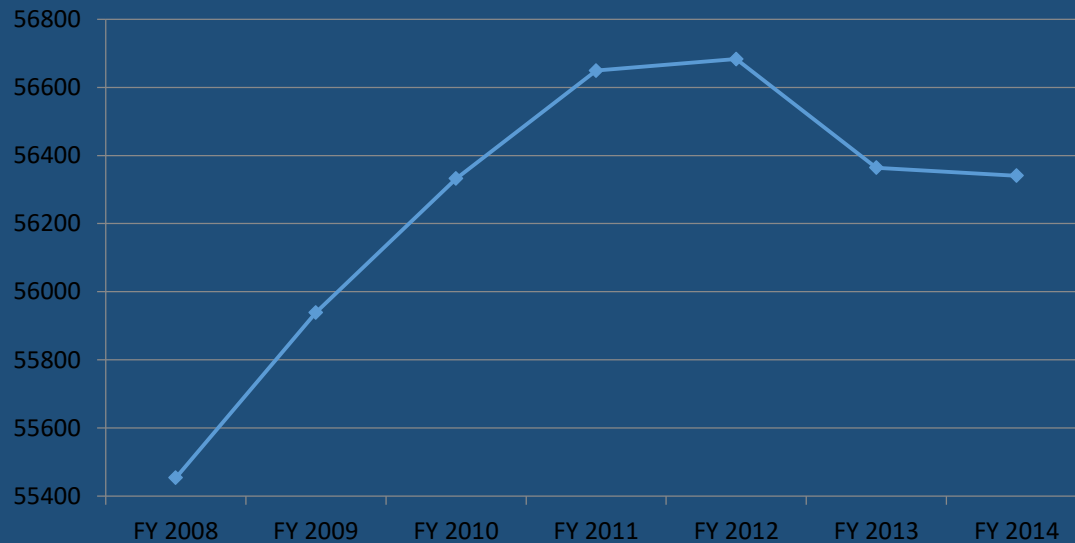
- Issues for City and Towns:
 - Failing infrastructure and lack of data about the infrastructure (Beaufort)
 - MS4 compliance costs increasing (Bluffton, HHI)
 - O&M needs expanding for older infrastructure that the Town has agreed to maintain (HHI)
 - Increasing O&M needs and shrinking fund balance (PR)

Existing Rates Pre-change

- County: \$ 50
- Town of Bluffton: \$ 98
- Town of HHI: \$ 108.70
- City of Beaufort: \$ 105
- Town of Port Royal: \$ 50

Trends

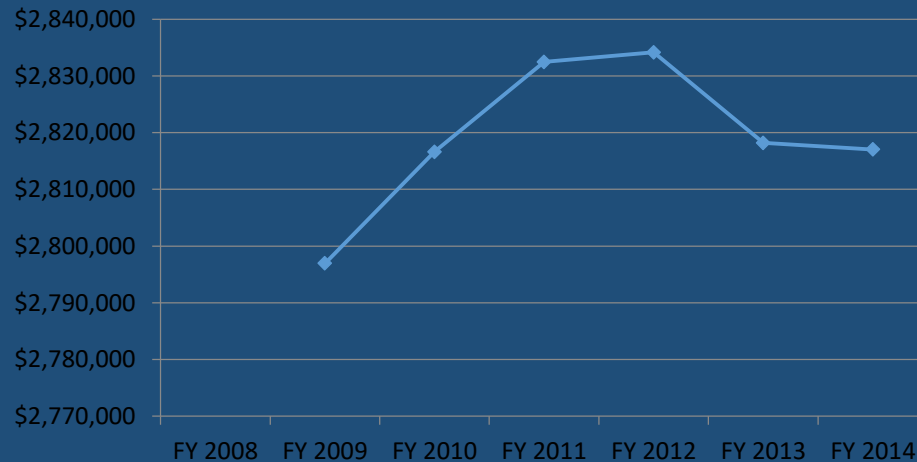
Un-Incorp. BC SFU



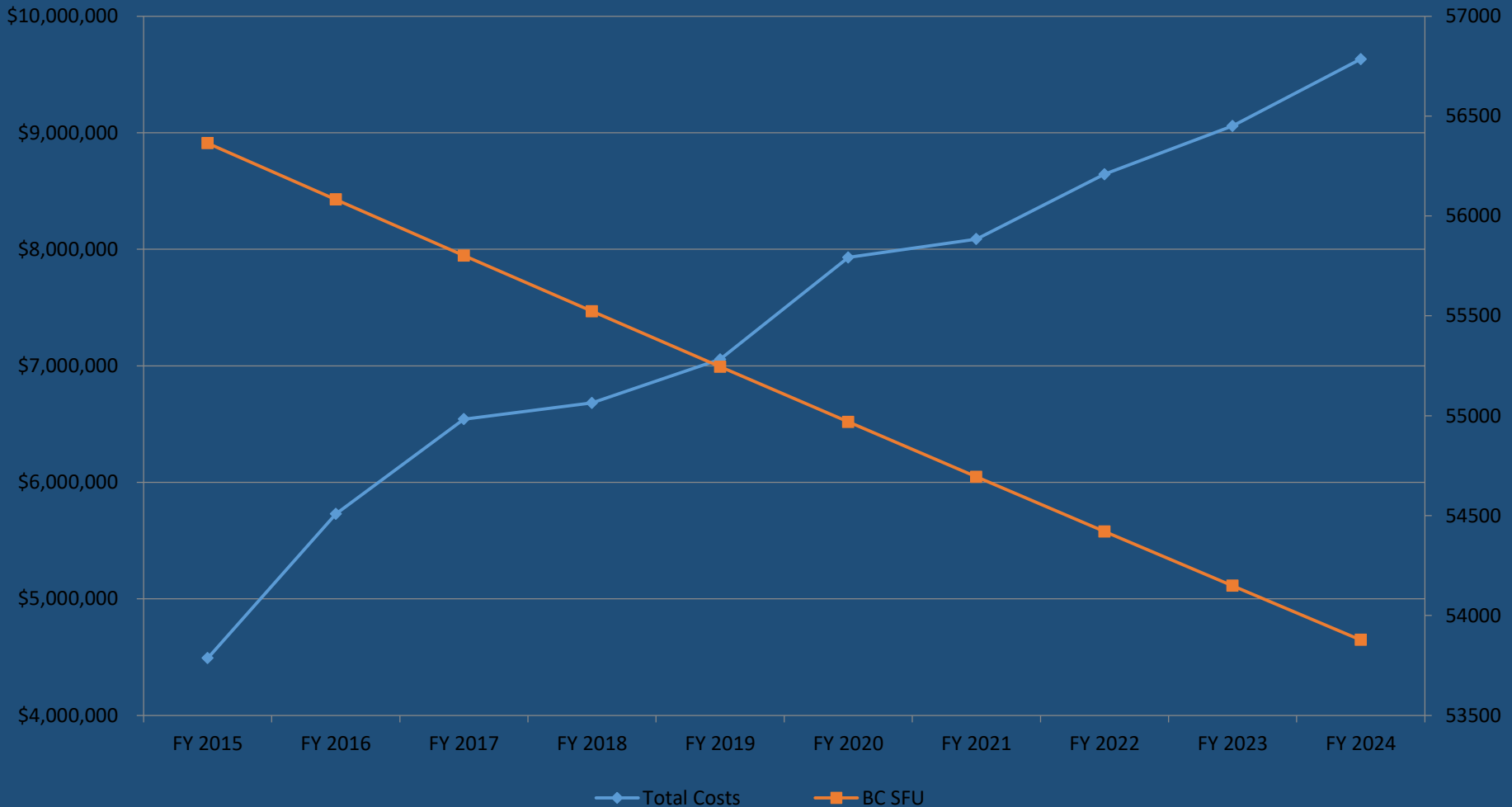
- Main contributors to SFU decline
 - Annexation
 - ToB, CoB, ToPR
 - Hardeeville
 - Yemassee

- Direct link to decline in revenue

County SWU Fees Collected



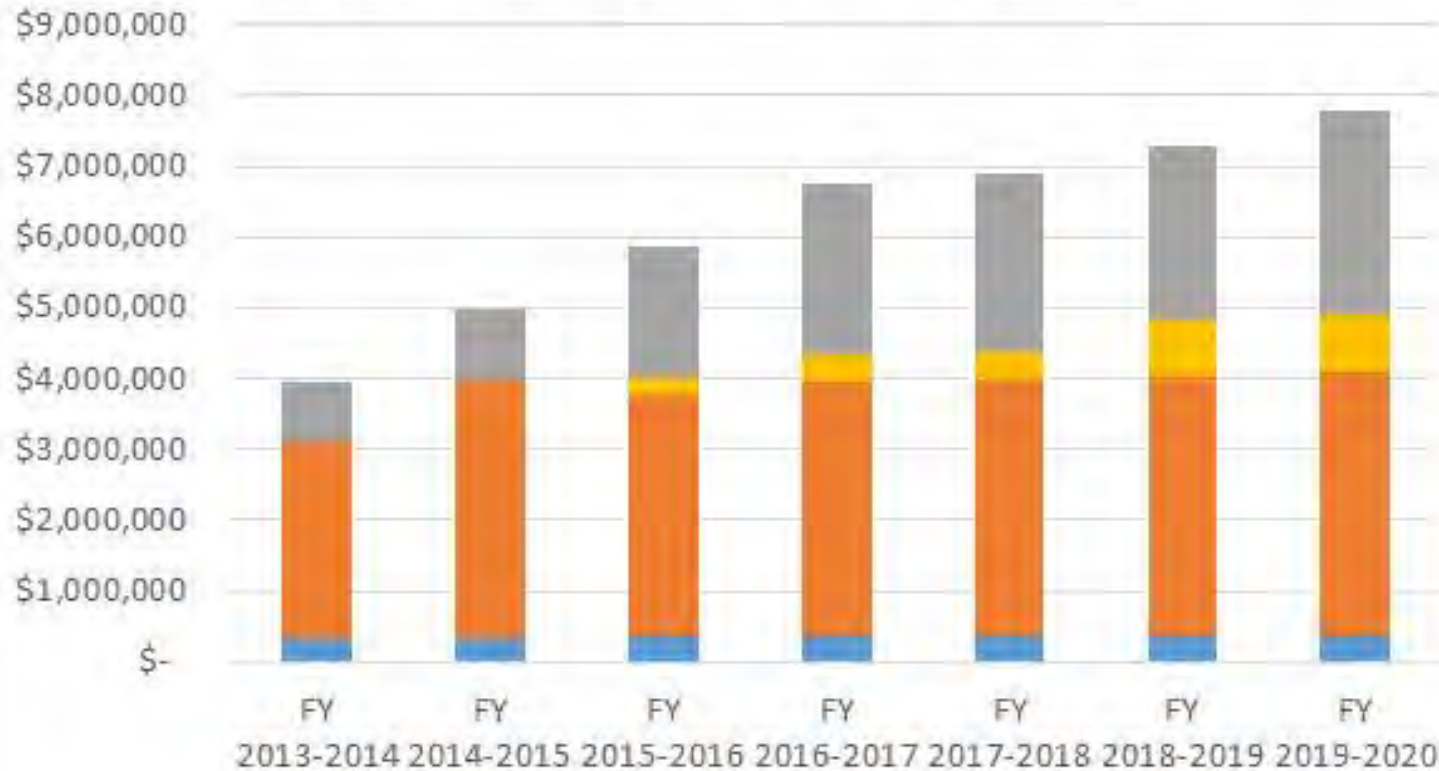
Projections



- Expenses will continue to rise while SFU will continue to decline

Financial Plan

Stormwater Utility Funding Needs



■ Administration

■ Existing Utility Activities

■ Additional Permit Compliance Costs

■ Capital Projects & Purchases

Financial Planning

Stormwater Utility Funding Needs



Five-year Horizon

Without capital – 40% increase

With modest capital – 90% increase



Impervious Area v. Gross Area

- Existing rate structure charged vacant lands based on runoff factors x acreage
 - Community presumed all SWU fees based on SFU based analysis
 - SC law on AG use exemption prevented the County from raising fees on properties even when rate studies justified higher rates
- New options that were considered included a clear and definable Gross Area component of the fee
 - Led to special interest concern that we were attempting to get fees from properties with no impervious areas (therefore no impact to stormwater)

Rate Impacts of Choices

Roughly, Over a 5-year Period

- Zero capital program, no debt 80%
- Basic capital program, no debt 160%
- Basic capital program, \$10M debt 90%

*Rates likely front-loaded

*Rate base is shrinking; rate study required; rate structure & municipality funding & tax choices will affect outcomes.

Recommendations Summary

- Rates will have to increase a lot to support needs
- Debt issuance will help blunt the increase and will not affect County's existing ratios
- All citizens of the whole County should support county-wide drainage operations
- Rate structure tweaks to generate more revenue from lightly developed property should be considered

Overview - Six Rate Structures to Test

	Overall Rate Structure	Debt Financing for Some Capital?	Method for Allocating Admin & Reg Costs	Method for Allocating CWI O&M Costs	Simplified Residential Rates	Alternative Cost Sharing Approach
A	Current (Imp Area)	No	SFUs	Optional	Yes	Optional
B	Current (Imp Area)	Yes	SFUs	Optional	Yes	Optional
C	Impervious & Gross Area	No	Per account	Impervious & Gross Area	Yes	Optional
D	Impervious & Gross Area	No	Impervious & Gross Area	Impervious & Gross Area	Yes	Optional
E	Impervious & Gross Area	Yes	Per account	Impervious & Gross Area	Yes	Optional
F	Impervious & Gross Area	Yes	Impervious & Gross Area	Impervious & Gross Area	Yes	Optional

Item 3 of 4

- Beaufort County's stormwater program and the growing predicament
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- **Analysis and ratemaking**
- Outcomes and lessons learned

Building and Running the Financial Model

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6		
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8		County Shared Costs
9		Budget
10		Debt Schedule
11		Capital
12		Summary Sheet (including rate calculation)
13		
14	City of Beaufort	
15		Budget
16		Debt Schedule
17		Capital
18		Summary Sheet (including rate calculation)
19		
20	Town of Port Royal	
21		Budget
22		Debt Schedule
23		Capital
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25		
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Building and Running the Financial Model

D10 : X ✓ fx Revised RS

A B C D E F G H I

3

4

5 Rate Structure Choice:

	FY 2015-2016	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020
6 Beaufort County	Revised RS	Revised RS	Revised RS	Revised RS	Revised RS
8 City of Beaufort	Current RS	Current RS	Current RS	Current RS	Current RS
9 Town of Port Royal	Current RS	Revised RS	Revised RS	Revised RS	Revised RS
10 Town of Bluffton	Current RS	Revised RS	Revised RS	Revised RS	Revised RS
11 Town of Hilton Head Island	Current RS	Revised RS	Revised RS	Revised RS	Revised RS

12

13

14 Countywide Infrastructure Charge: <---This should always be set to IA/GA Units

15

16 Administrative / Reg. Compl. Charge:

17

18 Revised Rate Structure IA Proportion:

19 Revised Rate Structure GA Proportion:

20

21

22

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Building and Running the Financial Model

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1											
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3											
4	Jurisdiction	Billable Accounts									Gross Area Units
5					BILLED_SFUs	NEW_METHOD_SFUs	PARCEL_BLOC KS_0-2_AC	PARCEL_ACRES_I N_2-10_RANGE	PARCEL_ACRES_I N_10-	PARCEL_ACRE S_IN_GT_100_	SUM_X
6	Beaufort County		62643		50,763	50,763	52,643	17,313	13,530	22,022	73,318
7	City of Beaufort		6,313		13,077	14,473	5,960	1,102	2,063	7,961	9,725
8	Town of Port Royal		3,644		6,543	7,635	3,340	816	965	7,379	6,348
9	Town of Bluffton		10,897		13,236	16,426	10,454	3,408	6,894	18,187	20,372
10	Town of Hilton Head Island		37,692		33,172	36,822	20,114	3,753	4,405	3,465	24,792
11											
12						Gross Area Decline Slop	100%	50%	40%	30%	
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Key Model Inputs

Rate Base Source Data

Drainage Breakdown 20150702

BC Budget

BC Capital

BC Debt Schedule

BC Sun

Building and Running the Financial Model

N36						
	A	B	C	D	E	I
16	County Maintained Drainage (ROW)	Pipe (LF)	Open Ditch (LF)			
17						
18	Full County	195,054	1,667,586			
19	Unincorporated County	158,847	1,384,125			
20	City of Beaufort	4,852	19,280			
21	Town of Port Royal	1,217	9,142			
22	Town of Bluffton	7,795	135,436			
23	Town of Hilton Head Island	22,343	119,603			
24						
25						
26	County Maintained Drainage (Not in ROW)	Pipe (LF)	Open Ditch (LF)			
27						
28	Full County	75,515	1,178,893			
29	Unincorporated County	60,193	1,001,424			
30	City of Beaufort	2,164	41,131			
31	Town of Port Royal	1,103	14,111			
32	Town of Bluffton	4,086	90,193			
33	Town of Hilton Head Island	7,969	32,034			
34						
35						
36	Total County Infrastructure by Jurisdiction resp	Pipe (LF)	Open Ditch (LF)	total (LF)		
37						
38	Full County	270,569	2,846,479	3,117,048		
39	Unincorporated County	219,040	2,385,549	2,604,589	83.6%	
40	City of Beaufort	7,016	60,411	67,427	2.2%	
41	Town of Port Royal	2,320	23,253	25,573	0.8%	
42	Town of Bluffton	11,881	225,629	237,510	7.6%	
43	Town of Hilton Head Island	30,312	151,637	181,949	5.8%	
44						
45						
46						
47						

Building and Running the Financial Model

SECURITY WARNING Automatic update of links has been disabled

B34

	A	B	C	D	E	I
27						
28	Full County	75,515	1,178,893			
29	Unincorporated County	60,193	1,001,424			
30	City of Beaufort	2,164	41,131			
31	Town of Port Royal	1,103	14,111			
32	Town of Bluffton	4,086	90,193			
33	Town of Hilton Head Island	7,969	32,034			
34						
35						
36	Total County Infrastructure by Jurisdiction Responsibility	Pipe (LF)	Open Ditch (LF)	total (LF)		
37						
38	Full County	270,569	2,846,479	3,117,048		
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43	Town of Hilton Head Island	30,312	151,637	181,949	5.8%	
44						
45						

Building and Running the Financial Model

Beaufort County
Stormwater Debt Service

Proposed Debt

	Amount	Cap. Interest Years	FY 2015-2016	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021
Series 2016 Bonds	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Series 2017 Bonds	\$ 5,000,000		\$ -	\$ 146,185	\$ 292,371	\$ 292,371	\$ 292,371	\$ -
Series 2018 Bonds	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Series 2019 Bonds	\$ 5,000,000		\$ -	\$ -	\$ -	\$ 146,185	\$ 292,371	\$ -
Series 2020 Bonds	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Series 2021 Bonds	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Series 2022 Bonds	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Series 2023 Bonds	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2016 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2017 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2018 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2019 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2020 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2021 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2022 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2023 SRF Loan	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Proposed Debt Service			\$ -	\$ 146,185	\$ 292,371	\$ 438,556	\$ 584,741	\$ -

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Building and Running the Financial Model

Beaufort County Summary Sheet										
Debt Service										
Annual Debt Service	\$	-	\$	146,185	\$	292,371	\$	438,556	\$	584,741
Coverage Goal		1.30		1.30		1.30		1.30		1.30
Actual Coverage				5.93		3.35		1.94		1.33
Revised RS Stormwater Fee										
Fixed Cost per Account, Calc	\$	12.15	\$	13.58	\$	12.77	\$	13.30	\$	13.70
Fixed Cost per Account, admin portion:	\$	2.83	\$	3.47	\$	3.54	\$	3.60	\$	3.69
Fixed Cost per Account, regulatory compliance portion:	\$	9.31	\$	10.11	\$	9.23	\$	9.69	\$	10.01
Fixed Cost per Account, CWI portion:	\$	-	\$	-	\$	-	\$	-	\$	-
Fixed Cost Collection Rate		91%		92%		94%		94%		94%
Fixed Cost per Account, Override	\$	12.00	\$	12.00	\$	12.00	\$	12.00	\$	12.00
Variable Costs, IA Proportion		80%		80%		80%		80%		80%
Variable Costs, GA Proportion		20%		20%		20%		20%		20%
Variable Costs, IA Unit Fee Calc	\$	69.30	\$	80.35	\$	76.73	\$	79.44	\$	108.50
Variable Costs, IA Unit Fee, administrative portion:	\$	-	\$	-	\$	-	\$	-	\$	-
Variable Costs, IA Unit Fee, reg compliance portion:	\$	-	\$	-	\$	-	\$	-	\$	-
Variable Costs, IA Unit Fee, CWI portion:	\$	43.50	\$	45.10	\$	45.61	\$	47.06	\$	47.73
Variable Costs, IA Unit Fee, Other County costs portion:	\$	25.79	\$	35.25	\$	31.12	\$	32.37	\$	60.76
IA Collection Rate		91%		92%		94%		94%		94%

Building and Running the Financial Model

	A	B	C	D	E	F	G	H
1	Beaufort County							
2	Summary Sheet							
3								
4		Variable Costs, IA Unit Fee Override		\$ 65.00	\$ 65.00	\$ 65.00	\$ 65.00	\$ 65.00
5		Variable Costs, GA Unit Fee Calc		\$ 12.00	\$ 13.98	\$ 13.42	\$ 13.96	\$ 19.17
6		Variable Costs, GA Unit Fee, administrative portion:		\$ -	\$ -	\$ -	\$ -	\$ -
7		Variable Costs, GA Unit Fee, reg compliance portion:		\$ -	\$ -	\$ -	\$ -	\$ -
8		Variable Costs, GA Unit Fee, CWI portion:		\$ 7.53	\$ 7.85	\$ 7.97	\$ 8.27	\$ 8.43
9		Variable Costs, GA Unit Fee, Other County costs portion:		\$ 4.46	\$ 6.13	\$ 5.44	\$ 5.69	\$ 10.73
10		GA Collection Rate		91%	92%	94%	94%	94%
11		Variable Costs, GA Unit Fee Override		\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
12		Fixed Ag Property Billings		\$ 151,996.59	\$ 151,996.59	\$ 151,996.59	\$ 151,996.59	\$ 151,996.59
13		Anticipated Unincorp County Fee Billings		\$ 4,936,467	\$ 4,920,160	\$ 4,904,051	\$ 4,888,214	\$ 4,872,594
14		Revenues						
15		Anticipated Unincorp County Fee Revenue		\$ 4,492,185	\$ 4,526,547	\$ 4,609,808	\$ 4,594,921	\$ 4,580,238
16		Anticipated Revenue from other Jurisdictions						
17		Administrative Fee		\$ 183,121	\$ 188,441	\$ 190,839	\$ 192,993	\$ 195,978
18		Regulatory Compliance		\$ -	\$ 48,498	\$ 46,082	\$ 43,667	\$ 43,667
19		Countywide Infrastructure Maintenance		\$ 496,148	\$ 560,231	\$ 563,680	\$ 578,780	\$ 584,066
20		Current Shared Services IGA for SMP Update		\$ 236,409				
21		Current Shared Services IGA for WQ Monitoring & PE/PO		\$ 36,942				
22		Interest		\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
23		Project Cost Shares		\$ 2,771				
24		Bond Issuance Proceeds		\$ -	\$ 5,000,000	\$ -	\$ 5,000,000	\$ -

New RS Parcel Data

R112 031 000 0628 0000



PIN	R112 031 000 0628 0000	ClassCode	ComImp ApartmentRental	Bill Class	APARTMENTS
Imp Area	274,317	IA Override		IA Source	GIS
GA Acres	18.51	GA Override		GA Source	GIS

Res Apts		Res Tier 1	
Res MH		Res Tier 2	
Res Condo		Res Tier 3	
Res TH			

Agriculture

Vacant

Exempt

Calc New
RS Ag Fee

SW Fee \$2,046.67

CWI Fee \$202.92

Credits

View Credit Add Credit

Notes 2015 charged for billed impervious area from 2014, moved to override impervious area..Seth - remove measurement..Several air conditon units on concrete pads



IMPERVIOUS AREA REVIEW

- ATM/RFC Review of County GIS Database. Made improvements to Non-Residential Impervious area calculations using newer aerial photos
- GIS Data and Updated Mapping Used to Recalculate Approximately 5,900 Non-Residential Parcels County-wide
- The Impervious Area on Nearly 5,000 Non-Residential Parcels was Adjusted

Item 4 of 4

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- Solution strategies and options
- Analysis and ratemaking
- Outcomes and lessons learned

KEY OUTCOMES

- Impervious area updated
- Rates adopted and revenues increased to target
- Some municipalities adopted new rate structure
- Data maintenance processes changed a lot
 - Ultimately developed some new tools
- Some complaints about gross area charges and other nuances
 - Updated credit policies, which was intended all along

Lessons Learned

- Special interest groups can derail a fast moving train
- 5 jurisdictions = 6 opinions
- Base data is extremely important
- Assessor's office doesn't see value in graphical data
- Land Use class codes can vary and might not align with "engineer's mindset"
- Public Education – Explaining the need, the difference between "private" and "public" infrastructure

Back to the Future!

- Learn a new process to build and maintain complex data sets, eliminating laborious and cumbersome review of data and manual changes to data sets
- Create efficiency in data management to control administrative costs
- Automate credits for obvious land use classes
- Expand opportunities and incentives for the customer to save money and assist the County with MS4 implementation



MSRB REGISTERED
**MUNICIPAL
ADVISOR**

RFC IS A REGISTERED MUNICIPAL ADVISOR WITH THE MSRB AND SEC UNDER THE DODD-FRANK ACT AND IS FULLY QUALIFIED AND CAPABLE OF PROVIDING ADVICE RELATED TO ALL ASPECTS OF UTILITY FINANCIAL AND CAPITAL PLANNING, INCLUDING THE SIZE, TIMING, AND TERMS OF FUTURE DEBT ISSUES.

Any opinion, information, or recommendation included in this presentation, related to the size, timing, and terms of a future debt issue may be relied upon only for its intended purpose. This information is not intended as a recommendation to undertake a specific course of action related to the issuance of debt, or to indicate that a particular set of assumptions for the size, timing and terms of issuing debt will be available at the time debt is actually issued.

Thank you. Questions?

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