



**South Hall County Sewer District
Unit Rate and Connection Fee Methodology Report**

Prepared for:

**Hall County Board of Commissioners
through the Gainesville Public Utilities Department**

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Table of Contents

Introduction Section 1

 Introduction 1-1

Sewer Unit Rate Calculation Section 2

 Growth Assumptions 2-1

 Cost Assumptions 2-2

 Funding Plan and Rate Calculation 2-4

Sewer Connection Fee Calculation Section 3

 Existing Assets 3-1

 Contributed Assets 3-1

 Construction-in-Progress 3-1

 Planned Projects 3-1

 Debt Cost 3-2

 Total System Value 3-2

 Capacity Determination 3-3

 Rate Credit per EDU 3-4

 Connection Fee Calculation 3-4

 Connection Fee Schedule 3-6

Findings and Recommendations Section 4

 Findings 4-1

 Unit Rate Recommendations 4-1

 Connection Fee Recommendations 4-2

 GEFA Requirements 4-3

 Infrastructure Inventory and Projection of Needs 4-3

 JIG Recommendations 4-4

Printout of the complete Financial Model Appendix A (29 Pages)

November 23, 2002 Intergovernmental Agreement Appendix B (15 Pages)

November 1, 2005 Intergovernmental Agreement Appendix C (14 Pages)

Appendix D

Rochester Letter

Limits of Study Area

Existing/Under Construction/Under Design Sewer Facility

Area 16 – Current Status of Service Area

Area 16 – Existing, In-Construction, & In-Design Sewer Facility

Sewer Design/Construction Overview

Basins Used in CIP Study & Basin Planning Phases

Project Basin Divisions Used within CIP Basins

Sewer CIP Design Layout I

Sewer CIP Design Layout II

Final CIP Sewer Design

Reuse Water Line Overview

Reuse Water Line Details

Sewer/Water Connections for Village at Deaton Creek: GPUD vs. Hall County

Sewer/Water Connections for Reunion: GPUD vs. Hall County

Sewer/Water Connections for Sterling on the Lakes: GPUD vs. Hall County

Village at Deaton Creek Sewer Easements

Reunion Prelim Easement Exhibit

Sterling on the Lakes Sewer Easement Overview

Hall County Amortization Schedules..... Appendix E (11 Pages)

SECTION 1

Introduction

Introduction

This report is an update to the “Gainesville Public Utilities Department (GPUD) Mulberry Creek Regional Sewage Facilities Unit Rate and Connection Fee Methodology Report” dated January 2007 by Jordan, Jones & Goulding (JJG). The 2007 report was undertaken after the City of Gainesville (City) executed an agreement with Hall County (County) to operate the Mulberry Creek Regional Sewage Facilities (MCRSF) located in South Hall County, Georgia in November of 2007.

The 2007 report was undertaken with three objectives in mind; 1) to help support the County in obtaining a State Revolving Fund (SRF) loan administered by the Georgia Environmental Facilities Authority (GEFA); 2) to project the unit charge rates needed to support the system expenses and debt service; and 3) to calculate the full cost connection fee for new connections to the system necessary to recoup the capital costs associated with the provision of sewer service. This report will update these objectives with the latest information and calculations. GEFA has requested this update to the January 2007 financial study as part of Hall County’s request for the remaining SRF funds to complete the MCRSF. Because economic indicators in the region are trending downward, thereby lowering growth projections for the Mulberry Creek drainage basin, GEFA wanted to insure that the sewer system could be self-sufficient in a reasonable time period and have the ability to pay debt service on any loans received by Hall County.

Two items of note that occurred subsequent to the January 2007 report, 1) Hall County purchased the Spout Springs Sewage Treatment Facility (SSSTF) to provide further treatment capacity in the South Hall County Sewer District and 2) created the position of and employed a Public Utilities Director to manage the County’s wastewater utility. For purposes of this study the term South Hall Sewer District refers to the combined Spout Springs Sewage Treatment Facility, the MCRSF, and the associated sewage collection system for both.

JJG was selected by GPUD and the County to perform the update of the study because JJG completed the January 2007 study and is familiar with the South Hall Sewer District. Rochester and Associates (RAI), an engineering firm located in Gainesville, Georgia, teamed with JJG to 1) undertake a determination of the number of water meters on record and estimate the remaining water meters to be installed based on master plans of the three major developments in the area: Village at Deaton Creek, Reunion and Sterling on the Lake, 2) evaluate reuse water delivery options for serving Reunion and Sterling on the Lake in accordance with their respective Reuse Water Agreements, 3) prepare exhibits showing Capital Improvement Plan options that could be served by either MCRSF or SSSTF and would be used to prioritize projects by the Hall County Commissioners and 4) assist GPUD with determining the location of existing sanitary sewer easements as shown in the approved design plans for Village at Deaton Creek, Reunion and Sterling on the Lake.

This study excludes the North Hall County sewer service area, areas in the South Hall County service area north of Mulberry Creek drainage basin, and sewer services offered to South Hall

County residents through other sewer service providers such as the City of Flowery Branch, the City of Oakwood, etc. (See Figure 1 on page 1-3).

Section 2 of this report provides the assumptions and calculation methodology for the collection component of the sewer unit charge. The treatment component of the unit charge is calculated as part of the annual update of the GPUD Comprehensive Financial Model (CFM). The rate structure for the MCRSF will consist of an account servicing fee and a uniform unit charge based on 100 cubic feet, a.k.a. CCF, (approximately 748 gallons) of usage. The account servicing fee is calculated during the annual update of the CFM. There is no minimum bill and the usage is based on water consumption and assumes an average 85% return rate to the sewer system for residential customers and 100% for non-residential customers.

Section 3 of this report provides the assumptions and calculation methodology for the sewer connection fee. Since the calculation of the connection fee is affected by debt amounts and debt payments made by the unit charge revenues, the calculation of the connection fee and unit charge require an approach that balances each others revenue and statutory requirements while keeping each within a reasonable dollar range. As part of JJG's scope, a financial model that can be updated and used again was developed using Microsoft Excel to calculate the unit charge and connection fee. The full model printout, showing the full planning period through 2030, is provided in Appendix A.

Figure 1
South Hall County Sewer District
Mulberry Creek Watershed



Sewer Unit Rate Calculation

The sewer unit charge calculation is designed to provide revenues to cover the operating expenses of the MCRSF, SSSTF, payoff a portion of debt and provide sufficient cash for expansion and renewal of the system. The account servicing fee and the treatment component of the unit charge of the MCRSF rate structure are not included in this methodology because those fees are calculated as part of the annual GPUD Comprehensive Financial Model update and will be passed-through to the MCRSF customers¹. The tables in this report show the projected first five years of operations of the MCRSF, i.e. through 2014. The full results through 2030 are provided in Appendix A of this report. All projections are for fiscal years unless stated otherwise. Please note that results after five years are more susceptible to changing as factors are adjusted and/or changed.

Growth Assumptions

It is important to understand water billing volume since sewer billing volume is a function of water billed². JIG reviewed water billing volume data for the Mulberry Creek basin provided by GPUD to establish base usage from typical households throughout the basin. The basin as a whole, revealed a reduction in water billing volume from 166 gallons per day (gpd) per account in 2007 to 142 gpd in 2008. This reduction may be explained by water conservation initiatives for the region due to the North Metropolitan Water Planning District plan and the recent drought and resulting water use restrictions. Additionally, water billing volume was available for three subdivisions for the first 6 months of 2008 that are currently being served by the South Hall Sewer District sewage collection system.

The three subdivisions include Sterling on the Lake, Reunion and Deaton Creek. The first two subdivisions confirmed the use of 142 gpd for a typical household; however, for the retirement community, Deaton Creek, the water billing volume for a typical household was 124 gpd. Since sewage will be billed at 85% of the water volume, the calculated result is 121 gpd for a typical household on average in the first two subdivisions and 105 gpd for Deaton Creek.

The next step in projecting sewer sales was to determine the number of equivalent dwelling units³ (EDU) to be added each year in the basin. The three main developments were consulted to determine their projections of new home sales per year (See Rochester Letter in Appendix D). These have been added to projections from the proposed Hall County School System expansion

¹ The GPUD account servicing fee is calculated to provide meter reading and billing services to a customer regardless of consumption. It is assumed that GPUD will be providing these services for the South Hall customer. Alternatively, Hall County may provide these services, however, all South Hall sewer customers who are GPUD water customers will pay the GPUD account servicing fee.

² The residential sewer-billed volume is 85% of the water billed volume for the City of Gainesville. This basically means that, for billing purposes, 85% of the water used will be returned to the sewer system. It is assumed that Hall County will use this same factor for billing purposes in the South Hall District. Non-residential customers are assumed to be billed at 100% of water usage.

³ The EDU for billing volume purposes is based on average day consumption for consistency, later in this report the EDU for capacity will be discussed which is based on peak usage to meet peak demands.

and the medical office building complex. These subdivisions and the medical office complex are assumed to be built out by 2013. The large increase in 2010 is a reflection of the School Complex beginning to send flows into the sewer system. Beyond 2013, it was assumed that 400 EDU's would be added each year from new surrounding developments. Table 1 shows the projected billing volumes and capacity needs for the South Hall Sewer District.

Table 1
Projected Flows

Fiscal Year	Deaton	Other	Daily Average	CCF Billable per Year	Deaton Creek	Other	Total	Capacity Needed in MGD	
	Creek (Gallons per Day)	(Gallons per Day)	Flow in Gallons		Customers (EDU's)	Customers (EDU's)	Customers (EDU's)	Treatment	Collection
2007	0		0	0	0	0	0		
2008	33,180	140,544	173,724	84,772	316	1,152	1468	0.26	0.52
2009	58,380	154,696	213,076	103,974	556	1,268	1824	0.32	0.64
2010	89,880	262,178	352,058	171,793	856	2,149	3005	0.53	1.06
2011	116,130	281,698	397,828	194,127	1106	2,309	3415	0.60	1.19
2012	126,630	318,298	444,928	217,111	1206	2,609	3815	0.67	1.33
2013	137,130	354,898	492,028	240,094	1306	2,909	4215	0.74	1.48
2014	137,130	403,698	540,828	263,907	1306	3,309	4615	0.81	1.62
2015	137,130	452,498	589,628	287,720	1306	3,709	5015	0.88	1.77
2016	137,130	501,298	638,428	311,532	1306	4,109	5415	0.96	1.92
2017	137,130	550,098	687,228	335,345	1306	4,509	5815	1.03	2.06
2018	137,130	598,898	736,028	359,158	1306	4,909	6215	1.10	2.21
2019	137,130	647,698	784,828	382,971	1306	5,309	6615	1.18	2.35
2020	137,130	696,498	833,628	406,784	1306	5,709	7015	1.25	2.50
2021	137,130	745,298	882,428	430,597	1306	6,109	7415	1.32	2.65

Note: The unit charge is in 100 cubic feet (CCF). To determine the CCF billable per year, multiply the daily flow in gallons by 365 and divide by 748 CCF/Gallon.

Cost Assumptions

Table 2 on the following page shows the projected operating expenses for the South Hall Sewer District as determined through discussion with GPUD and Hall County staff members starting in FY 10. Expenses are expected to increase at 4% per year except for gas, electricity, water, sludge and chemicals which are expected to increase at the same rate as system growth. System growth is expected to be 13% in FY 11, 11.8% in FY 12, and 10.6% in FY 13 based on the Rochester letter dated July 2008 concerning anticipated new subdivision units sold. Growth is expected to continue through 2021 at 400 EDU's per year and then 4% thereafter. Spout Springs Treatment Facility has operational budgets for FY 08 and FY 09 based on the private firm Environmental Management Services (EMS) operating the plant. Starting in FY 10 the budget assumes that GPUD will take over operations of SSSTF and the MCRSF. Additionally, GPUD will be providing a broader range of service than the private firm within the entire service area.

Table 2
Operating Expense⁴

Operating Expenses	2008	2009	2010	2011	2012	2013	2014
Working Cash Reserve	\$400,000						
Water Reclamation Facilities							
Maintenance	\$56,388	\$101,723	\$26,000	\$27,040	\$28,122	\$29,246	\$30,416
Electricity	60,000	111,420	170,620	192,802	215,628	238,454	262,105
Gas	582	4,000	4,550	5,141	5,750	6,359	6,989
Phone	4,650	4,200	10,400	\$10,816	\$11,249	\$11,699	\$12,167
Chemicals	9,624	0	5,687	6,427	7,188	7,948	8,737
Water	20,000	36,576	41,600	\$43,264	\$44,995	\$46,794	\$48,666
Sludge	82,432	0	85,310	96,401	107,814	119,227	131,052
Staffing	110,000	260,400	104,000	\$108,160	\$112,486	\$116,986	\$121,665
Sanitation	2,310	0					
Pump Stations/Force Main							
Maintenance	\$0	\$0	\$104,000	\$108,160	\$112,486	\$116,986	\$121,665
Electricity	0	0	\$142,183	160,668	179,690	198,712	218,420
Water	0	0	\$8,320	8,653	8,999	9,359	9,733
Operating Capital (SCADA/INV.)	0	0	\$110,000	0	0	0	0
SCADA	0	0	\$10,400	10,816	11,249	11,699	12,167
Monitoring	0	0	\$93,600	97,344	101,238	105,287	109,499
Odor Control	0	0	\$104,000	108,160	112,486	116,986	121,665
Management	0	0	\$41,600	43,264	44,995	46,794	48,666
Contract Labor			\$20,800	21,632	22,497	23,397	24,333
Supplies			\$15,600	16,224	16,873	17,548	18,250
Miscellaneous	0	0	\$10,400	10,816	11,249	11,699	12,167
Collection System							
Maintenance/Locates	0	0	260,000	\$270,400	\$281,216	\$292,465	\$304,163
Total	\$745,986	\$518,319	\$1,369,070	\$1,346,187	\$1,436,208	\$1,527,645	\$1,622,526

In addition to operating expenses, the South Hall Sewer District will have non-operating expenses related to construction management and repayment of debt to fund the project. Table 3 provides a projection of these Non-Operating expenses through 2014. The GPUD Construction Management fee is equal to 5% of construction costs projected for the year shown. For the existing debt payments (Appendix E), the model uses the amortization schedules provided by Hall County staff modified to begin principal payment in 2013. The model assumes that payments for future debt, if needed, are based on 3.5% interest rate and a 2% closing cost for State Revolving Loans (SRF), 4.5% for Georgia Fund loans through GEFA and a 4.0% interest rate and 1% issuance cost for revenue bonds. Starting in FY 10 the revenue bond interest rate is project to be 5.5%. The term used for all the loans and bond issuances is 20 years.

⁴ Please note the FY 09 operating expenses do not have entries for chemicals, sludge and sanitation. These items have been combined in other entries during the assumed transition to GPUD operating the Spout Springs Sewage Treatment Facilities and the Mulberry Creek Regional Sewage Facilities.

Table 3
Non-Operating Expenses

Non-Operating Expenses	2008	2009	2010	2011	2012	2013	2014
GPUD Construction Management	\$235,000	\$1,252,176	\$176,908	\$25,000	\$25,000	\$25,000	\$25,000
Debt Payments	0	853,426	3,871,111	3,659,301	3,660,630	4,383,447	4,383,447
Total	\$235,000	\$2,105,602	\$4,048,019	\$3,684,301	\$3,685,630	\$4,408,447	\$4,408,447

Table 4 summarizes the Capital Improvement Program (CIP) through 2014. The financial model printout in Appendix A page 11 and 12 of 19 provides the detailed CIP used in the analysis through 2019. Upon completion of the CIP as shown below, the gravity trunk line, the pump station, the force main and the treatment component of the Mulberry Creek Regional Sewage Facility will have a capacity of 1 MGD with the ability to expand to 3 MGD. As it pertains to additions and tie-ins to the system, it is assumed that any facilities for development including extensions to the main trunk line will be the sole responsibility of the developer wishing sewer service. The CIP includes sewer collection facilities for the Hall County School System and assumes \$500,000 per year for other main collection system extensions needed by the County. The CIP does not include any costs related to reuse facilities, any reuse facilities are assumed to be provided by others.

Table 4
Capital Improvements Program

Component	Funding Source	2007	2008	2009	2010	2011	2012	2013	2014
1) Projects Currently in Design/Construction									
Mulberry Creek 1 mgd Design	Other Hall Collection County Funds	2,212,000	0	0	0				
Mulberry Creek 1 mgd Construction/Easements	Collection SRF	2,488,000	4,700,000	20,716,813	2,301,868				
Winder Highway (MCRSF C.O. #3)	Collection SRF			1,093,500	121,500				
Winder Highway (MCRSF C.O. #4)	Collection SRF			1,033,200	114,800				
Spout Springs School Sewer System	Other Hall Collection County Funds			2,200,000	300,000				
2) Spout Springs Expansion									
2021 Construction Add 1.25 mgd	Treatment Rev Bond	0	0	0	0	0	0	0	0
3) Collection System Extensions									
Utility Fund Contribution	Collection E&R					500,000	500,000	500,000	500,000
4) GPUD Management Fee									
		235,000	235,000	1,252,176	141,908	25,000	25,000	25,000	25,000

Funding Plan and Rate Calculation

Table 5 provides a breakdown of the sources of funds needed by the South Hall Sewer District to construct the capital improvements program and operate the facilities through 2014. The \$5,963,384 contribution in 2007 is assumed to be other Hall County funds for the Mulberry Creek project. It includes payment to GPUD for management services and closing costs to GEFA for the SRF loans. Three million dollars (\$3,000,000) is assumed to be paid back to the Hall County general government in 2011 to repay an internal loan to the sewer system. The Hall County School District, it is assumed, will provide \$1,000,000 in 2009 for collection system expansion and will pay no connection fees.

**Table 5
Sources of Funds**

	2007	2008	2009	2010	2011	2012	2013	2014
Beginning Balance	\$0	\$3,516,384	\$3,115,875	\$1,784,018	\$8,649,768	\$2,986,226	\$1,684,780	\$2,220,589
Less:								
Construction	4,700,000	4,700,000	25,043,513	2,838,168	562,500	584,929	608,326	632,660
SRF Debt Payment	0	0	311,202	2,286,959	2,075,149	2,075,149	2,075,149	2,075,149
Revenue Bond Debt Payment	0	0	542,224	1,584,152	1,584,152	1,585,481	2,308,298	2,308,298
Operating Expenses	0	745,986	518,319	1,369,070	1,346,187	1,436,208	1,527,645	1,622,526
GPUD Construction Management	235,000	235,000	1,252,176	141,908	25,000	25,000	25,000	25,000
SRF Closing Costs				623,620				
Repayment of Startup Cash					3,000,000			
Add:								
Operating Revenues	0	580,477	712,577	1,665,430	1,969,447	2,305,322	2,668,586	3,064,736
Non-Operating Revenues	0	0	580,000	894,197	960,000	2,100,000	2,100,000	3,200,000
CWSRF #1	2,488,000	4,700,000	22,843,000	1,150,000				
CWSRF #2								
Revenue Bond/Other Loan				12,000,000				0
Hall County School District			1,000,000					
Other Hall County Funds	5,963,384		1,200,000				2,311,641	
Ending Balance	3,516,384	3,115,875	1,784,018	8,649,768	2,986,226	1,684,780	2,220,589	1,821,693

In order to maintain a positive cash flow and fund balance, the South Hall Sewer District will need to generate adequate system revenues from sewer sales and connection fees. At this point in the methodology, an iterative approach, i.e. an approach that constantly adjusts a number of variables, is required. If the unit rate is set too low, additional debt is required to maintain a positive fund balance; however, the ability for connection fees to recover debt is limited to the connection fee calculated and the expected number of new customers. The connection fee is a function of system value, capacity and rate credit⁵. If the unit charge rate is set too low, the debt incurred will result in debt payments that the connection fee cannot recoup. As more unit rate revenues are required to pay off debt, the effect is a higher rate credit and a lower calculated

⁵ A rate credit is provided when unit rate revenues are used to payoff system debt. This is done to prevent a connection fee payer to be charged double for the same asset that was financed through debt and included in the system value.

connection fee. This results in lower connection fee dollars and a lower ability to pay off debt through connection fees. Therefore, in order to maintain a positive fund balance, the unit charge needs to be set high enough to keep the debt level within reasonable levels based on connection fee projected revenues.

Connection fees will be discussed in detail in Section 3, however; the calculated revenue generated by connection fees is provided in the section to determine sewer collection system unit rate revenue requirements. Table 6 summarizes the revenues required from the South Hall Sewer District and the projected customer and sewer demand through 2014. These South Hall Sewer District unit rate revenue requirements were determined by keeping a consistent positive fund balance and targeting 2014 as the year in which the sewer system will be revenue self-sufficient.

For 2009, the unit charge is calculated to be \$9.87 to cover operating expenses, debt payments and coverage and fund expansion. At this starting value, modest rate increases and growth will allow the system to have a 1.07 coverage ratio for debt service by 2014. The coverage ratio is a reflection of net revenues, after all operation expenses have been paid, divided by debt service payments. It should be noted that the Account Servicing Fee is a monthly fee charged by GPUD that customers pay to cover costs not related to sewer consumption and is not included in this analysis. In addition, the treatment component for MCSRF is not included in the South Hall District sewer revenues as discussed below.

Table 6
Revenue, Customer and Consumption Projections

	2008	2009	2010	2011	2012	2013	2014
Sewer Operating Revenues							
Sewer Sales	580,477	712,577	1,665,430	1,969,447	2,305,322	2,668,586	3,064,736
Total	580,477	\$712,577	1,665,430	1,969,447	2,305,322	2,668,586	3,064,736
Non-Operating Revenues							
Connection Fees	0	\$580,000	894,197	960,000	2,100,000	2,100,000	3,200,000
Total	0	\$580,000	894,197	960,000	2,100,000	2,100,000	3,200,000
New Customers (EDU)	1,468	356	1,181	410	400	400	400
Total Customers(EDU)	1,468	1,824	3,005	3,415	3,815	4,215	4,615
New Volume (CCF)	84,772	19,203	67,819	22,334	22,983	22,983	23,813
Total Volume (CCF)	84,772	103,974	171,793	194,127	217,111	240,094	263,907

Table 7 provides the projection of the unit rate for the South Hall Sewer District. All sewage that is transported through the MCSRF to the Flat Creek Treatment plant operated by GPUD, will incur a treatment cost component charge that will go to GPUD in addition to the collection cost component that will go to Hall County. The operations and maintenance treatment component is

Sewer Rate Calculation

calculated at \$2.32⁶ per CCF in 2009 and is projected to increase to \$2.46 per CCF in 2010 based on the latest approved CFM for GPUD. Please note that there is no capital or replacement portion to this treatment component. The treatment component revenue is assumed to be paid to GPUD for the service provided. The collection component was calculated from revenue requirements within the South Hall County sewer district to be \$7.55. The treatment component is then added to the collection component with the resulting unit charge of \$9.87 per CCF (\$2.32+\$7.55).

The account servicing fee is currently \$6.88 per customer per month for customers outside the City of Gainesville and is charged in order to recoup billing, meter reading and other costs not associated with consumption. The model excludes this portion of the rate for determining the South Hall District sewer revenues.

Table 7
Projection of Unit Charges

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Volume Billed	0	0	84,772	103,974	171,793	194,127	217,111	240,094	263,907
Number of Customers (EDU's)	0	0	1,468	1,824	3,005	3,415	3,815	4,215	4,615
Treatment Unit Charge (Per CCF)				\$2.32	\$2.46	\$2.61	\$2.76	\$2.93	\$3.08
Collection Unit Charge (Per CCF)				\$7.55	\$7.85	\$8.16	\$8.49	\$8.83	\$9.18
Total Unit Charge			\$0.00	\$9.87	\$10.31	\$10.77	\$11.25	\$11.76	\$12.26
Wastewater Sales (Spout Springs Treatment Only)			\$185,753	\$228,025	\$316,855	\$384,592	\$461,931	\$548,513	\$641,177
Wastewater Sales (Collection Only)	\$0	\$0	\$394,724	\$484,552	\$1,348,575	\$1,584,855	\$1,843,390	\$2,120,073	\$2,423,558
Connection Fees		\$0	\$0	\$580,000	\$894,197	\$960,000	\$2,100,000	\$2,100,000	\$3,200,000
Total		\$0	\$580,477	\$1,292,577	\$2,559,627	\$2,929,447	\$4,405,322	\$4,768,586	\$6,264,736
Revenue Bond Debt Coverage				1.43	0.75	1.00	1.87	1.40	2.01
Total Debt Coverage (Includes GEFA/SRF Loans)				0.91	0.31	0.43	0.81	0.74	1.06
Dollars Needed (Operating and Debt Only)	\$0	\$0	\$745,986	\$1,371,745	\$5,240,181	\$5,005,488	\$5,096,838	\$5,911,092	\$6,005,973
Treatment Unit Charge Increase					6%	6%	6%	6%	5%
Collection Unit Charge Increase					4%	4%	4%	4%	4%

⁶ GPUD provides an annual update of the water and sewer unit rates based on the approved budget in the spring of each year. The CFM is utilized to perform the calculation and separates treatment and collection cost components. The CFM also provides projected rate revenue increases based on GPUD's latest CIP.

Sewer Connection Fee Calculation

The sewer connection fee is used to recoup those capital costs related to the provision of sewer service to the South Hall Sewer District. It includes a value analysis of existing and proposed assets and a determination of capacity provided by the sewer system. The first step in calculating the connection fee is to determine the value of the system, including all assets with a life span of 10 years or more when first constructed. The total value of a system is the sum of the existing assets, construction-in-progress, planned improvements and any cost attributed to obtaining debt (existing and future) to finance MCRSF projects. Please note that developer and specialized contributions are not included in the overall system value because those costs are assumed to be incurred by the developer.

Existing Assets

In 2002, Hall County purchased 1 MGD of sewage treatment capacity from the City of Gainesville for a value of \$10,600,000 as memorialized in the agreement shown in Appendix B. Hall County recently purchased, from John Wieland Homes, the Spout Springs Sewage Treatment Facility for \$14,500,000. These are the only existing assets associated with the South Hall Sewer District used in this analysis.

Contributed Assets

The purchase of the Spout Springs Sewage Treatment Facility included collection system components that are not included in the overall value because, at this time, those assets are considered a contributed asset. It is assumed extensions from the main trunk line will be provided by developers in the future. At this point in time, it is assumed that the value of these extensions will not be included in future connection fee calculations.

Construction-In-Progress

The MCRSF is currently under construction and its costs are shown in Table 8.

Planned Projects

Table 8 also provides other planned projects through 2014; the complete planned project listing is included in Appendix A pages 11 and 12 of 19. The MCRSF and School District collection system are expected to be completed by 2010. Collection system extensions are projected to cost \$500,000 per year starting in 2011(see Appendix A, page 11 of 19, line item 11), with developers paying for assets needed to extend to the main sewer trunk lines. Total costs are provided in both 2008 dollars (for connection fee calculation purposes) and in future dollar costs (for cash flow purposes).

Sewer Connection Fee Calculation

**Table 8
Planned Projects**

	Component	Funding Source	2007	2008	2009	2010	2011	2012	2013	2014
1) Projects Currently in Design/Construction										
		Other Hall								
	Mulberry Creek 1 mgd Design	Collection County Funds	2,212,000	0	0	0				
	Mulberry Creek 1 mgd Construction/Easements	Collection SRF	2,488,000	4,700,000	20,716,813	2,301,868				
	Winder Highway (MCRSF C.O. #3)	Collection SRF			1,093,500	121,500				
	Winder Highway (MCRSF C.O. #4)	Collection SRF			1,033,200	114,800				
		Other Hall								
	Spout Springs School Sewer System	Collection County Funds			2,200,000	300,000				
2) Spout Springs Expansion										
	2021 Construction Add 1.25 mgd	Treatment Rev Bond	0	0	0	0	0	0	0	0
3) Collection System Extensions										
	Utility Fund Contribution	Collection E&R					500,000	500,000	500,000	500,000
Total (by year 2008 Dollars)			4,700,000	4,700,000	25,043,513	2,838,168	500,000	500,000	500,000	500,000
Total (by year Future Dollars)			4,700,000	4,700,000	25,043,513	2,838,168	562,500	584,929	608,326	632,660
4) GPUD Management Fee			235,000	235,000	1,252,176	141,908	25,000	25,000	25,000	25,000
Overall CIP Total in Future Dollars			4,935,000	4,935,000	26,295,689	2,980,077	587,500	609,929	633,326	657,660
Treatment Total (by year)			0	0	0	0	0	0	0	0
Collection Total (by year)			27,966,002	4,700,000	25,043,513	2,838,168	500,000	500,000	500,000	500,000
Planned Treatment in 2008 \$'s		\$16,500,000								
Planned Collection in 2008 \$'s		\$47,281,681								

Debt Cost

The cost of debt is another integral part of the system value for calculation of the connection fee; the South Hall Sewer District has the Spout Springs Treatment Facility debt and will incur State Revolving Fund (SRF) debt and a single revenue bonds issuance during the development of the facilities. The SRF loan will have a projected cost of \$7,004,228 in interest payments in 2008 dollars assuming a reasonable 6% discount factor. Similarly, the existing Spout Springs Treatment Facility debt will have a value of \$4,328,719 in interest and the future revenue bonds will have \$8,885,356 in interest costs in 2008 dollars. The total debt cost is $(4,328,719 + \$8,885,356 + 7,004,228) = \$20,218,303$. These costs are assumed to be recovered through the use of a connection fee.

Total System Value

The total system value is the sum of the collection, treatment and debt costs both existing and planned. Table 9 provides the system value for the South Hall Sewer District in 2008 dollars.

Table 9
System Value (2008 Dollars)

Existing Treatment	\$25,095,465
Planned Treatment	\$16,500,000
Sub-Total	41,595,465
Planned Collection	\$47,281,681
Debt Cost	\$20,218,303
Total	109,095,449

Capacity Determination

In order to charge a connection fee to new development, their Sewer demand must be reasonably quantifiable. The capacities of sewage treatment and collection of the South Hall Sewer District is projected to be 3 MGD at final build-out. The volume associated with an equivalent dwelling unit (EDU) has been calculated to be used in concert with the overall capacity of the system. The typical household is assumed to have 2.89 persons and is projected to use 50 gallons of water per person based on existing information from areas near the MCRSF. It has been estimated that 85% of the water distributed to the household would be returned as Sewage⁷. When a peaking factor of 1.5 (used for designing Sewage treatment plants) is applied the result is approximately 184.24 gallons per household (2.89 persons * 50 gallons per person * 1.5 peaking factor * 85% return rate = 184.24 gallons per household or EDU).

The collection system is designed with a higher peaking factor. The primary reason is that a rain event can reduce a collection system's capacity due to infiltration and inflow. Another reason is to allow for some storage to prevent overflow conditions. The peaking factor for the collection system is 3.0 which raises the overall EDU to 368 gallons⁸ (2.89 persons * 50 gallons per person * 3.0 peaking factor * 85% return rate = 368.48 gallons per household or EDU).

Note: The peaking factors as discussed in this document represent the average day for the peak month.

⁷ Many utilities use a return factor for residential customers based on their water consumption for determining returned Sewer. Sewer customers with well water would typically need a water meter attached to their well in order to receive Sewer service.

⁸ It should be noted that this number reflects what an average household will require of the collection system capacity and not an actual peak flow from expected from a house. The collection system is designed to avoid overflows and all customers participate in this cost.

Rate Credit Per EDU

The South Hall Sewer District customer growth is projected to increase rapidly until 2021 and then grow at a moderate 4% per year thereafter until full capacity is reached in 2030. The rapid growth is projected to provide sufficient funding of the debt payments, however, as the growth rate reduces, connection fees will be insufficient to make the required debt payments. As such, rate revenues will be required to fill this void. Fortunately, it is expected that the system will have grown sufficiently to generate these additional revenues from rates. The portion of unit rate revenues used for debt needs to be credited against the connection fee calculation to avoid double charging.

The projected rate credit is calculated by taking the unit rate revenues projected to be used to pay off debt through 2030 and bringing those dollars back to 2008 dollars by using a conservative 6% discount factor. That is to say the dollar amount in 2008 escalated at 6% per year until 2030 would equal the 2030 projected dollar amount. Using the 6% discount factor, the rate credit per EDU is calculated to be \$3,664.87 and represents the total paid by a typical household towards debt. Additionally, since some sewer assets are being paid through SPLOST a credit is applied to account for estimated tax dollars collected by typical households in Hall County. This credit is based on the latest economic census conducted in 2002 and projected to 2008 dollars. This equates to \$164.44, giving a total credit of \$3,829.31 Appendix A provides the expected annual debt payments from rates through 2023.

Connection Fee Calculation

Table 10 outlines the steps by which the connection fee calculation was undertaken. Each component is calculated separately because each component has a different design capacity. The dollar amounts used for debt will use the system capacity of 3 MGD to stay consistent with the treatment and collection components. This approach provides a more conservative and therefore more defensible connection fee value.

Each component cost is divided by the capacity in gallons to arrive at a per gallon cost for the facility. The cost for treatment, collection and debt is \$13.87, \$23.99 and \$6.74 per gallon. When multiplied by the respective EDU's, the cost per EDU is \$2,554.48, \$8,840.02 and \$1,241.66. The total cost per EDU is therefore \$12,636.16. The final connection fee dollar amount is achieved by applying (subtracting) the rate credit per EDU of \$3,829.13 thereby bringing the connection fee to \$8,806.85. See Appendix A page 17 and 18 of 19 for a full detail breakdown.

Sewer Connection Fee Calculation

Table 10
Full Cost Connection Fee Calculation

Treatment	FY 2009		
Existing Assets	\$25,095,465	Recoupment	
Planned Improvements	16,500,000		
Total	\$41,595,465		
Collection			
Existing Assets		\$0	Recoupment
Planned Improvements	47,281,681		
Total	\$47,281,681		
Debt Costs	\$20,218,303		
Capacities			
Treatment			
GPUD Agreement	1,000,000	Gallons per Day	
Additional Purchase (GPUD)	0		
Spout Springs (Existing)	750,000		
Spout Springs (Expansion)	1,250,000		
Total Treatment Capacity	3,000,000	Gallons per Day	
Collection			
Phase 1 / Existing	2,000,000	Gallons per Day	
Phase 2	0		
Phase 3	0		
	2,000,000	Gallons per Day	
Capacity Cost			
	Per Gallon	Gallons per EDU	Per EDU
Treatment	\$13.87	184.24	\$2,554.48
Collection	23.64	368.48	\$8,711.06
Debt	6.74	184.24	\$1,241.66
	\$44.25		\$12,507.20
SPLOST Credit per household			\$164.44
Rate Credit (Per EDU)			\$3,664.87
Total Credit			\$3,829.31
Full Cost Connection Fee			\$8,677.88
Recommended Connection Fee			\$8,677.88

Connection Fee Schedule

Since the EDU determination uses a $\frac{3}{4}$ inch meter, the connection fee can be determined for all types of development by the size of meter they use. Water connection fees for larger meters are calculated by applying a design capacity increase ratio⁹ to the $\frac{3}{4}$ inch calculation. A 3% administration fee is allowed to account for tracking the collection and use of the connection fee. Table 11 provides the connection fee schedule for the MCRSF. This is the calculation for 2008; subsequent calculations typically increase due to increased cost of facilities. It is recommended that the connection fee be recalculated every 3 to 5 years to verify reasonableness.

Table 11
Connection Fee Schedule

Meter Size (in inches)	Meter Equivalency Ratios	Results	With 3% Admin Fee
3/4	1	\$8,678	\$8,938
1	2.5	\$21,695	\$22,346
1 1/2	5	\$43,389	\$44,691
2	8	\$69,423	\$71,506
3	16	\$138,846	\$143,011
4	25	\$216,947	\$223,455
6	50	\$433,894	\$446,911
8	80	\$694,231	\$715,057

⁹ Ratios are provided from the American Water Works Associations latest M1 manual.

Findings and Recommendations

Findings

JJG projects that the South Hall County Sewer District will begin to generate sufficient revenues from sewer sales and connection fees by 2014. This projection is based on the growth and cost assumptions provided in Section 1 of this report and the unit rate and connection fee schedule provided below. In JJG's opinion, the growth assumption is a conservative projection of demand over the next 20 years; however, it does not include extraordinary events such as natural disasters, acts of war or sustained economic downturn. Until 2014, the system will need sufficient cash from other sources, including but not limited to: debt secured by the Hall County General Government, SPLOST, and direct funding from private/public partnerships. The following are the projected debt coverage ratio's for the South Hall Sewer District (Table 12).

Table 12
Debt Coverage Ratio's

	2009	2010	2011	2012	2013	2014
Revenue Bond Debt Coverage	1.43	0.75	1.00	1.87	1.40	2.01
Total Debt Coverage (Includes GEFA/SRF Loans)	0.91	0.31	0.43	0.81	0.74	1.06

Unit Rate Recommendations

The following (Table 13) are the projected rate recommendations for sewer service in the South Hall County Sewer District. It should be noted that the treatment portion of the unit charge is for wastewater treated at the Flat Creek facility¹⁰.

Table 13
Projection of Sewer Unit Charge

	2009	2010	2011	2012	2013	2014
Treatment Unit Charge (Per CCF)	\$2.32	\$2.46	\$2.61	\$2.76	\$2.93	\$3.08
Collection Unit Charge (Per CCF)	\$7.55	\$7.85	\$8.16	\$8.49	\$8.83	\$9.18
Total Unit Charge	\$9.87	\$10.31	\$10.77	\$11.25	\$11.76	\$12.26

¹⁰ This treatment portion is for O&M only and does not include capital, depreciation or future expansion/replacement of facilities.

Connection Fee Recommendations

The following (Table 14) are the recommended fees to be applied to all new sewer connections. These fees are based on contracted obligations for the existing subdivisions. The theoretical calculation of \$8,678 and exceeds the contracted amounts. Since the contract only applies to the Reunion and Sterling subdivisions¹¹, Hall County should periodically reconsider this fee schedule as it applies to new customers outside of these subdivisions. The model assumes the contracted connection fee for revenue projections, since growth is expected to come predominately from these subdivisions.

Table 14
Connection Fee Schedule

	2009	2010	2011	2012	2013	2014
Contracted Connection Fee 3/4"	\$5,000	\$6,000	\$6,000	\$7,000	\$7,000	\$8,000
Other Connections ¹²	\$8,678	\$8,678	\$8,678	\$8,678	\$8,678	\$8,678

It should be noted that the connection fee does not include an allowable 3% administration fee, or fees associated with installing sewer service. This fee covers only the proportional share of capacity of the system by an equivalent dwelling unit (EDU). Since sewer is typically a function of water use, the water meter is utilized for calculating sewer demand. The connection fee for high demand users are based on the American Water Works Association (AWWA) ratio of water meter capacity (Table 15). For developments where special circumstances warrant an individual calculation, such as an industry whose water use does not match sewer discharge, a sewer meter may be utilized or methodology acceptable to Hall County may be applied.

Table 15
Connection Fee Meter Equivalency Ratios

Meter Size (in inches)	Meter Equivalency Ratios
3/4	1
1	2.5
1 1/2	5
2	8
3	16
4	25
6	50
8	80

¹¹ Deaton Creek has prepaid all of their connection fees.

¹² Connection fee should be recalculated every 3 to 5 years

GEFA Requirements

After review of the financial model and funding plan with GEFA, the following special conditions were applied in order to obtain the needed SRF funding for the South Hall Sewer District. These conditions were placed due to the low debt coverage ratios. GEFA typically requires a 1.05 minimum debt coverage ratio.

SPECIAL CONDITIONS

- 1) The County will increase Sewer Rates to \$79.17 per 6,000 gallons usage (or equivalent) per month, to be implemented no later than January 31, 2009. Resolution must be submitted to GEFA prior to contract execution.
- 2) A minimum of \$3,500,000 in annual SPLOST and/or General Funds will be designated for the Sewer/Wastewater Utility Enterprise Fund, until such time as this GEFA Loan is paid in full or until GEFA reduces or eliminates this requirement. (Resolution must be submitted prior to contract execution).
- 3) The County will restrict a minimum of \$2,500,000 in a separate bank account for the purpose of satisfying or guarantying the GEFA debt, to be in place until such time as this GEFA loan is paid in full or GEFA reduces this amount or no longer requires it. This account is to be fully funded no later than 06/30/2009.

The first condition is currently shown in the financial model and funding plan. The remaining two items will need to be fulfilled in order to obtain the SRF funds needed to complete the MCSRF. Once these items are addressed, the model can be updated to reflect changes in future revenue bond requirements and rate increase needs. Depending on the funding sources for these last two conditions, the rate increase and revenue bond requirements will change. If condition 2 is satisfied with SPLOST, the effect will be to reduce revenue bond/rate increase requirements. If condition 3 is satisfied with system revenues the effect will be to increase revenue bond/rate requirements.

Infrastructure Inventory and Projection of Needs

After JJG was selected by GPUD and Hall County to perform the update of the study, JJG chose Rochester and Associates (RAI), an engineering firm located in Gainesville, Georgia, as a partner consultant to 1) undertake a determination of the number of water meters on record and estimate the remaining water meters to be installed based on master plans of the three major developments in the area: Village at Deaton Creek, Reunion and Sterling on the Lakes, 2) evaluate reuse options for serving Reunion and Sterling on the Lakes in accordance with their

respective Reuse Water Agreements 3) prepare exhibits showing Capital Improvement Plan options that could served by either MCRSF or SSSTF and would be used to prioritize projects by the Hall County Commissioners and 4) assist GPUD with determining the location of existing sanitary sewer easements as shown in the approved design plans for Village at Deaton Creek, Reunion and Sterling on the Lakes.

The documents showing items 1, 2 and 4 are included under Appendix D. Item 3 is shown Appendix A pages 11 and 12 of 19.

JJG Recommendations

Based on the analysis JJG has undertaken as it relates to the South Hall Sewer District unit rate and connection fee calculation JJG recommends:

- 1) Implementation of a sewer unit charge of \$9.87 by January 31, 2009. This will satisfy the GEFA special condition #1 above.
- 2) JJG recommends charging the theoretical connection fee of \$8,678 for all new ¾ inch connections in the South Hall Sewer District unless contractual obligation prevent otherwise. The fee should be increased based on the meter ratio provided in Table 15 (Page 4-2) for larger meters.
- 3) Review and update the unit charge and connection fee on an annual basis to insure viability of the financial plan based on expenses, debt service and CIP.
- 4) Implement unit rate and connection fees on July 1 of each year consistent with the updated financial plan.
- 5) Satisfy conditions #2 and #3 from GEFA regarding SPLOST and/or General Funds and the reserve fund for the GEFA debt payments.

Base Draft Model for Discussion of Assumptions

- 1 Model assumes typical household water usage at 4305 gallons per month with a sewer billable volume at 85% of water usage or 3660 gallons (122 gpd) and assumes 105 gpd for Deaton Creek customers (over 55 Adult Community). This is based on GPUD water billing records (January 2008 - June 2008).
- 2 Financial Model projections are for 20 years. Collection system Master Plan design volume is based on full build out of sub-basins.
However, full build out of commercial/residential development within the sub-basins may take several years beyond the Financial Model planning horizon.
- 3 Flow projections for financial model include planned units reported by major developers over the next 5 years and Hall County School system beginning operations August 2009. Flows from the school complex are estimated to be 89,000 gpd on average.
- 4 Flow projections assume a minimum of 400 equivalent dwelling units (residential and commercial) each year starting in 2012 and ending in 2021. Flow projections beyond 2021 are expected to increase at a volumetric rate of 4% per year. Based on developer supplied data, Reunion, Deaton Creek and Sterling on the Lake will be fully built out by 2013. The model assumes 100 units outside these developments in 2012 and 2013 and then 400 units per year until 2021.
- 5 Deaton Creek has paid all connection fees in advance to Wieland Homes Inc. No additional connection fees will be applied to new connections in this subdivision.
- 6 The contracted connection fee applies to Reunion and Sterling on the Lake.
- 7 The model assumes that the contracted fee amount (Item 22 below) will be collected for all new connections since Reunion and Sterling dominate near term growth.
The connection fee starting in 2014 outside of Sterling and Reunion could be different from the contracted fee.
- 8 Hall County School District will provide \$1,000,000 for collection system expansion.
- 9 All years are Fiscal Years ending June 30 unless otherwise specified.
- 10 The financial model is for the existing and currently designed/construction in progress projects in the Mulberry Creek drainage basin only, and excludes service to Flowery Branch, the Northeast Georgia Health System and Braselton. It includes the medical office building, three new Hall County School campi, and Deaton Creek.
- 11 The beginning balance of \$5,963,384 is from other Hall County funds and is for the balance of the Mulberry Creek project not covered by the SRF loan.
- 12 The Unit Charge per CCF shown below does not include the GPUD Account Service Fee and Billing Data Fee.
- 13 A portion of the Unit Charge will be used to cover expenses incurred by GPUD for treatment cost at the Flat Creek plant. Current 2009 Treatment Cost is \$2.32/CCF from the latest GPUD Comprehensive Financial Model (CFM) dated February 7, 2008.
- 14 2008 and 2009 Sewer Sales assume the current \$42/month sewer rate is charged for Deaton, Sterling and Reunion subdivisions.
- 15 The financial model does not include any capital or operating costs or revenues associated with the reuse water contract obligations with Sterling, Reunion, or any other development.

Base Draft Model for Discussion of the Mulberry Creek Basin Wastewater CIP Funding Plan Summary Results

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
16 CIP Capital Expenditures per Year	\$4,700,000	\$4,700,000	\$25,043,513	\$2,838,168	\$562,500	\$584,929	\$608,326	\$632,660	\$657,966	\$684,285
17 SRF Funding	\$2,488,000	\$4,700,000	\$22,843,000	\$1,150,000	\$0	\$0	\$0	\$0	\$0	\$0
18 Hall County School Fund	\$0	\$0	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19 Revenue Bond/Other Loan	\$0	\$0	\$0	\$12,000,000	\$0	\$0	\$0	\$0	\$0	\$0
20 Other County Funds	\$5,963,384	\$0	\$1,200,000	\$0	\$0	\$0	\$2,311,641	\$0	\$0	\$0
21 Unit Charge per CCF	N/A	N/A	\$9.87	\$10.31	\$10.77	\$11.25	\$11.76	\$12.26	\$12.78	\$13.29
22 Contracted Connection Fee 3/4"	\$0	\$0	\$5,000	\$6,000	\$6,000	\$7,000	\$7,000	\$8,000	\$8,000	\$9,000
23										
24										
25										

\$ 8,678 Calculated Full Cost Connection Fee
\$9.87 Calculated 2009 Theoretical Unit Charge per CCF

Fiscal Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1													
2	Expense Growth												
3	Inflation												
4	System Growth (EDU's)	0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
5	Construction				65.2%	13.0%	11.8%	10.6%	9.9%	9.0%	8.3%	7.6%	7.1%
6	Revenue Growth												
7	Sewer Consumption												
8	Sewer Customers (EDU's)												
9	Forecast of Interest Rates												
10	Revenue Bond	4.0%	4.0%	4.0%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
11	Issuance Cost	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
12	Georgia Fund	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
13	State Revolving Fund	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
14	Closing Costs	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
15	Construction Period	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
16	Earnings Rates												
17	Operating Reserve	2.0%	2.0%	2.0%	2.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
18	Bond Fund	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

See specific cost escalation on CIP worksheet

See Projected Rates Tab for Manually calculated volume projections
 See Projected Rates Tab for Manually calculated EDU projections

Fiscal Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1												
2 Expense Growth												
3 Inflation	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
4 System Growth (EDU's)	6.6%	6.2%	5.9%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
5 Construction												
6 Revenue Growth												
7 Sewer Consumption	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
8 Sewer Customers (EDU's)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
9 Forecast of Interest Rates												
10 Revenue Bond	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
11 Issuance Cost	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
12 Georgia Fund	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
13 State Revolving Fund	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
14 Closing Costs	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
15 Construction Period	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
16 Earnings Rates												
17 Operating Reserve	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
18 Bond Fund	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

	Asset Description (Purchased)	Acquisition Cost	Acquisition Year	Book Value	Replacement Value	Component	Applicable	Source	Comments
1	Flat Creek Plant Expansion			\$10,595,465		Treatment	Yes	SPLOST	Agreement with GPUD/HALL
2	Spout Springs (Does not include contributed items)			\$14,500,000		Treatment	Yes	Rev Bond	
3									
4									
5									
6									
7				\$25,095,465					
8									
9									
10	Total Treatment			\$25,095,465					
11	Not Applicable For Connection Fee			0					
12	Treatment Applicable for Connection Fee			\$25,095,465					
13									
14									
15									
16									
17									
18	Total Collection			\$0					
19	Not Applicable For Connection Fee			0					
20	Collection Applicable For Connection Fee			\$0					

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1 Operating Expenses											
2 Working Cash Reserve	\$400,000										
3 Water Reclamation Facilities											
4 Maintenance	\$56,388	\$101,723	\$26,000	\$27,040	\$28,122	\$29,246	\$30,416	\$31,633	\$32,898	\$34,214	\$35,583
5 Electricity	60,000	111,420	170,620	192,802	215,628	238,454	262,105	285,755	309,405	333,055	356,705
6 Gas	582	4,000	4,550	5,141	5,750	6,359	6,989	7,620	8,251	8,881	9,512
7 Phone	4,650	4,200	10,400	\$10,816	\$11,249	\$11,699	\$12,167	\$12,653	\$13,159	\$13,686	\$14,233
8 Chemicals	9,624	0	5,687	6,427	7,188	7,948	8,737	9,525	10,313	11,102	11,890
9 Water	20,000	36,576	41,600	\$43,264	\$44,995	\$46,794	\$48,666	\$50,613	\$52,637	\$54,743	\$56,932
10 Sludge	82,432	0	85,310	96,401	107,814	119,227	131,052	142,877	154,702	166,528	178,353
11 Staffing	110,000	260,400	104,000	\$108,160	\$112,486	\$116,986	\$121,665	\$126,532	\$131,593	\$136,857	\$142,331
12 Sanitation	2,310	0									
13 Pump Stations/Force Main											
14 Maintenance	\$0	\$0	\$104,000	\$108,160	\$112,486	\$116,986	\$121,665	\$126,532	\$131,593	\$136,857	\$142,331
15 Electricity	0	0	\$142,183	160,668	179,690	198,712	218,420	238,129	257,837	277,546	297,255
16 Water	0	0	\$8,320	8,653	8,999	9,359	9,733	10,123	10,527	10,949	11,386
17 Operating Capital (SCADA/INV.)	0	0	\$110,000	0	0	0	0	0	0	0	0
18 SCADA	0	0	\$10,400	10,816	11,249	11,699	12,167	12,653	13,159	13,686	14,233
19 Monitoring	0	0	\$93,600	97,344	101,238	105,287	109,499	113,879	118,434	123,171	128,098
20 Odor Control	0	0	\$104,000	108,160	112,486	116,986	121,665	126,532	131,593	136,857	142,331
21 Management	0	0	\$41,600	43,264	44,995	46,794	48,666	50,613	52,637	54,743	56,932
22 Contract Labor	0	0	\$20,800	21,632	22,497	23,397	24,333	25,306	26,319	27,371	28,466
23 Supplies	0	0	\$15,600	16,224	16,873	17,548	18,250	18,980	19,739	20,529	21,350
24 Miscellaneous	0	0	\$10,400	10,816	11,249	11,699	12,167	12,653	13,159	13,686	14,233
25 Collection System											
26 Maintenance/Locates	0	0	260,000	\$270,400	\$281,216	\$292,465	\$304,163	\$316,330	\$328,983	\$342,142	\$355,828
27											
28 Total	\$745,986	\$518,319	\$1,369,070	\$1,346,187	\$1,436,208	\$1,527,645	\$1,622,526	\$1,718,937	\$1,816,941	\$1,916,602	\$2,017,984
29 Non-Operating Expenses											
30 GPUD Construction Management	\$235,000	\$1,252,176	\$141,908	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
31 Debt Payments	0	853,426	3,871,111	3,659,301	3,660,630	4,383,447	4,383,447	4,383,447	4,383,447	4,383,447	4,383,447
32											
33 Total	\$235,000	\$2,105,602	\$4,013,019	\$3,684,301	\$3,685,630	\$4,408,447	\$4,408,447	\$4,408,447	\$4,408,447	\$4,408,447	\$4,408,447
34											
35 Total Expenses	\$980,986	\$2,623,921	\$5,382,090	\$5,030,488	\$5,121,838	\$5,936,092	\$6,030,973	\$6,127,384	\$6,225,388	\$6,325,049	\$6,426,431
36											
37											
38											
39											

FY 09 Budget based on EMS operations of Spout Springs only. FY 10 Budget based on operations of Spout Springs and Mulberry Creek Pump Station and Collection System by GPUD.

	2019	2020	2021	2022	2023	2024	2025
1 Operating Expenses							
Working Cash Reserve							
3 Water Reclamation Facilities							
Maintenance	\$37,006	\$38,486	\$40,026	\$41,627	\$43,292	\$45,024	\$46,825
Electricity	380,356	404,006	427,656	444,762	462,553	481,055	500,297
Gas	10,143	10,773	11,404	11,860	12,335	12,828	13,341
Phone	\$14,802	\$15,395	\$16,010	\$16,651	\$17,317	\$18,009	\$18,730
Chemicals	12,679	13,467	14,255	14,825	15,418	16,035	16,677
Water	\$59,210	\$61,578	\$64,041	\$66,603	\$69,267	\$72,038	\$74,919
Sludge	190,178	202,003	213,828	222,381	231,276	240,527	250,149
Staffing	\$148,024	\$153,945	\$160,103	\$166,507	\$173,168	\$180,094	\$187,298
Sanitation							
13 Pump Stations/Force Main							
Maintenance	\$148,024	\$153,945	\$160,103	\$166,507	\$173,168	\$180,094	\$187,298
Electricity	316,963	336,672	356,380	370,635	385,461	400,879	416,914
Water	11,842	12,316	12,808	13,321	13,853	14,408	14,984
Operating Capital (SCADA/INV.)	0	0	0	0	0	0	0
SCADA	14,802	15,395	16,010	16,651	17,317	18,009	18,730
Monitoring	133,222	138,551	144,093	149,857	155,851	162,085	168,568
Odor Control	148,024	153,945	160,103	166,507	173,168	180,094	187,298
Management	59,210	61,578	64,041	66,603	69,267	72,038	74,919
Contract Labor	29,605	30,789	32,021	33,301	34,634	36,019	37,460
Supplies	22,204	23,092	24,015	24,976	25,975	27,014	28,095
Miscellaneous	14,802	15,395	16,010	16,651	17,317	18,009	18,730
25 Collection System							
Maintenance/Locates	\$370,061	\$384,864	\$400,258	\$416,268	\$432,919	\$450,236	\$468,245
28 Total	\$2,121,158	\$2,226,194	\$2,333,168	\$2,426,495	\$2,523,554	\$2,624,497	\$2,729,476
29 Non-Operating Expenses							
GPUD Construction Management	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Debt Payments	4,383,447	4,383,447	6,057,034	6,057,034	6,057,033	6,057,034	6,047,034
33 Total	\$4,408,447	\$4,408,447	\$6,082,034	\$6,082,034	\$6,082,033	\$6,082,034	\$6,072,034
35 Total Expenses	\$6,529,605	\$6,634,641	\$8,415,201	\$8,508,528	\$8,605,587	\$8,706,530	\$8,801,510
36							
37							
38							
39							
40							
41							

	2007	2008	2009	2010	2011	2012	2013	2014	2015
1 System Debt									
2 Revenue Bond Debt Payments									
3 Spout Springs Principal (\$14,500,000)			\$0	\$0	\$0	\$0	\$724,146	\$753,112	\$783,236
4 Spout Springs 2009 Interest			\$542,224	\$580,000	\$580,000	\$581,329	\$580,000	\$551,034	\$520,910
5 FY 10 and FY 21 Revenue Bond/Other Loan Principal				\$344,152	\$363,080	\$383,050	\$404,117	\$426,344	\$449,793
6 FY 10 and FY 21 Revenue Bond/Other Loan Interest				\$660,000	\$641,072	\$621,102	\$600,034	\$577,808	\$554,359
7									
8 Total	\$0	\$0	\$542,224	\$1,584,152	\$1,584,152	\$1,585,481	\$2,308,298	\$2,308,298	\$2,308,298
9 SRF/GEFA Loan Payments									
10 Principal CWSRF Mulberry Creek \$31,181,000			0	1,155,521	1,190,668	1,226,883	1,264,200	1,302,652	1,342,273
11 Interest CWSRF Mulberry Creek			0	1,131,438	884,481	848,266	810,949	772,497	732,876
12									
13 Total	0	0	311,202	2,286,959	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149
14									
15 Total Debt Payments	\$0	\$0	\$853,426	\$3,871,111	\$3,659,301	\$3,660,630	\$4,383,447	\$4,383,447	\$4,383,447
16 Connection Fees Used For Debt			500,000	900,000	1,000,000	2,100,000	2,100,000	3,200,000	3,200,000
17 Debt Payments from Rates			353,426	2,971,111	2,659,301	1,560,630	2,283,447	1,183,447	1,183,447
18									
19 Debt Cost per CCF Sold	0.0000	0.0000	3.3992	9.8700	10.3092	7.1882	9.5106	4.4843	4.1132
20 EDU Credit				591.5551	617.8784	430.8211	570.0171	268.7673	246.5230
21									
22 NPV of Rate Credit			\$3,664.87						
23 Connection Fee	\$0.00	\$0.00	\$5,000.00	\$6,000.00	\$6,000.00	\$7,000.00	\$7,000.00	\$8,000.00	\$8,000.00
24									
25 Connection Fee Fund Balance			\$0	\$74,197	\$36,510	\$38,170	\$39,290	\$40,452	\$41,649
26 Interest Earnings				\$2,313	\$1,661	\$1,120	\$1,162	\$1,196	\$1,232
27									
28 Conn Fee Use for Planning Period									
29 Connection Fees Collected	67,222,768								
30 Earnings	54,240								
31 Total	<u>67,277,008</u>								
32									
33 Connection Fees Used For Debt	64,773,587								

	2016	2017	2018	2019	2020	2021	2022	2023
1 System Debt								
2 Revenue Bond Debt Payments								
3 Spout Springs Principal (\$14,500,000)	\$814,566	\$847,148	\$881,034	\$916,276	\$952,927	\$991,044	\$1,030,685	\$1,071,913
4 Spout Springs 2009 Interest	\$489,580	\$456,998	\$423,112	\$387,870	\$351,219	\$313,102	\$273,460	\$232,233
5 FY 10 and FY 21 Revenue Bond/Other Loan Principal	\$474,531	\$500,631	\$528,165	\$557,214	\$587,861	\$1,193,780	\$1,259,438	\$1,328,707
6 FY 10 and FY 21 Revenue Bond/Other Loan Interest	\$529,621	\$503,521	\$475,987	\$446,937	\$416,291	\$1,483,958	\$1,418,300	\$1,349,031
7								
8 Total	\$2,308,298	\$2,308,298	\$2,308,298	\$2,308,298	\$2,308,298	\$3,981,885	\$3,981,885	\$3,981,885
9 SRF/GEFA Loan Payments								
10 Principal CWSRF Mulberry Creek \$31,181,000	1,383,100	1,425,168	1,468,516	1,513,182	1,559,207	1,606,632	1,655,499	1,705,852
11 Interest CWSRF Mulberry Creek	692,049	649,981	606,633	561,967	515,942	468,517	419,650	369,296
12								
13 Total	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149	2,075,148
14								
15 Total Debt Payments	\$4,383,447	\$4,383,447	\$4,383,447	\$4,383,447	\$4,383,447	\$6,057,034	\$6,057,034	\$6,057,033
16 Connection Fees Used For Debt	3,600,000	3,600,000	4,000,000	3,800,000	3,800,000	4,000,000	3,000,000	3,000,000
17 Debt Payments from Rates	783,447	783,447	383,447	583,447	583,447	2,057,034	3,057,034	3,057,033
18								
19 Debt Cost per CCF Sold	2.5148	2.3362	1.0676	1.5235	1.4343	4.7772	6.8265	6.5639
20 EDU Credit	150.7247	140.0218	63.9879	91.3090	85.9638	286.3181	409.1423	393.4059
21								
22 NPV of Rate Credit								
23 Connection Fee	\$9,000.00	\$9,000.00	\$9,500.00	\$9,500.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
24								
25 Connection Fee Fund Balance	\$42,880	\$44,148	-\$154,547	-\$156,203	\$39,136	\$37,380	\$4,528	\$89,797
26 Interest Earnings	\$1,268	\$1,305	-\$1,656	-\$4,661	-\$1,756	\$1,148	\$629	\$1,415
27								
28 Conn Fee Use for Planning Period								
29 Connection Fees Collected								
30 Earnings								
31 Total								
32								
33 Connection Fees Used For Debt								

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1 Sewer											
2 Operating Revenues											
3											
4 Sewer Sales	580,477	712,577	1,665,430	1,969,447	2,305,322	2,668,586	3,064,736	3,491,205	3,941,820	4,424,561	4,941,345
5											
6 Total	580,477	\$712,577	1,665,430	1,969,447	2,305,322	2,668,586	3,064,736	3,491,205	3,941,820	4,424,561	4,941,345
7 Non-Operating Revenues											
8 Connection Fees	0	\$580,000	894,197	960,000	2,100,000	2,100,000	3,200,000	3,200,000	3,600,000	3,600,000	3,800,000
9											
10											
11 Total	0	\$580,000	894,197	960,000	2,100,000	2,100,000	3,200,000	3,200,000	3,600,000	3,600,000	3,800,000
12											
13											
14											
15 New Customers (EDU)	1,468	356	1,181	410	400	400	400	400	400	400	400
16 Total Customers(EDU)	1,468	1,824	3,005	3,415	3,815	4,215	4,615	5,015	5,415	5,815	6,215
17 New Volume (CCF)	84,772	19,203	67,819	22,334	22,983	22,983	23,813	23,813	23,813	23,813	23,813
18 Total Volume (CCF)	84,772	103,974	171,793	194,127	217,111	240,094	263,907	287,720	311,532	335,345	359,158

Notes:

2008 and 2009 Sewer Sales assume the current \$42/month sewer rate is charged for Deaton, Sterling and Reunion subdivisions
 New customers for 2010 - 2012 are based on anticipated units as reported for Deaton Creek, Reunion and Sterling by Rochester
 and Associates Inc, July 28, 2008 Memorandum.

New customers in 2010 include 731 EDU's from the Hall County School System. School will pay \$1,000,000 for collection system project.
 New customers are in terms of EDU's (equivalent dwelling units) and may consist of residential or commercial land uses.

Average EDU is 122 gpd for billing purposes except for Deaton Creek (Retirement community) which is 105 gpd.

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1 Sewer											
2 Operating Revenues											
3											
4 Sewer Sales	5,494,191	6,085,229	6,838,005	7,327,997	7,855,252	8,405,025	8,928,448	9,486,887	10,082,769	10,718,691	11,397,431
5											
6 Total	5,494,191	6,085,229	6,838,005	7,327,997	7,855,252	8,405,025	8,928,448	9,486,887	10,082,769	10,718,691	11,397,431
7 Non-Operating Revenues											
8 Connection Fees	3,800,000	4,000,000	4,000,000	2,966,000	3,084,640	3,208,026	3,336,347	3,469,800	3,608,593	3,752,936	3,903,054
9											
10											
11 Total	3,800,000	4,000,000	4,000,000	2,966,000	3,084,640	3,208,026	3,336,347	3,469,800	3,608,593	3,752,936	3,903,054
12											
13											
14											
15 New Customers (EDU)	400	400	400	297	308	321	334	347	361	375	390
16 Total Customers(EDU)	6,615	7,015	7,415	7,712	8,020	8,341	8,675	9,021	9,382	9,758	10,148
17 New Volume (CCF)	23,813	23,813	23,813	17,224	17,913	18,629	19,375	20,149	20,955	21,794	22,665
18 Total Volume (CCF)	382,971	406,784	430,597	447,820	465,733	484,363	503,737	523,887	544,842	566,636	589,301

	2013	2014	2015	2016	2017	2018	2019
1) Projects Currently in Design/Construction							
Mulberry Creek 1 mgd Design							
Mulberry Creek 1 mgd Construction/Easements							
Winder Highway (MCRSF C.O. #3)							
Winder Highway (MCRSF C.O. #4)							
Spout Springs School Sewer System							
2) Spout Springs Expansion							
2021 Construction Add 1.25 mgd	0	0	0	0	0	0	0
3) Collection System Extensions							
Utility Fund Contribution	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Total (by year 2008 Dollars)	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Total (by year Future Dollars)	608,326	632,660	657,966	684,285	711,656	740,122	769,727
4) GPUD Management Fee	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Overall CIP Total in Future Dollars	633,326	657,660	682,966	709,285	736,656	765,122	794,727
Treatment Total (by year)	0	0	0	0	0	0	0
Collection Total (by year)	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Planned Treatment in 2008 \$'s							
Planned Collection in 2008 \$'s							
Costs are firm through 2010							
Construction Cost Factors @ 4% per year starting 20	1.217	1.265	1.316	1.369	1.423	1.480	1.539

Notes:
 Spout Springs expansion based on costs provided by Pendergrass Tech Memo dated October 2007 for option #2 schedule for 2021.

	2007	2008	2009	2010	2011	2012	2013	2014
1 Beginning Balance	\$0	\$3,516,384	\$3,115,875	\$1,784,018	\$8,649,768	\$2,986,226	\$1,684,780	\$2,220,589
2 Less:								
3 Construction	4,700,000	4,700,000	25,043,513	2,838,168	562,500	584,929	608,326	632,660
4 SRF Debt Payment	0	0	311,202	2,286,959	2,075,149	2,075,149	2,075,149	2,075,149
5 Revenue Bond Debt Payment	0	0	542,224	1,584,152	1,584,152	1,585,481	2,308,298	2,308,298
6 Operating Expenses	0	745,986	518,319	1,369,070	1,346,187	1,436,208	1,527,645	1,622,526
7 GPUD Construction Management	235,000	235,000	1,252,176	141,908	25,000	25,000	25,000	25,000
8 SRF Closing Costs				623,620				
9 Repayment of Startup Cash					3,000,000			
10 Add:								
11 Operating Revenues	0	580,477	712,577	1,665,430	1,969,447	2,305,322	2,668,586	3,064,736
12 Non-Operating Revenues	0	0	580,000	894,197	960,000	2,100,000	2,100,000	3,200,000
13 CWSRF #1	2,488,000	4,700,000	22,843,000	1,150,000				
14 CWSRF #2								
15 Revenue Bond/Other Loan				12,000,000				
16 Hall County School District								
17 Other Hall County Funds	5,963,384						2,311,641	
18 Ending Balance	3,516,384	3,115,875	1,784,018	8,649,768	2,986,226	1,684,780	2,220,589	1,821,693

Notes:

\$5,963,384 is other Hall County funds contribution to the Mulberry Creek project. It includes payment to GPUD management and closing cost to SRF. \$3,000,000 will be repaid back to the Hall County general government in 2011.

The \$1,000,000 from the Hall County School District and \$1,200,000 in 2009 is for the School Collection system project. The \$2,311,641 in 2013 is for extension of the school system collection to other developments. These funds are assumed not to be repaid.

GPUD Construction management based on 5% of collection system construction costs (Treatment not included).

A \$13,000,000 revenue bond/other loan is needed in 2010 for cash flow purposes repaid 20 years at 5.5%.

A \$20,000,000 revenue bond/other loan in 2021 for Treatment expansion at Spout Springs.

	2015	2016	2017	2018	2019	2020	2021
1 Beginning Balance	\$1,821,693	\$1,727,548	\$2,359,694	\$3,347,551	\$4,922,342	\$6,917,202	\$9,567,274
2							
3							
4 Less:							
5 Construction	657,966	684,285	711,656	740,122	769,727	800,516	14,569,393
6 SRF Debt Payment	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149	2,075,149
7 Revenue Bond Debt Payment	2,308,298	2,308,298	2,308,298	2,308,298	2,308,298	2,308,298	3,981,885
8 Operating Expenses	1,718,937	1,816,941	1,916,602	2,017,984	2,121,158	2,226,194	2,333,168
9 GPUD Construction Management	25,000	25,000	25,000	25,000	25,000	25,000	25,000
10 SRF Closing Costs							
11 Repayment of Startup Cash							
12 Add:							
13 Operating Revenues	3,491,205	3,941,820	4,424,561	4,941,345	5,494,191	6,085,229	6,838,005
14 Non-Operating Revenues	3,200,000	3,600,000	3,600,000	3,800,000	3,800,000	4,000,000	4,000,000
15 CWSRF #1							
16 CWSRF #2							
17 Revenue Bond/Other Loan							20,000,000
18 Hall County School District							
19 Other Hall County Funds							
20							
21 Ending Balance	1,727,548	2,359,694	3,347,551	4,922,342	6,917,202	9,567,274	17,420,684
22							
23							
24							
25							
26							
27							
28							
29							

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1 Volume Billed	0	0	84,772	103,974	171,793	194,127	217,111	240,094	263,907	287,720	311,532
2 Number of Customers (EDU's)	0	0	1,468	1,824	3,005	3,415	3,815	4,215	4,615	5,015	5,415
3 Treatment Unit Charge (Per CCF)			\$2.32	\$2.32	\$2.46	\$2.61	\$2.76	\$2.93	\$3.08	\$3.23	\$3.36
4 Collection Unit Charge (Per CCF)			\$7.55	\$7.55	\$8.16	\$8.49	\$8.83	\$9.18	\$9.55	\$9.93	\$10.31
5 Total Unit Charge			\$0.00	\$9.87	\$10.31	\$10.77	\$11.25	\$11.76	\$12.26	\$12.78	\$13.29
6 Wastewater Sales (Spout Springs Treatment Only)			\$185,753	\$228,025	\$316,855	\$384,592	\$461,931	\$548,513	\$641,177	\$743,275	\$847,445
7 Wastewater Sales (Collection Only)	\$0	\$0	\$394,724	\$484,552	\$1,348,575	\$1,584,855	\$1,843,390	\$2,120,073	\$2,423,558	\$2,747,930	\$3,094,375
8 Connection Fees	\$0	\$0	\$0	\$580,000	\$894,197	\$960,000	\$2,100,000	\$2,100,000	\$3,200,000	\$3,200,000	\$3,600,000
9 Total	\$0	\$0	\$580,477	\$1,292,577	\$2,559,627	\$2,929,447	\$4,405,322	\$4,768,586	\$6,264,736	\$6,691,205	\$7,541,820
10 Revenue Bond Debt Coverage			1.43	0.91	0.75	1.00	1.87	1.40	2.01	2.15	2.48
11 Total Debt Coverage (Includes GEFA/SRF Loans)			0.31	0.43	0.43	0.81	0.74	1.06	1.13	1.31	1.31
12											
13 Dollars Needed (Operating and Debt Only)	\$0	\$0	\$745,986	\$1,371,745	\$5,240,181	\$5,005,488	\$5,096,838	\$5,911,092	\$6,005,973	\$6,102,384	\$6,200,388
14											
15 Treatment Unit Charge Increase					6%	6%	6%	6%	5%	5%	4%
16 Collection Unit Charge Increase					4%	4%	4%	4%	4%	4%	4%
17											

	Projected Typical Monthly Bills (Water and Sewer)						
	2009	2010	2011	2012	2013	2014	2014
Projected Account Servicing Fee	\$ 6.18	\$ 6.55	\$ 7.01	\$ 7.57	\$ 8.25	\$ 8.99	\$ 8.99
Projected Water Unit Rate	\$ 3.82	\$ 4.05	\$ 4.33	\$ 4.68	\$ 5.10	\$ 5.56	\$ 5.56
Water							
CCF	\$ 6.18	\$ 6.55	\$ 7.01	\$ 7.57	\$ 8.25	\$ 8.99	\$ 8.99
CCF	\$ 42.81	\$ 44.99	\$ 47.47	\$ 50.30	\$ 53.54	\$ 56.93	\$ 56.93
CCF	\$ 67.23	\$ 70.61	\$ 74.45	\$ 78.79	\$ 83.73	\$ 88.89	\$ 88.89
CCF	\$ 108.56	\$ 113.77	\$ 119.73	\$ 126.53	\$ 134.31	\$ 142.65	\$ 142.65
Unit Charge for Sewer Only 6000 gallons	\$ 79.17	\$ 82.69	\$ 86.40	\$ 90.27	\$ 94.32	\$ 98.33	\$ 98.33

Fiscal Year	Deaton Creek			Deaton Creek			Deaton Creek			Deaton Creek		
	Other (Gallons per Day)	Daily Average Flow in Gallons	CCF Billable per Year	Customers (EDU's)	Other Customers (EDU's)	Total Customers (EDU's)	Capacity Needed in MGD Treatment	Capacity Needed in MGD Collection	Assumes 2008 GPUD Rate In	Subject to change	Subject to change	
2007	0	0	0	0	0	0	0	0	0	0	0	
2008	33,180	140,544	84,772	316	1,152	1,468	0.26	0.52	0.64	0.64	0.64	
2009	58,380	154,696	103,974	556	1,268	1,824	0.32	0.64	0.53	1.06	1.06	
2010	89,880	262,178	171,793	856	2,149	3,005	0.60	1.19	0.60	1.19	1.19	
2011	116,130	281,698	194,127	1,106	2,309	3,415	0.67	1.33	0.74	1.48	1.48	
2012	126,630	318,298	194,127	1,206	2,609	3,815	0.81	1.62	0.81	1.62	1.62	
2013	137,130	354,898	240,094	1,306	2,909	4,215	0.88	1.77	0.88	1.77	1.77	
2014	137,130	403,698	283,907	1,306	3,309	4,615	0.96	1.92	0.96	1.92	1.92	
2015	137,130	452,498	287,720	1,306	3,709	5,015	1.03	2.06	1.03	2.06	2.06	
2016	137,130	501,298	311,532	1,306	4,109	5,415	1.10	2.21	1.10	2.21	2.21	
2017	137,130	550,098	335,345	1,306	4,509	5,815	1.18	2.35	1.18	2.35	2.35	
2018	137,130	598,898	359,158	1,306	4,909	6,215	1.25	2.50	1.25	2.50	2.50	
2019	137,130	647,698	382,971	1,306	5,309	6,615	1.32	2.65	1.32	2.65	2.65	
2020	137,130	696,498	406,784	1,306	5,709	7,015						
2021	137,130	745,298	430,597	1,306	6,109	7,415						

Notes:
 Billing EDU is 122 gallons, treatment peak factor is 1.5 and collection system average peaking factor is 3.0
 Maximum Month Volume in 2021 1,323,642 MGD
 Billed Volume in 2030 1,255,970 MGD
 Maximum Month Volume in 2030 1,883,955 MGD

Billing volume EDU for Deaton Creek is 105 gpd since this is a retirement community.

38			
39	Full Cost Connection Fee		\$8,677.88
40			
41	Recommended Connection Fee		\$8,677.88
42			
43	Persons Per Household	2.89 US Census 2000	
44	Gallons per person	50	
45	Return Rate	0.85	
46	Rate Credit Period	1 Year	
47	Gallons Purchased Per Year	<u>44,831</u>	
48	CCF Purchased Per Year	59.93	
49			

50 **Notes:**
 51 The Treatment component is purchased from Gainesville per intergovernmental agreement. The capacity and value are deducted from Gainesville's FCCF calculation

52 The Rate Credit for Gainesville Treatment assumes worst case scenario since a portion of the rate credit is also applied to the Collection system debt

53 Treatment Capacity assumes a 1.5 peaking factor. The 3 mgd peak capacity can serve 2 mgd on average.

54 Collection Capacity assumes a 3 peaking factor. The 2 mgd peak capacity can serve 0.666 mgd on average. To be confirmed with GPUD and Hall County

55	EDU Usage based on peaking factors	Average Day	Treatment	Collection
56		122.825	184.2375	368.475
57				

58 SPLOST credit is based on typical household retail sales expenditure * 1% for SPLOST tax * 10% for SPLOST IV contribution to Treatment facilities.

59				
60	\$	9,834	Retail sales per capita 2002 economic census	
61		2.89	Persons per household US Census 2000	
62	\$	28,420.26	Total household sales estimate for 2002	
63		1.0%	SPLOST IV Tax Rate	
64		9.1%	Percent of SPLOST used for Treatment Plant	
65	\$	25.99	Credit Require per Household per year of SPLOST	
66	\$	129.96	Total SPLOST credit in 2002 dollars using 5 year collection period	
67		\$164.44	Converted to 2008 dollars using 4% Discount factor	

This page is for checking assumptions only and is not directly used by the model

From Gainesville Billing Records

Gainesville Existing Water Accounts	Non-Zero Consumption			MGD	GPD per Account		
	Accounts	CCF/Year					
2007	7734	785,395		1.609522	208.10988	166.487904	166
2008	7927	684,357		1.402463	176.92231	141.537844	142 gpd water

Parcels Approximately 10,000

FY 09 Budget

Spout Springs Existing	FY 09 Budget	Fixed Month \$	Months	Yearly Revenue	Water GPD (based on 2008 GPD for District)
Reunion Subdivision	461	\$42.00	12	\$232,344	65462 Water
Sterling on the Lake	691	\$42.00	12	\$348,264	98122 Water
Deaton Creek	316	\$42.00	12	\$159,264	44872 Water
Total Accounts	1468			\$739,872	208456 Total

177188 Sewer Billed (Based on 85% of water billed)
 \$11.44 Per 1000 Gallons (Based on \$42/Account)
 \$8.56 Per CCF (Based on \$42/Account)

FY 09 Budget

Projected Taps	Reunion	Sterling	Deaton	Fee/EDU	Conn Fees
2009	53	105	0	\$5,000	\$790,000
2010	75	150	0	\$6,000	\$1,350,000
2011	75	150	0	\$6,000	\$1,350,000
2012	75	150	0	\$7,000	\$1,575,000
2013	64	150	0	\$7,000	\$1,498,000
2014		150	0	\$8,000	\$1,200,000
2015		150	0	\$8,000	\$1,200,000
2016		59	0	\$9,000	\$531,000

Based on Budget Information

Total Customer by 2016	803	1755	316		
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Expenses Spout Springs

6 Months Calendar Year 2008	\$230,000
Budget FY 2009	\$518,267

Debt

APPENDIX B

**HALL COUNTY - GAINESVILLE
INTERGOVERNMENTAL AGREEMENT AS TO ASSIGNMENT OF 1,000,000
GALLONS PER DAY OF SEWAGE TREATMENT CAPACITY AND ASSIGNMENT OF
1,000,000 GALLONS PER DAY OF WASTE LOAD ALLOCATION**

This Intergovernmental Agreement, entered into as of the 23rd day of December 2002, by and between HALL COUNTY, GEORGIA, a political subdivision of the State of Georgia, by and through its duly authorized governing authority, the Board of Commissioners of Hall County, Georgia, (hereinafter referred to as "Hall County"), and the CITY OF GAINESVILLE, a municipal corporation by and through its duly authorized governing authority, the City Council of Gainesville, Georgia, (hereinafter referred to as "Gainesville"), the purpose of which agreement is to set forth the responsibilities and obligations of each party as such concern the funding, establishment, construction, operations, maintenance and administration (to include the assignment of sewage treatment capacity and waste load allocation) as may be relevant to their respective Sewer Service Districts within Hall County, Georgia, as established by the parties hereto. This agreement as it relates to such issues shall provide as follows:

WHEREAS, it is the policy of both Hall County and Gainesville to avoid duplication of services where the same high level of service may be provided to the citizens of both entities for the same or at lesser costs; and

WHEREAS, Hall County and Gainesville have agreed to and have adopted specific Sewer Service Districts pursuant to House Bill 489 (O.C.G.A. § 36-70-20 et. seq.); and

WHEREAS, Hall County and Gainesville maintain on their respective staffs knowledgeable and professional personnel who supervise and provide for the delivery

of sewer services to those portions of Hall County designated as their respective Sewer Service Districts; and

WHEREAS, Hall County and Gainesville desire to implement agreement reached between the two entities as set forth in that certain Intergovernmental Agreement dated the 13th day of May, 1999, as said agreement pertains to and provides for the expenditure of SPLOST funds for certain sewer system projects specifically being the expansion of the Flat Creek and Linwood Sewage Treatment Plants and to additionally provide for an assignment and reservation of a portion of Gainesville's wastewater treatment capacity in an effort to serve the citizens of Hall County and Gainesville in a more efficient manner; and

WHEREAS, the Georgia Environmental Protection Division (GAEPD) has allocated the assimilative capacity of Lake Lanier resulting in wasteload allocations to Gainesville and Hall County totaling 25,000,000 gallons per day of which 3,000,000 gallons per day was allocated to Hall County; and

WHEREAS, the efficient operation of wastewater treatment facilities has a direct effect on the quality of life and growth within the community.

NOW, THEREFORE, it is agreed between Hall County and Gainesville as follows:

1.

Hall County and Gainesville have agreed to the designation of certain Sewer Service Districts as set forth pursuant to House Bill 489, (O.C.G.A. § 36-70-20 et. seq.), a map of which is attached hereto and include a part hereof and shall be designated Exhibit "A".

2.

Hall County, in accordance with its Comprehensive Land Use Plan, its zoning authority to include the creation of special corridor standards, and its desire to encourage commercial, industrial and other business development along and adjacent to the Highway 365 corridor in northern Hall County, desires to construct and maintain a public sewer system to service such corridor with the system being dedicated primarily to commercial, industrial and other business use with residential use being limited to not more than 15% of the average total usage as determined annually for the forthcoming year, but not to exceed 150,000 gallons per day (GPD). This residential capacity may be provided by the governing authority of Hall County in its discretion on a first come – first serve basis. Hall County shall be responsible for monitoring and regulating the percentage of residential sewer capacity authorized under this agreement within the County's Sewer Service District.

3.

In keeping within the intent and purposes expressed in that certain intergovernmental agreement dated the 13th day of May, 1999, between Hall County and Gainesville, Hall County has requested of Gainesville the right to acquire up to 1,000,000 gallons per day of Gainesville's wastewater treatment capacity to be phased in incrementally from the date of this agreement as set forth in Exhibit "B" hereof.

4.

Pursuant to the transfer and assignment of up to a maximum of 1,000,000 gallons per day of wastewater treatment capacity by Gainesville to Hall County, Hall County, in accordance with paragraph 2 above and Exhibit "B" hereof, will pay to

Gainesville the sum of \$10,600,000.00 in SPLOST funds previously approved for such purposes in the intergovernmental agreement dated May 13, 1999. Additionally, Hall County shall transfer and in accordance with Exhibit "B" hereof, assign to Gainesville up to 1,000,000 gallons per day of its waste load allocation as approved and allocated by the GAEPD, reserving to Hall County the right to further allocate its remaining 2,000,000 gallons per day of waste load allocation as Hall County may determine. Said 1,000,000 gallons per day of waste load allocation shall be the monthly average as defined in the treatment plants' National Pollutant Discharge Elimination System (NPDES) Permits. The parties further agree to periodically review the provisions of this agreement for the purpose of potential amendment thereto to include the possible assignment of additional wastewater treatment capacity upon terms and conditions then prevailing. The above referenced reservation and allocation of sewer capacity as herein provided and assignment of Waste Load Allocation, also as provided herein, shall be guaranteed by the City of Gainesville and Hall County subject only to future renegotiation between the parties or mandatory state or federal regulation.

5.

In addition to the sum provided in paragraph 4 above, Hall County will pay to Gainesville from SPLOST funds allocated for sewer system projects a sum which shall represent specific reimbursement of capital costs to the City of Gainesville expended in the construction of pump station and sewage transmission lines from the City's Limestone Pumping Station No. 26 to the Flat Creek treatment facility, said sum equaling approximately 27.5% of the total estimated pump station and sewage transmission line costs between the two such facilities, said sum estimated to be

approximately \$4,106,047.00. Prior to payment of said sum, Hall County shall have the right to review Gainesville's engineering and design for construction and independently verify the costs allocated to such construction by Gainesville. Upon verification and agreement by both parties that Hall County's actual proportionate share of such costs as prorated based upon the foregoing percentage of total estimated pump station and sewer transaction line costs is less than the estimated \$4,106,047.00 sum, then Hall County shall pay only such actual sum as expended, and if such verified costs as computed based upon the foregoing percentage exceeds the estimated \$4,106,047.00, Hall County shall pay such difference to Gainesville.

6.

It is agreed and understood that from time to time during the pendency of this agreement State and/or Federal regulations governing the transportation and treatment of wastewater by public entities may change. Additionally, it is agreed and understood that all sewage transport and treatment facilities have a certain functional life. It is further agreed the preceding conditions may cause significant capital expenditures for replacement of facilities or new facilities to meet revised State and/or Federal Regulations and the expense of these shall be borne by both parties prorated by the capacity used by each party hereto of such facilities. The method and schedule of such payment shall be determined jointly by both parties as the situation arises.

7.

For the purpose of measuring wastewater flows received by Gainesville from Hall County Sewer District customers, in order to determine when the maximum capacities are reached pursuant to Exhibit "B", a master meter shall be installed, owned, operated, and, maintained by Gainesville and paid for by Hall County. Readings of the master meter shall be made on a monthly basis by the City. Hall County shall have the right to verify meter readings at any time. The furnishing of wastewater service will be measured by metering equipment of standard manufacture. The meter shall register not more than two percent (2%) slow or fast to be deemed to be correct. Gainesville, at its expense, shall periodically inspect and test the master meter at intervals of no longer than five (5) years.

8.

The monthly usage rate to be paid by customers in the Hall County District to Gainesville shall be the same rate as paid by Gainesville inside city customers. Such rate shall be revised at an interval not to exceed two (2) years. Gainesville shall confer with Hall County on the adjustment to said rate, with final approval being reserved to the City. In recognition of the payment by Hall County to the City of Gainesville of SPLOST funding as provided herein, which funding shall be utilized by Gainesville for sewer system capital expenditures, it is agreed by the parties that the entire capital component (inclusive of both principal and interest) of the City's monthly sewage usage charge to individual Hall County District customers (located within Hall County's Sewer Service District) will be refunded to the County within 45 days of collection less and except a 7% administrative charge of the total monthly sewer usage charges of all Hall County

District customers located within the Hall County District which shall be retained by the City. It is understood by both parties hereto that "tap fees" are not to be included in monthly sewer charges.

9.

Hall County's District customers shall be required to pay for such services (including but not limited to late fees, returned check fees, industrial surcharges and tap fees, etc), for work performed by Gainesville on Hall County's behalf in the same manner and procedure applicable to other sewer users of City's system. Additionally, Hall County Sewer Service District customers shall be responsible for all normal and customary fees and charges as are customers within the Gainesville city limits.

Hall County may implement connection (or impact) fees and other appropriate charges to be applicable to customers within the Hall County District. Said fees shall be levied by Hall County and collected by Gainesville on Hall County's behalf. Said fees shall be paid to Hall County within 45 days of collection.

10.

It is agreed efficiency dictates all equipment used by either party to effect the transfer of wastewater from one entity's lines and equipment to the other's lines and equipment shall be compatible with and complimentary to the equipment of the other party, including but not limited to all meters, piping, fitting, pumps, and couplings. In recognition of the costs of warehousing pipes, pumps, fittings and other materials necessary for the efficient maintenance of the sewage collection system all construction in either party's district shall conform to the "City of Gainesville Standard Specifications for the Construction of Water Mains and Sanitary Sewers, latest edition" and future

amendments thereto.

11.

Except as may be provided herein, the parties further agree that during the pendency of this agreement, wastewater capacity allocations and waste load allocations sought by either party from the State of Georgia or the United States Government shall be based upon their respective Sewer Service Districts.

12.

The Sewer Service District identified pursuant to the Hall County Service Delivery Strategy (HB489) (O.C.G.A. § 36-70-20 et. seq.), a map of which is attached as Exhibit "A", as the Gainesville/Hall Sewer Service District which generally lies between Gainesville's District and Hall's District is reaffirmed and agreed upon by both parties hereto to represent an area which currently may be served by either party. As each party's respective sanitary sewer collection system expands into the Gainesville/Hall District, the portion of said District then served by that party becomes the responsibility of the party providing the service. Neither party shall provide service into the other party's District without a mutual agreement, in writing, addressing the terms and conditions of said service.

13.

All construction of sanitary sewers, pump stations, meters and related equipment for the provision of sewer service shall be owned by the party to whom the Sewer Service District is assigned. All third parties constructing or causing to have constructed sanitary sewers and related equipment within such District shall transfer the ownership of such sewers and equipment to the party to whom the Sewer Service District is

assigned. Such sewers and equipment shall be installed in accordance with paragraph 10 preceding. Each party shall be responsible for the cost of relocating their facilities (including but not limited to sewer lines, pump stations, meters and related equipment) as may be necessary due to transportation improvements in their assigned Sewer Service District in which they are located. Notwithstanding the foregoing, jointly funded facilities (such as Pump Station 26) shall be jointly relocated with costs being prorated by the capacity used by each party of such facilities.

14.

It is acknowledged and understood that the City will be responsible for the operation and maintenance of the County sanitary sewer collection system to be built by or for and paid for by Hall County to utilize assigned treatment capacity. Said operation and maintenance shall encompass all those services the City provides its own sewer customers including, but not limited to, stream monitoring, facility repair, customer billing, engineering, industrial pretreatment program, permitting, and regulatory compliance, with it being understood by the parties that payment to the City for such services shall be provided from monthly usage rate paid by Hall County Sewer Service District customers.

15.

Design, easement and right of way acquisition, and construction of Hall County facilities not previously identified herein will be carried out for Hall County by Gainesville at cost plus five percent (5%). Hall County shall determine construction priorities and location for all collection sewers and shall reserve the right to verify by certified audit or other means all expenditures related to such construction. Initially, the point of entry for

Hall County District Wastewater into the City's sewer system shall be the City's Pump Station No. 26. Any additional points of entry into the City's system shall be determined by future agreement between the parties.

16.

GaEPD is presently reviewing and modifying the National Pollutant Discharge Elimination System (NPDES) Permits for point source discharge at Gainesville's Flat Creek and Linwood Treatment Plants. Prior to connection of customers in the Hall County Sewer Service District, Hall County shall adopt and abide by all of the requirements GaEPD places on the City of Gainesville as it pertains to the Flat Creek and Linwood NPDES permits as such relate to Hall's Sewer Service District. Hall County shall adopt and abide by all of the requirements GaEPD places on the City of Gainesville in the forthcoming wastewater treatment plant's NPDES permits as well as future modifications GaEPD places on these permits, in a timely fashion.

Additionally, prior to connection of customers in the Hall County Sewer Service District, Hall County shall adopt an Industrial Pretreatment ordinance which shall conform to that of the City of Gainesville to meet requirements imposed by GaEPD. These ordinances shall be based upon the most current Local Discharge Limitations for Gainesville's Treatment Plants as required by the United States Environmental Protection Agency (USEPA) and as approved by GaEPD.

Hall County will adopt, in a timely fashion, all standard policies and necessary ordinances such as a Sewer Use Ordinance, to enhance and ensure all Hall County Sewer Service District customers meet the same GaEPD and USEPA regulations City of Gainesville's customers are required to meet. The cost of upgrades of equipment

and/or facilities required by GaEPD and USEPA regulations shall be prorated according to the capacity used by each party of such equipment and/or facility.

17.

The term of this agreement shall commence as of the date of the execution of the agreement by the last party to sign same and shall continue until either party terminates the agreement but in no event shall such term exceed fifty (50) years from the date of execution hereof. The parties shall have the right to terminate this agreement upon mutual agreement and each shall have the right to terminate upon the breach of the provisions of this agreement by the other if not corrected within 30 days of written notice thereof and upon the approval of the GaEPD. Termination shall be effective upon the 365th day after written receipt of notice of termination and upon approval of the GaEPD. Termination shall relieve the parties of further performance under the agreement but notice of termination shall not relieve either party of obligations undertaken prior to receipt of such notice of termination and the parties shall be entitled to utilize such capacity treatment and waste load allocation as reserved or assigned prior to notice of termination.

18.

Neither party hereto shall, without written consent of the other, assign or transfer this agreement or any rights or obligations hereunder.

19.

The terms of this agreement shall not be altered, amended or modified except in writing signed by duly authorized officers or representatives of Hall County and Gainesville.

20.

This agreement shall be construed under the laws of the State of Georgia.

21.

If any paragraph, subparagraph, sentence, clause, phrase, or any portion of this agreement shall be declared invalid or unconstitutional by any court of competent jurisdiction or if the provisions of any part of this agreement as applied to any particular situation or set of circumstances shall be declared invalid or unconstitutional, such invalidity shall not be construed to effect the portions of this agreement not held to be invalid. It is hereby declared to be the intent of Hall County and Gainesville to provide for separable and divisible parts, and they do hereby adopt any and all parts hereof as may not be held invalid for any reason.

22.

Any notice or communications hereunder shall be in writing and shall be deemed to have been delivered when deposited in the United States mail, registered or certified, addressed as follows:

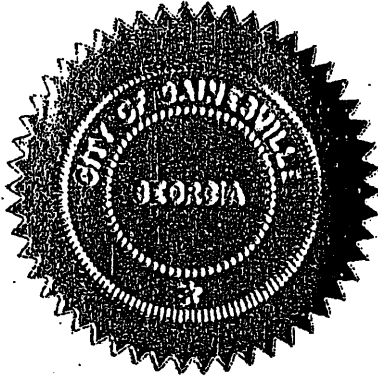
City of Gainesville
P. O. Box 2496
Gainesville, GA 30503

Hall County Commission
P. O. Box 1435
Gainesville, GA 30503

or to such other address as either party may designate for itself by written notice to the other given from time to time, in the matter herein provided.

IN WITNESS WHEREOF, the parties hereto, by and through their Chief

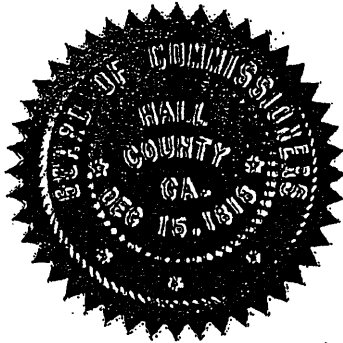
Executive Officers, have executed this agreement the date and year above written.



CITY OF GAINESVILLE, GEORGIA

By: Mystle W. Figueras
Mayor
By: Ernie D. Lawson
By: George Wangemann
By: abstained
By: Robert R. Samiak

ATTEST: Nenue Jordan
City Clerk

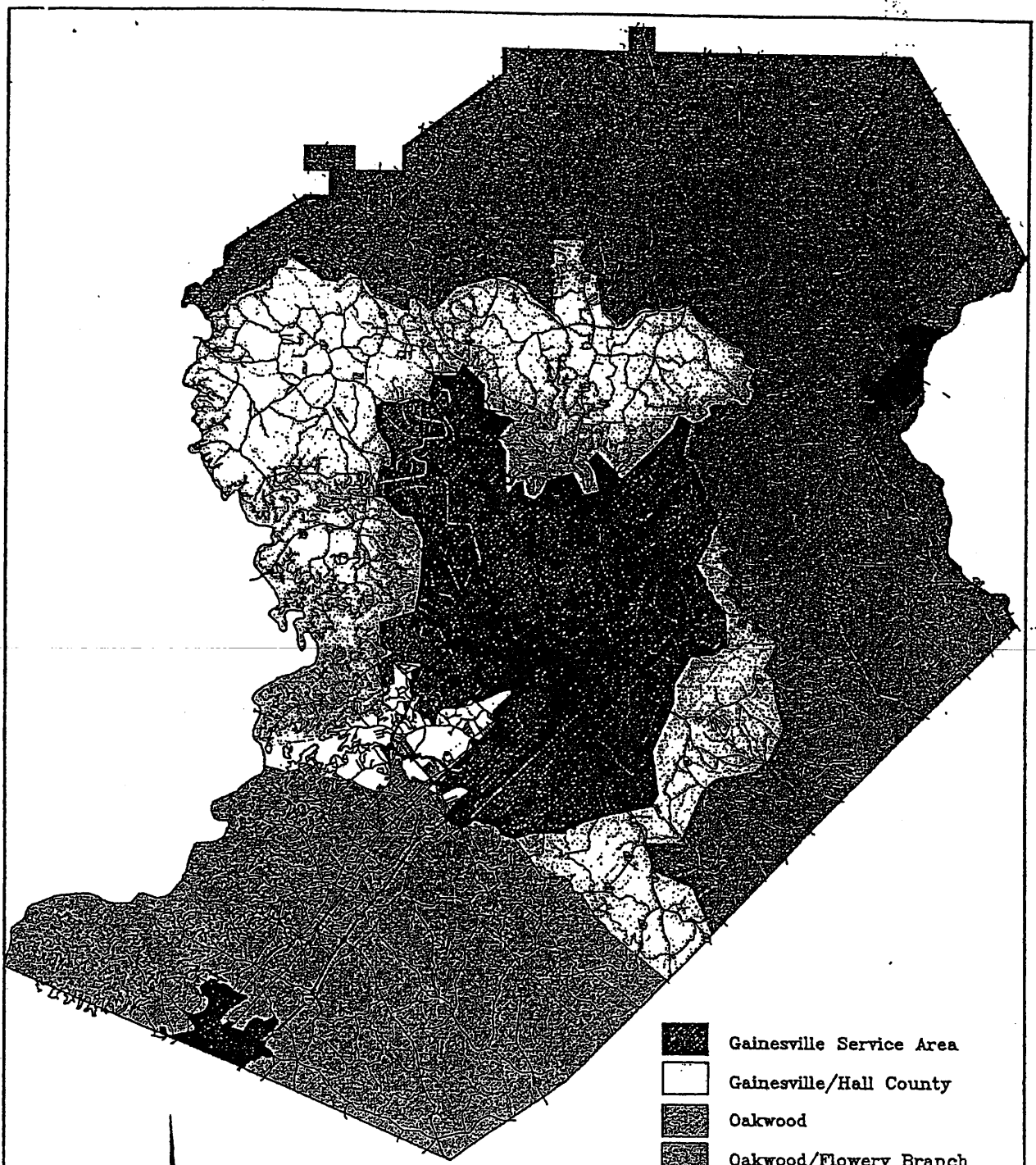


HALL COUNTY, GEORGIA

By: [Signature]
Chairman
By: [Signature]
By: [Signature]
By: [Signature]

By: Abner H. Moch
ATTEST: Michelle Smallwood
County Clerk

39362-1/#2
20052.102
11/20/02











-  Gainesville Service Area
-  Gainesville/Hall County
-  Oakwood
-  Oakwood/Flowery Branch
-  Buford
-  Hall County NE
-  Lula
-  Oakwood/Gainesville



EXHIBIT "A"
Sewer Service Districts

EXHIBIT "B"

Dates of Capacity Availability and Assignment of Waste Load Allocation:	Assignment Wastewater Treatment Capacity	Assignment Waste Load Allocation
Upon execution of this agreement	300,000 GPD	300,000 GPD
July 1, 2003	300,000 GPD	300,000 GPD
July 1, 2004	400,000 GPD	400,000 GPD
Total	<u>1,000,000 GPD</u>	<u>1,000,000 GPD</u>

Payment Schedule:

Upon execution of this agreement:	
Capacity Assignment	\$3,180,000
Reimbursement Capital Costs	1,231,814.10
<hr/>	
July 1, 2003	
Capacity Assignment	\$ 3,180,000
Reimbursement Capital Costs	1,231,841.10 plus *CPI
July 1, 2004	
Capacity Assignment	\$ 4,240,000
Reimbursement Capital Costs	1,642,418.80 plus *CPI
Total	<u>\$14,706,047 plus *CPI</u>

The parties hereto reserve the right to amend the assignment of wastewater treatment capacity and waste load allocation as necessary from time to time as long as the parties mutually agree to such amendment and any such amendment shall be on writing and made a part hereof.

*Consumer Price Index percentage of increase or decrease: the actual cost shall be subject to adjustment at the time of payment as follows: Hall County shall additionally pay Gainesville an amount equal to such percentage of the "Reimbursement Capital Cost" as is proportionate to the change if any, in the National Consumer Price Index as published by the United States Bureau of Labor Standards from its level on the date of payment (July 1 of 2003 and 2004) and on the date of execution of this agreement.

APPENDIX C

11/11/05
COPY

**HALL COUNTY - GAINESVILLE
INTERGOVERNMENTAL AGREEMENT AS TO UTILIZATION OF A PORTION OF
1,000,000 GALLONS PER DAY SANITARY SEWER TREATMENT CAPACITY
(MULBERRY CREEK SERVICE AREA)**

This Intergovernmental Agreement, entered into as of the 1st day of November, 2005, by and between HALL COUNTY, GEORGIA, a political subdivision of the State of Georgia, by and through its duly authorized governing authority, the Board of Commissioners of Hall County, Georgia, (hereinafter referred to as "Hall County"), and the CITY OF GAINESVILLE, a municipal corporation by and through its duly authorized governing authority, the City Council of Gainesville, Georgia, (hereinafter referred to as "Gainesville"), the purpose of which is to reassign a portion of the 1,000,000 gallons per day (gpd) sewage treatment capacity assigned by Gainesville to Hall County by that certain intergovernmental agreement entered into between the parties on the 23rd day December, 2002, for use by Hall County in the development of a sewer system in Southern Hall County. To such extent this intergovernmental agreement will address, amend and supersede in relevant part some terms and provisions of the intergovernmental agreement between the parties dated the 23rd day of December, 2002; however, those terms and provisions of such previous intergovernmental agreement between the parties which have not been addressed, amended or superseded by the present agreement shall continue in full force and effect. This agreement as it relates to such issue shall provide as follows:

WHEREAS, the intergovernmental agreement as to assignment of 1,000,000 gpd sewage treatment capacity and the assignment of 1,000,000 gpd waste load allocation between Hall County and the City of Gainesville as entered into on the 23rd

day of December, 2002, primarily made available to Hall County sewage treatment capacity for use in North Hall County along the Highway 365 corridor; and

WHEREAS, Hall County now desires to construct a sewer system in Southern Hall County within an area known as the "Mulberry Creek Service Area"; and

WHEREAS, at the request of Hall County, Gainesville has agreed to reassign a portion of the previously purchased sewage treatment capacity to Hall County for use in the operation of a Hall County Sewer System within that area known as the "Mulberry Creek Service Area"; and

WHEREAS, Hall County, the City of Gainesville and other municipalities within Hall County have agreed to and adopted specific sewer service districts pursuant to House Bill 489, O.C.G.A. § 36-70-20 et. seq.; and

WHEREAS, the "Mulberry Creek Service Area" is within that area designated as the Hall County – Municipality Partnership Service District wherein Hall County is authorized to provide sewer service independently or by agreement with one or more of the municipalities within Hall County; and

WHEREAS, there has been shown to be a need for the provision of sewer service to the "Mulberry Creek Service Area".

NOW, THEREFORE, it is agreed between Hall County and Gainesville as follows:

1.

Gainesville, Hall County and other municipalities within Hall County have agreed to the designation of certain sewer service districts under the provisions of House Bill 489, (O.C.G.A. § 36-70-20 et. seq.). Designated within such sewer service districts are

areas reserved for Hall County – Municipality Partnership Sewer Development, i.e. Hall County – Municipality Partnership Service Districts.

2.

Hall County, in accordance with its Comprehensive Land Use Plan, its zoning authority, and its desire to encourage commercial, industrial and other development in or about that area in South Hall County designated as the "Mulberry Creek Service Area", desires to construct and maintain a public sewer system to serve such area with such system being dedicated primarily to commercial, industrial and other uses to include some residential.

3.

Under that certain intergovernmental agreement dated the 23rd day of December, 2002, Hall County and Gainesville agreed to transfer and assign from Gainesville to Hall County 1,000,000 gpd of sewage treatment capacity, the disposition of which was primarily for use along the Highway 365 corridor.

4.

Hall County now desires to utilize a portion of the 1,000,000 gpd sewage treatment capacity as previously transferred and assigned for use in the creation of a sewer system designed to serve the "Mulberry Creek Service Area". This reallocation will require the connection of the Hall County Sewer System to the Gainesville System at points or locations differing from those proposed in the previous agreement of December 23, 2002, between the parties. Unless the terms of this Agreement are amended or modified as provided in paragraph 17 hereof, under no conditions shall the

flow from the Mulberry Creek Service Area and the flow from the State Route 365 Service Area exceed 1,000,000 gpd sewage treatment capacity.

5.

Connection to the Gainesville Sewage Treatment System by the Hall County Sewer System shall be at certain points and locations as shall be agreed to between the parties. For the purpose of measuring wastewater flows received by Gainesville from Hall County sewer customers and in order to determine when the maximum capacities are reached pursuant to this agreement, a master meter shall be installed, owned, operated, and maintained by Gainesville and paid for by Hall County. Readings of the master meter shall be made on a monthly basis by the City. Hall County shall have the right to verify meter readings at any time. The furnishing of sewage treatment service will be measured by metering equipment of standard manufacture. The meter shall register not more than 2% slow or fast to be deemed to be correct. Gainesville, at its expense, shall periodically inspect and test the master meter at intervals of no greater than every five (5) years.

6.

Gainesville shall provide billing service for all Hall County "Mulberry Creek Service Area" sanitary sewer customers. Such costs shall include but not be limited to the costs of operations, maintenance, management, collection and treatment of waste water. Costs shall also include any fines or penalties associated or levied with the Mulberry Creek Service Area. The monthly usage rate (commodity charge) shall be determined by an examination of the actual costs to provide sanitary sewer service

within the service area. Such rate shall be examined and adjusted at intervals not to exceed two (2) years.

It is understood and expressly agreed to by both parties hereto that the district shall be self supporting. At no time shall the customers of the "Mulberry Creek Service Area" subsidize other customers of the Gainesville sanitary sewer system or said "other customers" subsidize service within the "Mulberry Creek Service Area". Gainesville shall confer with Hall County on the adjustment to such rate, with final approval being reserved to the City.

In recognition of payment by Hall County to the City of Gainesville of SPLOST funding for treatment capacity as provided by previous intergovernmental agreement (dated December 23, 2002) it is expressly agreed by the parties the capital component (inclusive of both principal and interest) of the commodity charge paid by the customers within the "Mulberry Creek Service Area" for treatment shall exclude the treatment costs for capacity acquired by Hall County under said previous agreement. However, the pro-rata cost of any future water quality improvements made to the treatment plant shall be paid by customers of the Mulberry Creek Service Area.

It is further agreed the "Mulberry Creek Service Area" rate shall be as a minimum equal to that of the inside City of Gainesville sanitary sewer rate.

7.

Hall County's "Mulberry Creek Service Area" sewer customers shall be required to pay for such services (including but not limited to late fees, returned check fees, industrial surcharges and tap fees, etc), and for work performed by Gainesville on Hall County's behalf in the same manner and procedure applicable to other sewer users of

City's system. Additionally, Hall County sewer customers shall be responsible for all normal and customary fees and charges as are customers within the Gainesville city limits.

8.

Hall County may implement connection (or impact) fees and other appropriate charges to be applicable to customers within the "Mulberry Creek Service Area" sewer system. Said fees shall be levied by Hall County and collected by Gainesville on Hall County's behalf. Said fees shall be paid over to Hall County within 45 days of collection.

9.

It is agreed that efficiency dictates all equipment used by either party to effect the transfer of wastewater from one entity's lines and equipment to the other's lines and equipment shall be compatible with and complimentary to the equipment of the other party, including but not limited to all meters, piping, fitting, pumps, and couplings. In recognition of the costs of warehousing pipes, pumps, fittings and other materials necessary for the efficient maintenance of the sewage collection system all construction in either party's district shall conform to the "City of Gainesville Standard Specifications for the Construction of Water Mains and Sanitary Sewers, latest edition" and future amendments thereto.

10.

Except as may be provided herein, the parties further agree that during the pendency of this agreement, wastewater capacity allocations and waste load allocations

sought by either party from the State of Georgia or the United States Government shall be based upon their respective Sewer Service Districts.

11.

All sanitary sewers, pump stations, meters and related equipment for the provision of sewer service within the "Mulberry Creek Service Area" shall be owned by Hall County. All third parties constructing or causing to have constructed sanitary sewers and related equipment within such area shall transfer the ownership of such sewers and equipment to Hall County or that party to whom such area is assigned under the provisions of House Bill 489. All sewer lines and equipment shall be installed in accordance with paragraph 9 preceding. Each party shall be responsible for the cost of relocating their facilities (including but not limited to sewer lines, pump stations, meters and related equipment) as may be necessary due to transportation improvements in its assigned Sewer Service District in which it located such facilities. Notwithstanding the foregoing, any jointly funded facilities shall be jointly relocated with costs being prorated by the capacity used by each party using such facilities.

12.

It is acknowledged and understood that the City will be responsible for the operation and maintenance of the County sanitary sewer collection system to be built by or for and paid for by Hall County to utilize assigned treatment capacity. Said operation and maintenance shall encompass all those services the City provides its own sewer customers including, but not limited to, stream monitoring, facility repair, customer billing, engineering, industrial pretreatment program, permitting, and regulatory compliance, with it being understood by the parties that payment to the City for such

services shall be provided from monthly usage rate paid by Hall County Sewer Service District customers.

13.

Design, easement and right of way acquisition, and construction of Hall County facilities not previously identified herein will be carried out for Hall County by Gainesville at cost plus five percent (5%). Hall County shall determine construction priorities and location for all collection sewers and shall reserve the right to verify by certified audit or other means all expenditures related to such construction. Initially, the point of entry for Hall County – Municipality Service District Wastewater into the City's sewer system shall be the City's Flat Creek Plant. Any additional points of entry into the City's system shall be determined by future agreement between the parties.

14.

GaEPD is presently reviewing and modifying the National Pollutant Discharge Elimination System (NPDES) Permits for point source discharge at Gainesville's Flat Creek and Linwood Treatment Plants. Prior to connection of customers within the "Mulberry Creek Service Area" Hall County shall adopt and abide by all of the requirements GaEPD places on the City of Gainesville as it pertains to the Flat Creek and Linwood NPDES permits as such relate to Hall's Sewer System. Of special note the County shall certify to the city/state it is in compliance with watershed protection regulations in all drainage basins within unincorporated Hall County in which the City provides sanitary sewer service. These Watershed protection regulations include all requirements of GaEPD or other state agencies as may be applicable. Hall County shall adopt and abide by all of the requirements GaEPD places on the City of

Gainesville in the forthcoming wastewater treatment plant NPDES permits as well as future modifications GaEPD places on these permits, in accordance with GaEPD guidelines.

Additionally, prior to connection of customers within the Mulberry Creek Service Area, Hall County shall adopt an Industrial Pretreatment ordinance which shall conform to that of the City of Gainesville to meet requirements imposed by GaEPD. These ordinances shall be based upon the most current Local Discharge Limitations for Gainesville's Treatment Plants as required by the United States Environmental Protection Agency (USEPA) and as approved by GaEPD.

Hall County will adopt, in a timely fashion, all standard policies and necessary ordinances such as a Sewer Use Ordinance, to enhance and ensure all "Mulberry Creek Service Area" customers meet the same GaEPD and USEPA regulations City of Gainesville's customers are required to meet. Hall County will update the aforementioned policies or requirements as determined by GaEPD or the City. The cost of upgrades of equipment and/or facilities required by GaEPD and USEPA regulations shall be prorated according to the capacity used by each party of such equipment and/or facility.

15.

The term of this agreement shall commence as of the date of the execution of the agreement by the last party to sign same and shall continue until either party terminates the agreement but in no event shall such term exceed fifty (50) years from the date of execution hereof. The parties shall have the right to terminate this agreement upon mutual agreement and each shall have the right to terminate upon the breach of the

provisions of this agreement by the other if not corrected within 30 days of written notice thereof and upon the approval of the GaEPD. Termination shall be effective upon the 365th day after written receipt of notice of termination and upon approval of the GaEPD. Termination shall relieve the parties of further performance under the agreement but notice of termination shall not relieve either party of obligations undertaken prior to receipt of such notice of termination and the parties shall be entitled to utilize such capacity treatment and waste load allocation as reserved or assigned prior to notice of termination.

16.

Neither party hereto shall, without written consent of the other, assign or transfer this agreement or any rights or obligations hereunder.

17.

The terms of this agreement shall not be altered, amended or modified except in writing signed by duly authorized officers or representatives of Hall County and Gainesville.

19.

This agreement shall be construed under the laws of the State of Georgia.

20.

If any paragraph, subparagraph, sentence, clause, phrase, or any portion of this agreement shall be declared invalid or unconstitutional by any court of competent jurisdiction or if the provisions of any part of this agreement as applied to any particular situation or set of circumstances shall be declared invalid or unconstitutional, such invalidity shall not be construed to effect the portions of this agreement not held to be

invalid. It is hereby declared to be the intent of Hall County and Gainesville to provide for separable and divisible parts, and they do hereby adopt any and all parts hereof as may not be held invalid for any reason.

21.

Any notice or communications hereunder shall be in writing and shall be deemed to have been delivered when deposited in the United States mail, registered or certified, addressed as follows:

City of Gainesville
P. O. Box 2496
Gainesville, GA 30503

Hall County Commission
P. O. Box 1435
Gainesville, GA 30503

or to such other address as either party may designate for itself by written notice to the other given from time to time, in the matter herein provided.

23.

Notwithstanding the terms and conditions agreed to by the parties as contained in this agreement, the previous intergovernmental agreement between the parties dated the 23rd day of December, 2002, shall continue to be of full force and effect except as may be modified, superseded or amended by this current intergovernmental agreement.

IN WITNESS WHEREOF, the parties hereto, by and through their Chief

Executive Officers, have executed this agreement the date and year above written.

CITY OF GAINESVILLE, GEORGIA

By: George Wangemann
Mayor

By: [Signature]

By: Robert L. Hamrick

By: Myrtle W. Figure

By: Ruth H. Bruner

ATTEST: Debra O. Jordan
City Clerk

HALL COUNTY, GEORGIA

By: [Signature]
Chairman

By: _____

By: Bill Powell

By: [Signature]

By: Albion H. Meese

ATTEST: Michelle Smallwood
County Clerk

94100-1
20052.102
9/22/05

RESOLUTION BR-2005 - 38

Hall County – Gainesville Intergovernmental Agreement as to Utilization of a Portion
of 1,000,000 gallons per day Sanitary Sewer Treatment Capacity
(Mulberry Creek Service Area)

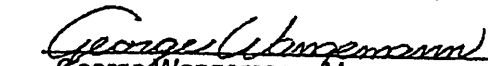
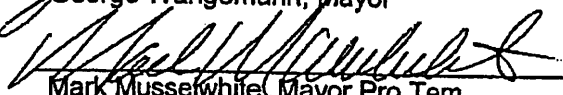
WHEREAS, Resolution BR-2002-633 was approved on December 23, 2002 by the Gainesville City Council which assigned 1,000,000 gallons per day of sewage treatment capacity to Hall County to be utilized to provide sewer service in the county's sewer district on the Highway 365 corridor; and

WHEREAS, Hall County now desires to utilize a portion of this previously assigned treatment capacity to develop a sewer system in the Mulberry Creek Service Area in South Hall County, with said system to be operated and maintained by the City of Gainesville; and

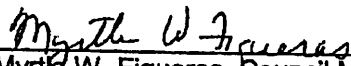
WHEREAS, an Intergovernmental Agreement has been approved authorizing this transfer of sanitary sewer capacity by the Hall County Board of Commissioners.

NOW, THEREFORE, BE IT RESOLVED THAT the Gainesville City Council hereby authorizes the Mayor City Council to sign the Hall County – Gainesville Intergovernmental Agreement as to Utilization of a Portion of 1,000,000 gallons per day Sanitary Sewer Treatment Capacity (Mulberry Creek Service Area).

ADOPTED this 6th day of September, 2005.


George Wangemann, Mayor

Mark Musserwhite, Mayor Pro Tem


Robert L. Hamrick, Council Member


Myrtle W. Figueras, Council Member


Ruth Bruner, Council Member

ATTEST:


Denise O. Jordan, City Clerk





CITY OF GAINESVILLE
CITY MANAGER'S OFFICE

Denise Jordan
City Clerk

Post Office Box 2496
Gainesville, Georgia 30503-2496
Telephone: 770 . 535 . 6862
Fax: 770 . 297 . 5405
Web Site: www.gainesville.org

CERTIFIED RESOLUTION

STATE OF GEORGIA
COUNTY OF HALL

This is to certify that I am City Clerk of the City Council of the City of Gainesville. As such, I keep its official records, including its minutes, and in that capacity do certify that Resolution BR-2005-38 was adopted on September 6, 2005 with documentation of such action recorded in the official minutes.

Witness of my official signature and seal this 6th day of September, 2005.


Denise O. Jordan, City Clerk

(Seal)



ROCHESTER & ASSOCIATES

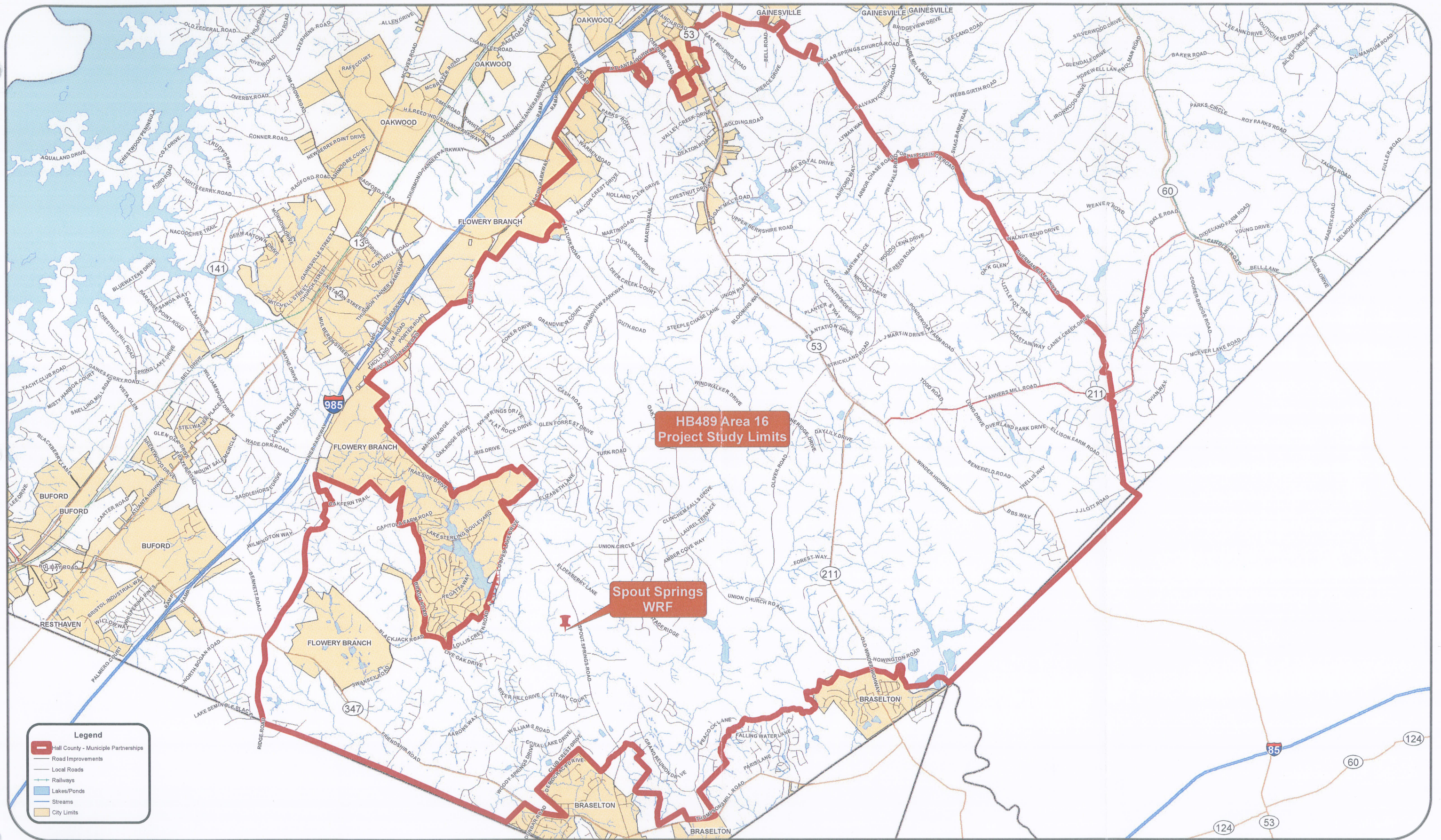
MEMORANDUM

To: Brendan Thompson
JJ & G
From: Brian Rochester
Date: July 28, 2008
Re: Growth Assumptions – South Hall

We interviewed some of our clients with large developments within the bounds of the South Hall County Sanitary Sewer Unit Rate Study. We asked them to look at their internal growth projections in regard to their sanitary sewer needs for the next several years. They all have stated that the current economic conditions have made their estimates less predictable, but they did provide the following:

PROJECT	Sanitary Sewer Taps Per Year				
	2009	2010	2011	2012	2013
Reunion	36	60	60	60	60
Sterling on the Lake	80	90	100	115	130
Village of Deaton Creek	240	300	250	100	100
Total =	356	450	410	275	290

This should give you an idea of what at least three of the major builders in the area are estimating their needs to be over the next several years. If you have any questions or need additional information please do not hesitate to call.



**HB489 Area 16
Project Study Limits**

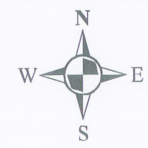
**Spout Springs
WRF**

Legend

- Hall County - Munciple Partnerships
- Road Improvements
- Local Roads
- Railways
- Lakes/Ponds
- Streams
- City Limits

Mulberry Creek Regional Sewerage Facility

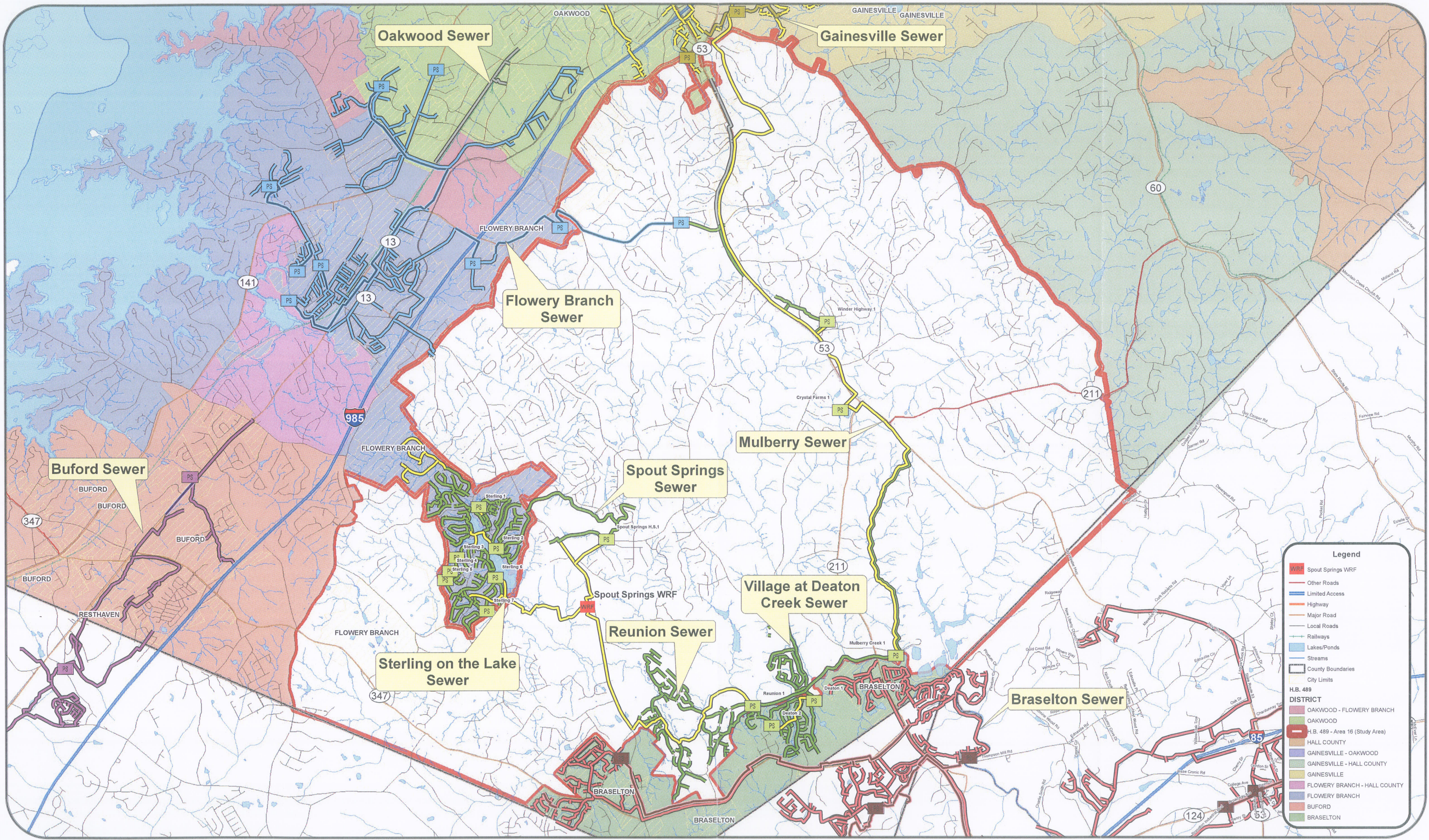
Limits of Study Area
Hall County, Georgia



2,500 1,250 0 2,500 Feet
Map designed by Rochester & Associates, Inc. in April 2008.
All existing information obtained from Hall County, Georgia GIS.
Revised: April 21, 2008

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**Rochester
& Associates, Inc.**
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(770)718.0600 (770)718.9090 Fax www.rochester-assoc.com



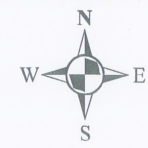
Legend

- WRF Spout Springs WRF
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Railways
- Lakes/Ponds
- Streams
- County Boundaries
- City Limits

H.B. 489

DISTRICT

- OAKWOOD - FLOWERY BRANCH
- OAKWOOD
- HALL COUNTY
- H.B. 489 - Area 16 (Study Area)
- GAINESVILLE - OAKWOOD
- GAINESVILLE - HALL COUNTY
- GAINESVILLE
- FLOWERY BRANCH - HALL COUNTY
- FLOWERY BRANCH
- BUFORD
- BRASELTON



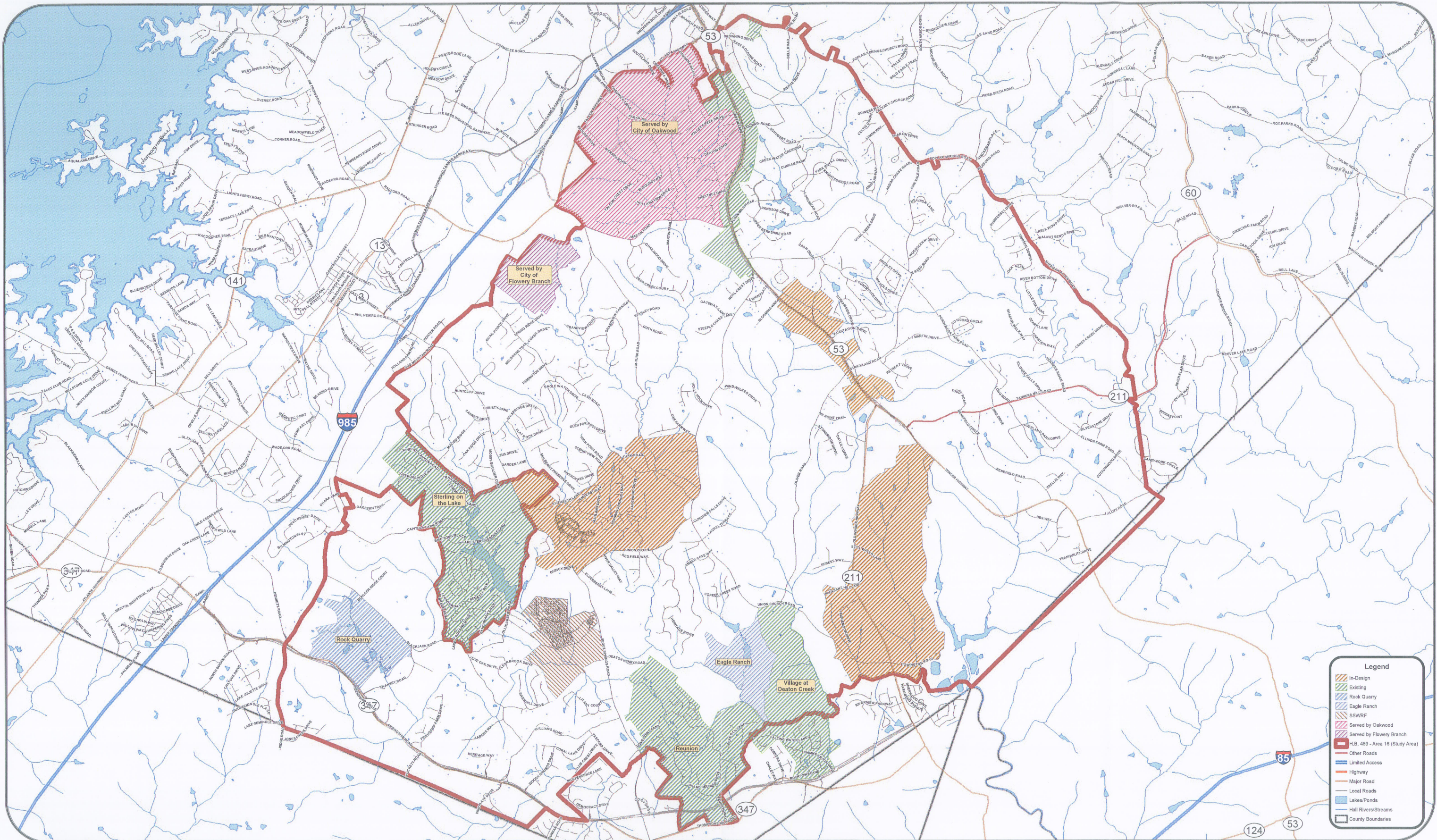
2,600 1,300 0 2,600 Feet
 Map designed by Rochester & Associates, Inc. in April 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

Mulberry Creek Regional Sewerage Facility

Existing/Under Construction/Under Design Sewer Facility
 Hall County, Georgia

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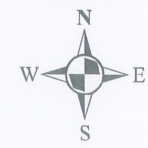
Legend

- In-Design
- Existing
- Rock Quarry
- Eagle Ranch
- SSWRF
- Served by Oakwood
- Served by Flowery Branch
- H.B. 489 - Area 16 (Study Area)
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Lakes/Ponds
- Hall Rivers/Streams
- County Boundaries

South Hall Unit Rate Project - CIP Study

Area 16 - Current Status of Service Area

Hall County, Georgia



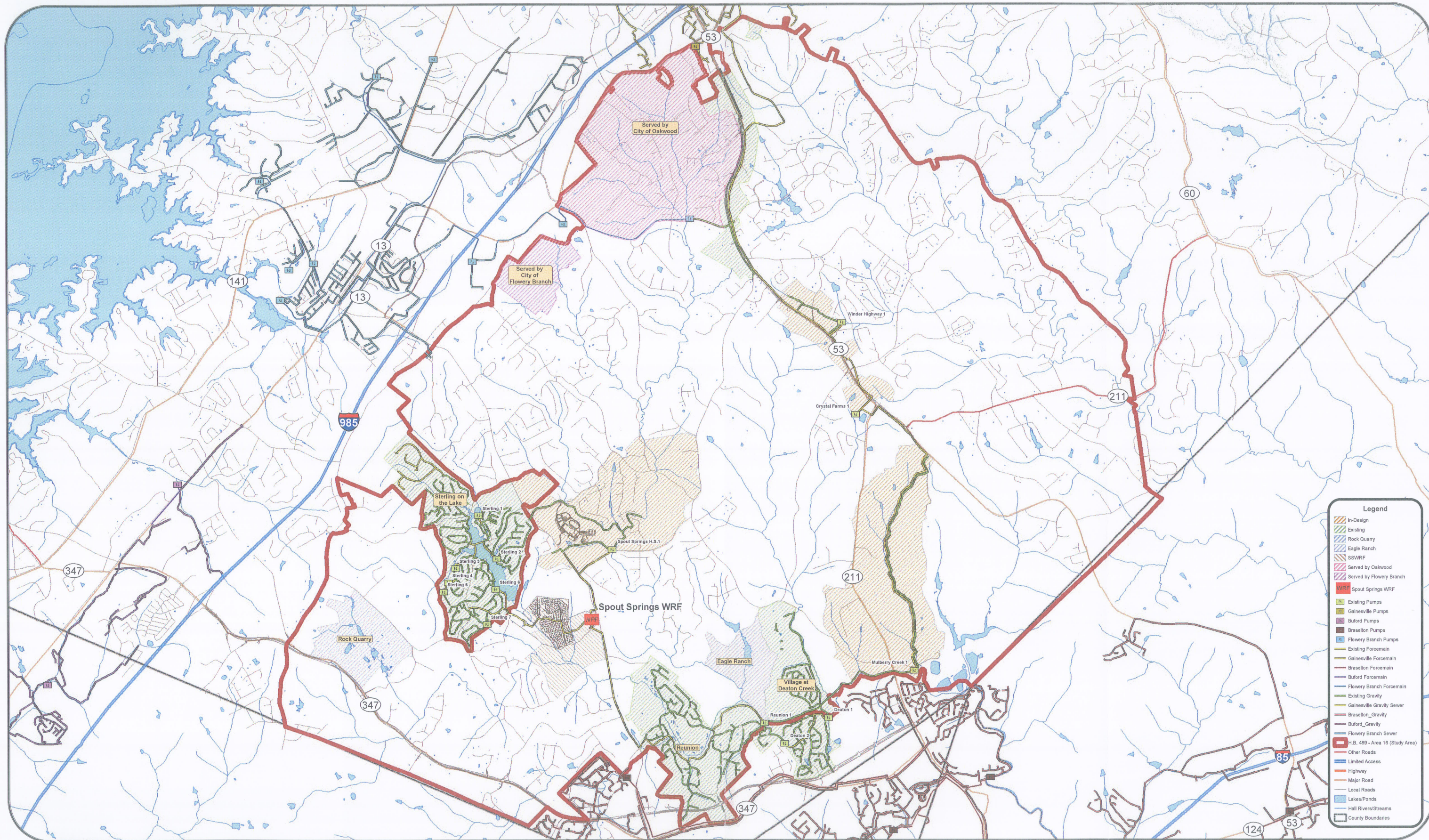
2,500 1,250 0 2,500 Feet

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All existing information obtained from Hall County, Georgia GIS.
Revised: August 12, 2008

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Legend

- In-Design
- Existing
- Rock Quarry
- Eagle Ranch
- SSWRF
- Served by Oakwood
- Served by Flowery Branch
- Spout Springs WRF
- Existing Pumps
- Gainesville Pumps
- Buford Pumps
- Braselton Pumps
- Flowery Branch Pumps
- Existing Forcemain
- Gainesville Forcemain
- Braselton Forcemain
- Buford Forcemain
- Flowery Branch Forcemain
- Existing Gravity
- Gainesville Gravity Sewer
- Braselton_Gravity
- Buford_Gravity
- Flowery Branch Sewer
- H.B. 489 - Area 16 (Study Area)
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Lakes/Ponds
- Hall Rivers/Streams
- County Boundaries

South Hall Unit Rate Project - CIP Study

Area 16 - Existing, In-Construction, & In-Design Sewer Facility

Hall County, Georgia



2,500 1,250 0 2,500 Feet

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Revised: August 12, 2008

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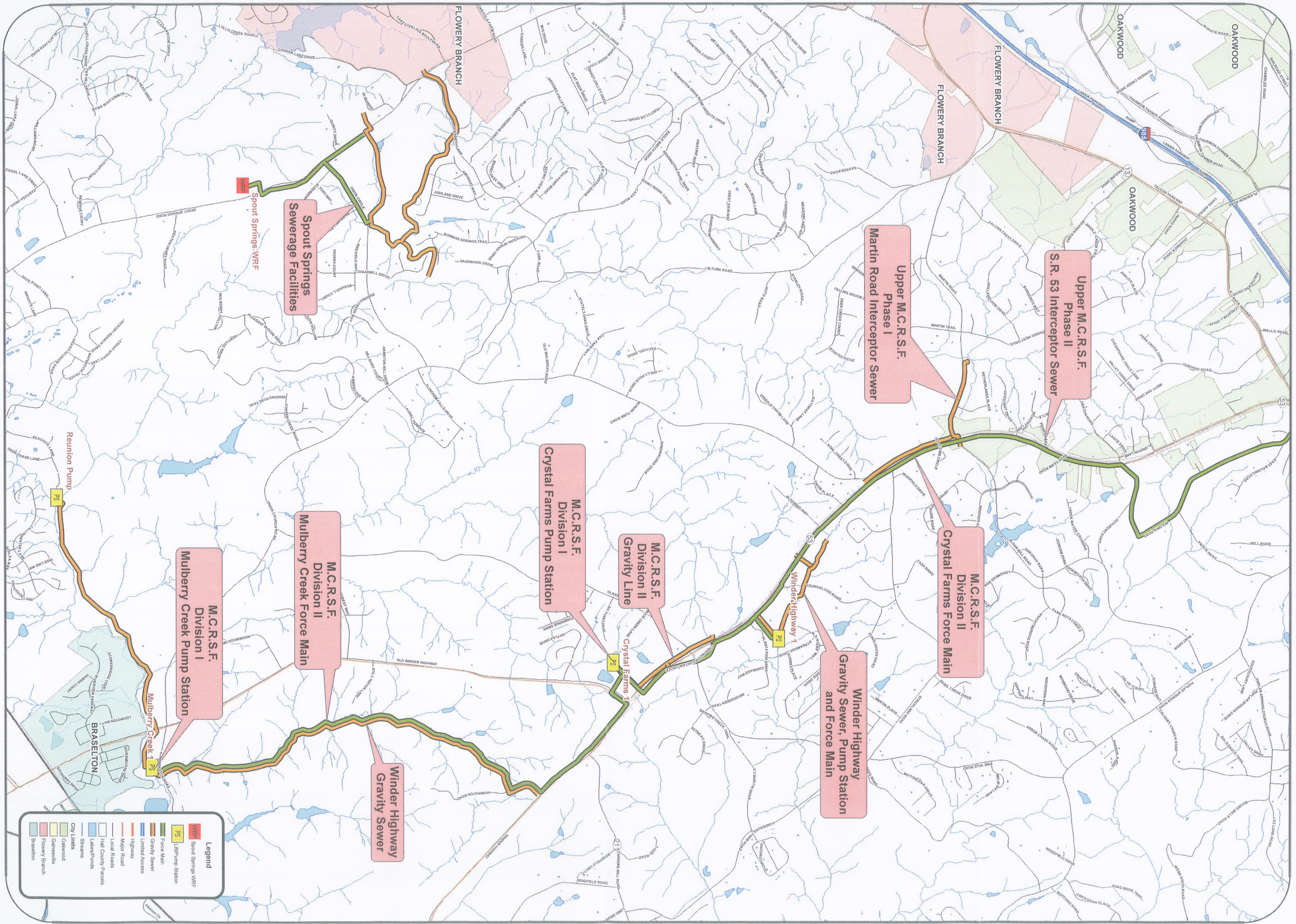
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Map designed by Rochester & Associates, Inc. in April 2008.
All existing information obtained from Hall County Georgia GIS.
Revision: April 30, 2008 by LJA

Sewer Design/Construction Overview

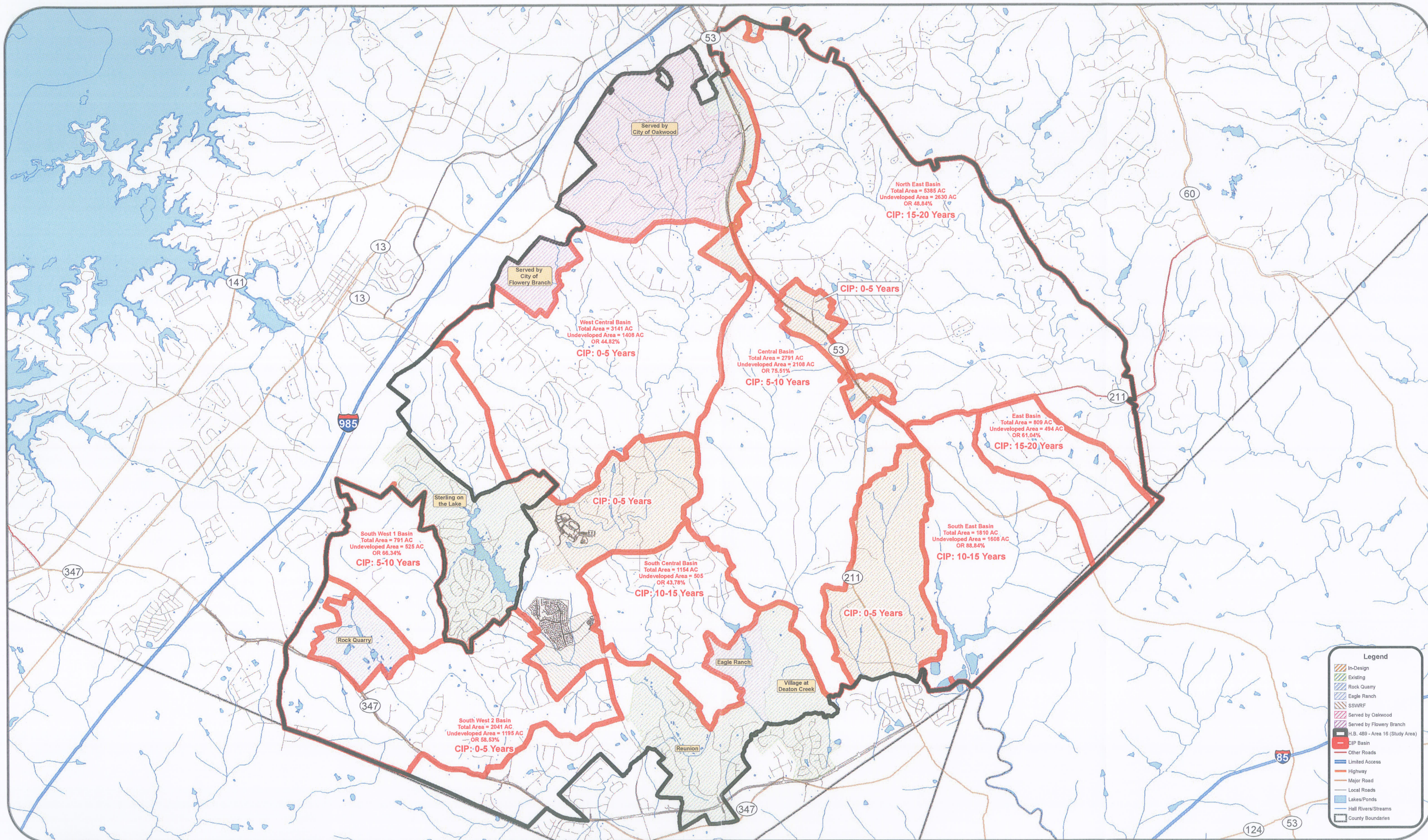
South Hall County, Georgia



Legend

- WRF Spout Springs WRF
- PS Lift/ump Station
- Force Main
- Gravity Sewer
- United Access
- Highway
- Major Road
- Local Roads
- Hall County Parcels
- Streams
- Lakes/Ponds
- City Limits
- Oakwood
- Gainesville
- Flowery Branch
- Braselton

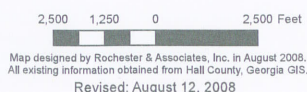
Rochester & Associates, Inc.
425 Oak Street N.W. | Chatsworth, Georgia 30601
(770) 713-0600 | (770) 713-5090 Fax | www.rochester-assoc.com



South Hall Unit Rate Project - CIP Study

Basins Used in CIP Study & Basin Planning Phases

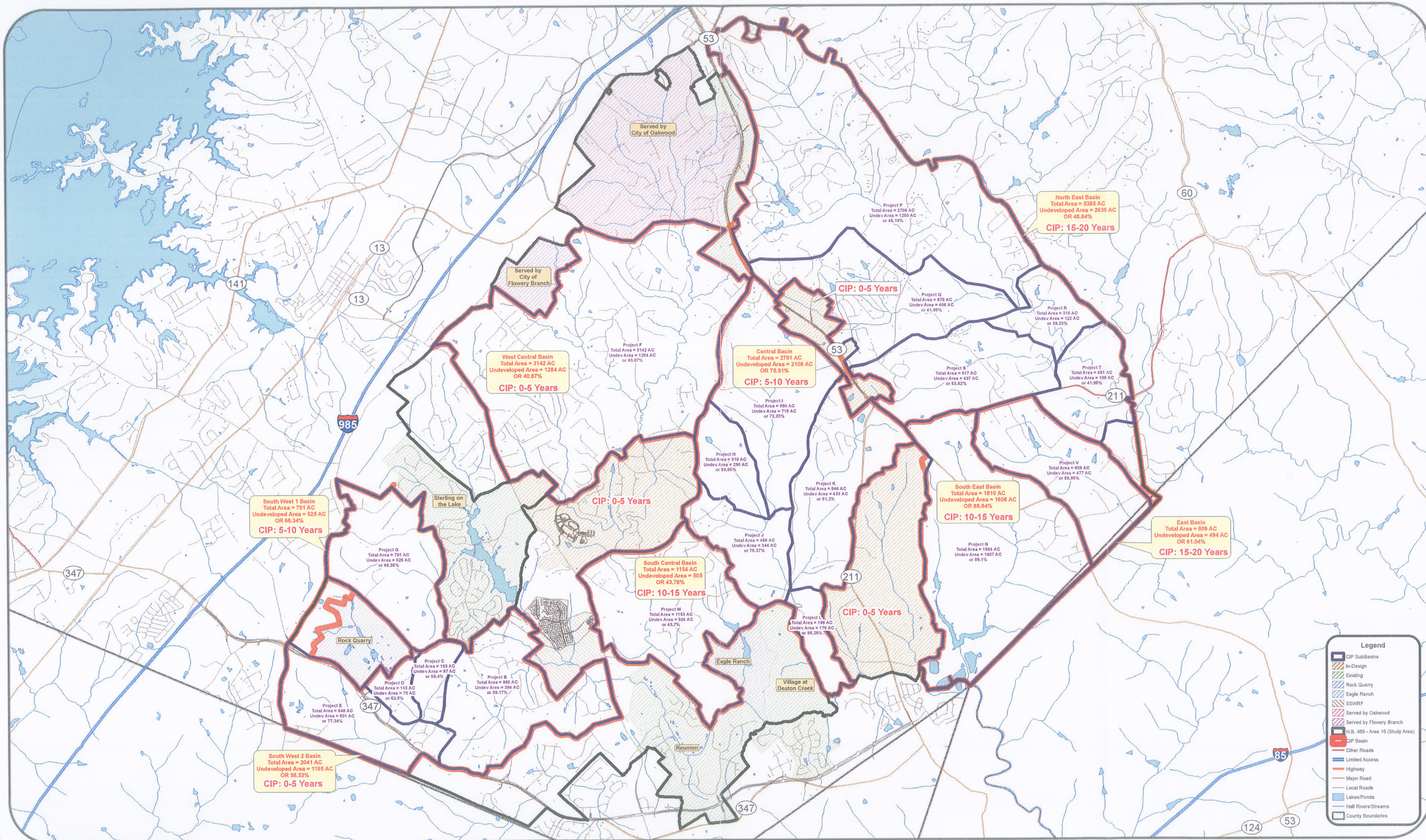
Hall County, Georgia



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Legend

- CIP SubBasins
- In-Design
- Existing
- Rock Quarry
- Eagle Ranch
- SSWRF
- Served by Oakwood
- Served by Flowery Branch
- H.B. 489 - Area 16 (Study Area)
- CIP Basin
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Lakes/Ponds
- Hall Rivers/Streams
- County Boundaries



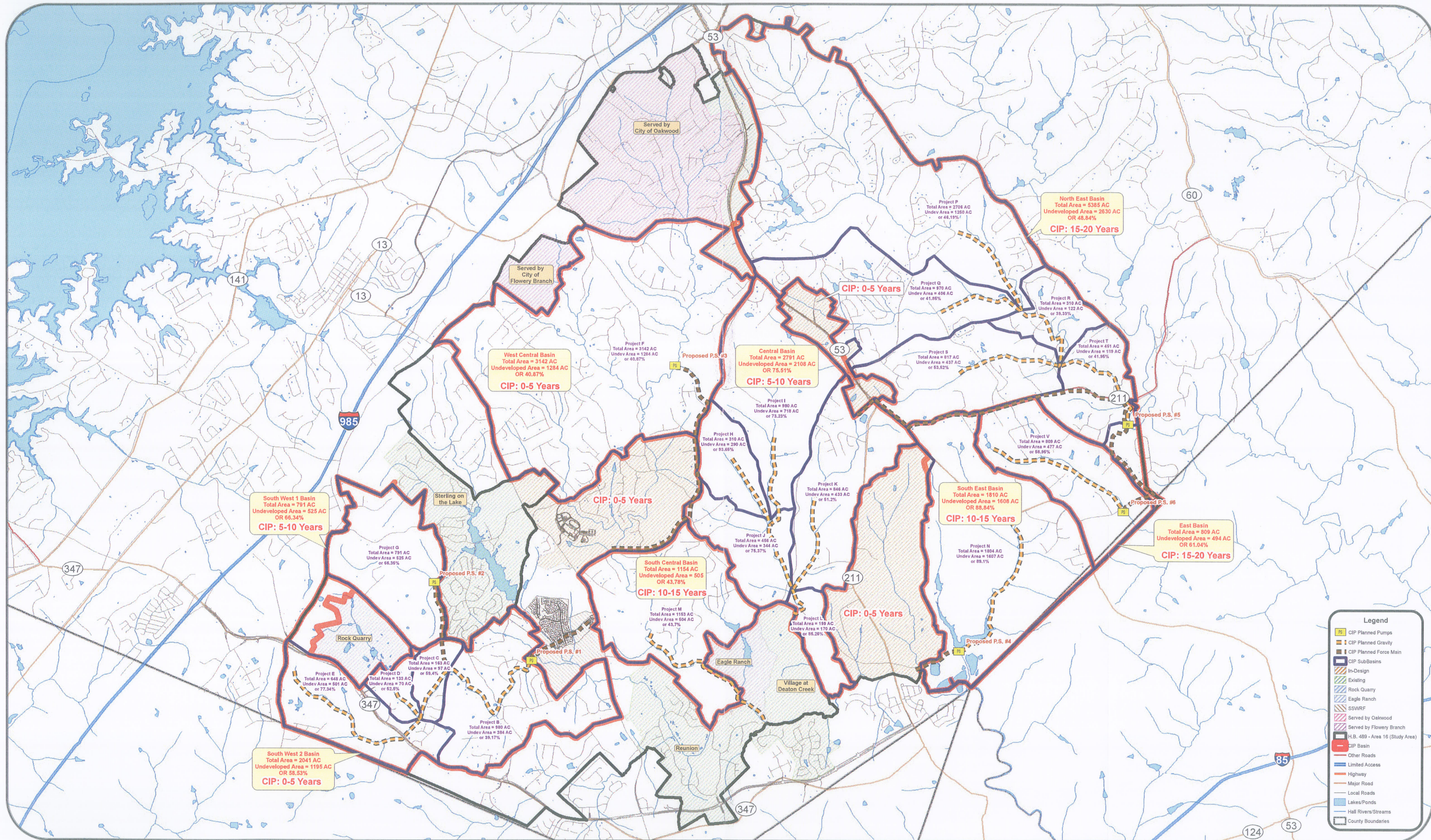
Map designed by Rochester & Associates, Inc. in August 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

South Hall Unit Rate Project - CIP Study

Project Basin Divisions Used within CIP Basins
 Hall County, Georgia

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Legend

- CIP Planned Pumps
- CIP Planned Gravity
- CIP Planned Force Main
- CIP SubBasins
- In-Design
- Existing
- Rock Quarry
- Eagle Ranch
- SSWRF
- Served by Oakwood
- Served by Flowery Branch
- H.B. 489 - Area 16 (Study Area)
- CIP Basin
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Lakes/Ponds
- Hall Rivers/Streams
- County Boundaries

South Hall Unit Rate Project - CIP Study

Sewer CIP Design Layout

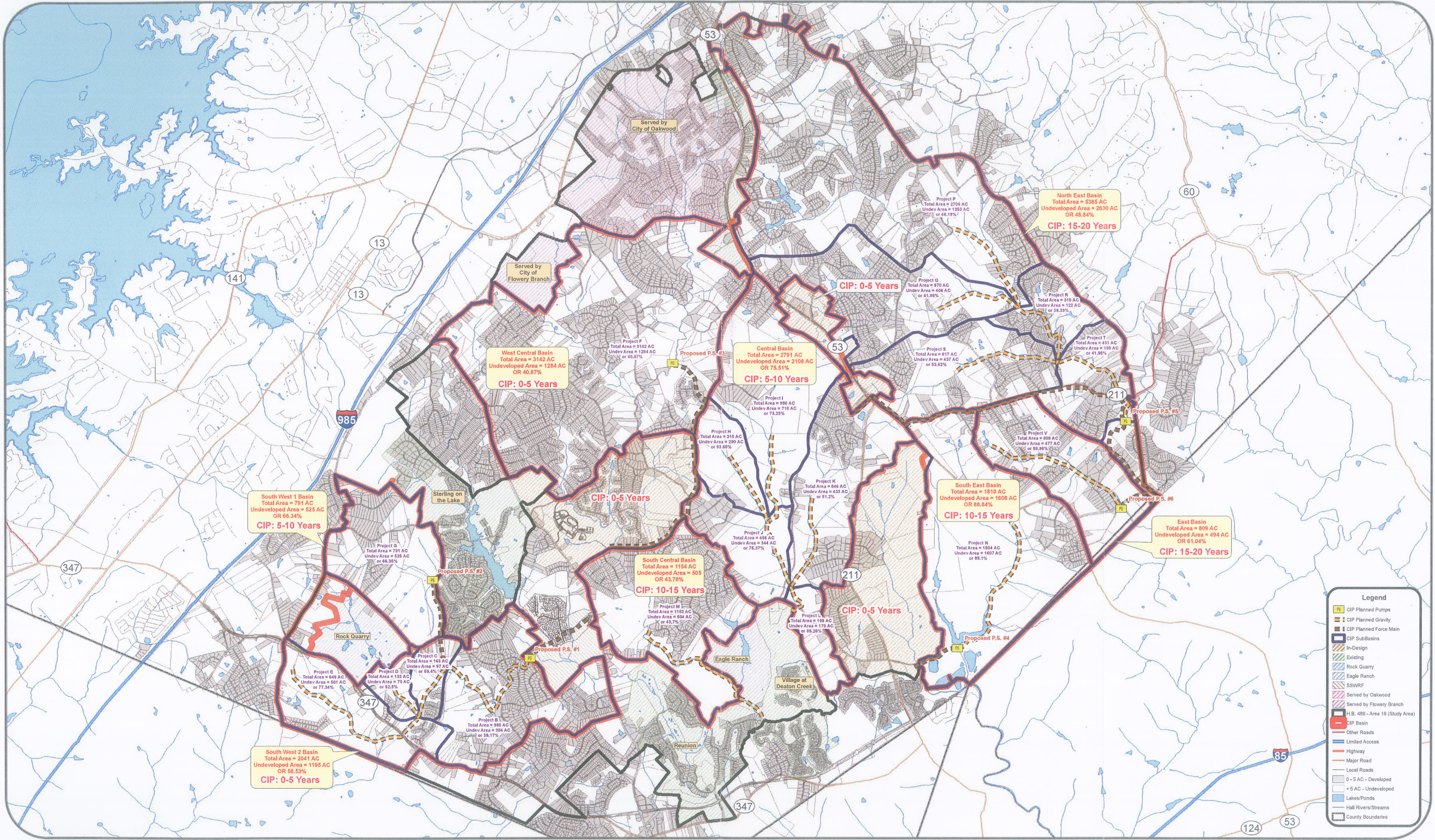
Hall County, Georgia



2,500 1,250 0 2,500 Feet
 Map designed by Rochester & Associates, Inc. in August 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

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South Hall Unit Rate Project - CIP Study

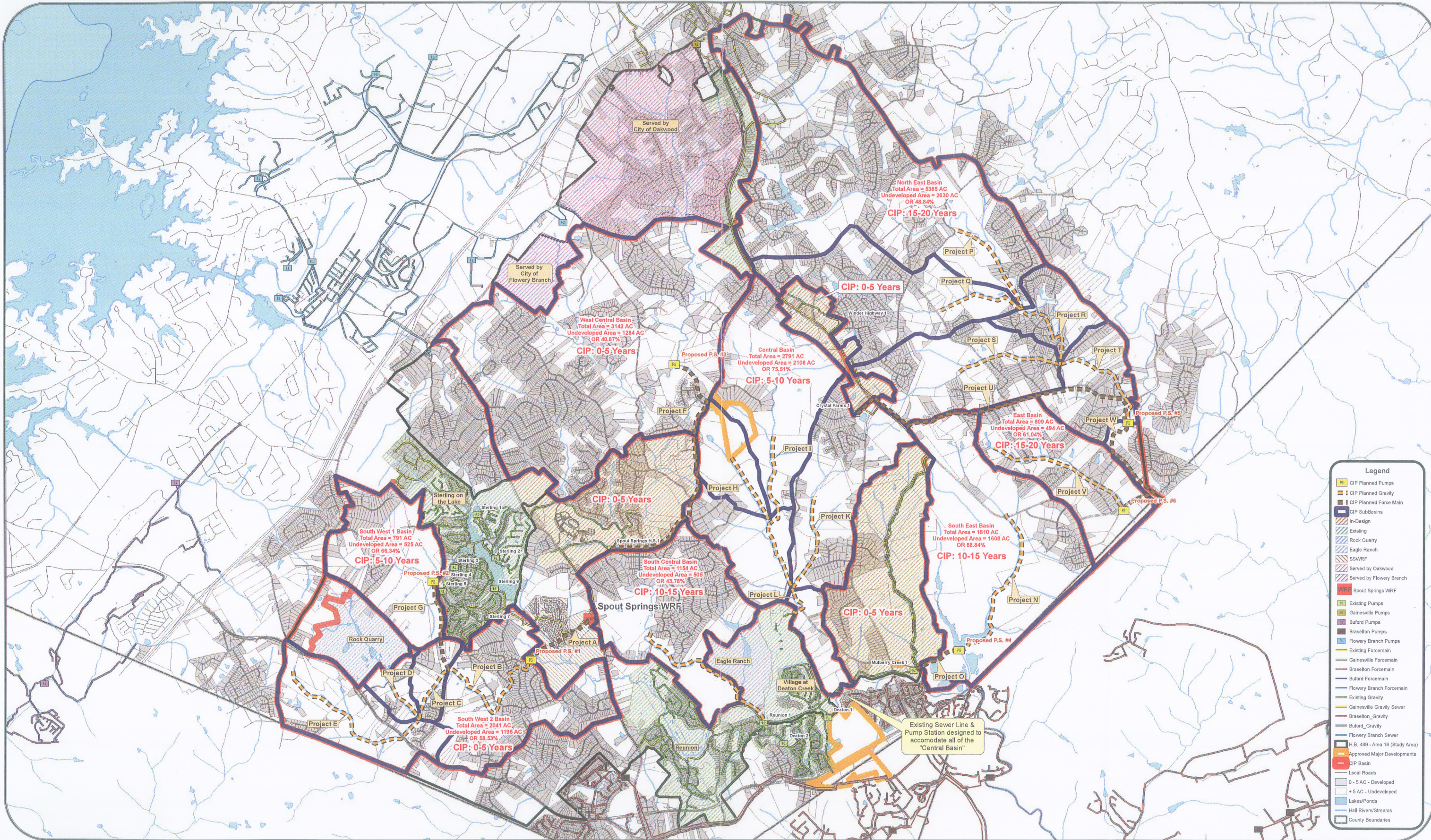
Sewer CIP Design Layout II

Hall County, Georgia

Map designed by Rochester & Associates, Inc. in August 2008.
All existing information obtained from Hall County, Georgia GIS.
Revised: August 12, 2008

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(770)718.0600 (770)718.9090 Fax www.rochester-assoc.com



Mulberry Creek Regional Sewerage Facility

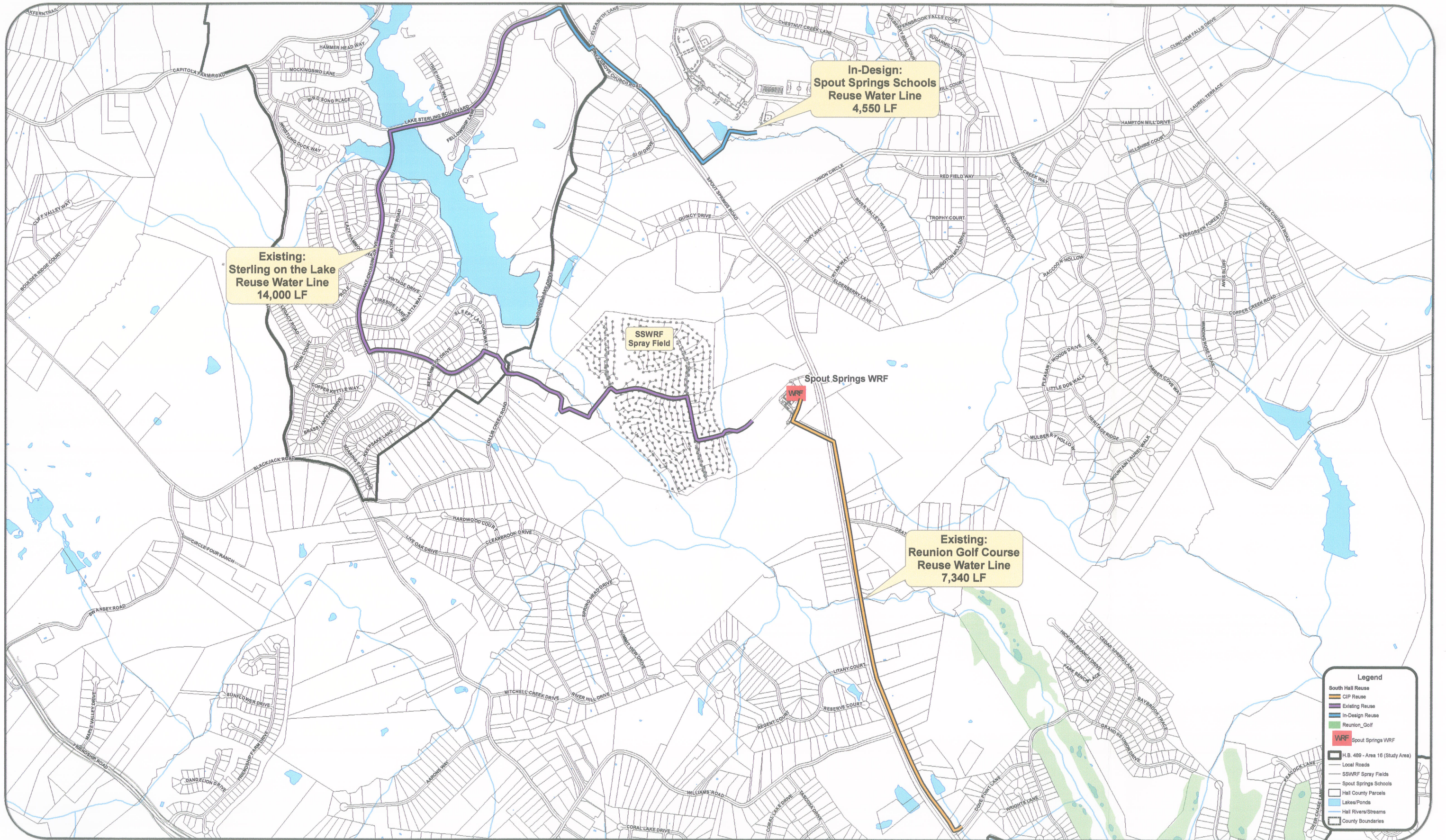
Final CIP Sewer Design
Hall County, Georgia



2,500 1,250 0 2,500 Feet
Map designed by Rochester & Associates, Inc. in August 2008.
All existing information obtained from Hall County, Georgia GIS.
Revised: August 12, 2008

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independently verified.





Existing:
Sterling on the Lake
Reuse Water Line
14,000 LF

In-Design:
Spout Springs Schools
Reuse Water Line
4,550 LF

Existing:
Reunion Golf Course
Reuse Water Line
7,340 LF

SSWRF
Spray Field

Spout Springs WRF

- Legend**
- South Hill Reuse
 - CIP Reuse
 - Existing Reuse
 - In-Design Reuse
 - Reunion Golf
 - WRF Spout Springs WRF
 - H.B. 489 - Area 16 (Study Area)
 - Local Roads
 - SSWRF Spray Fields
 - Spout Springs Schools
 - Hall County Parcels
 - Lakes/Ponds
 - Hall Rivers/Streams
 - County Boundaries



800 400 0 800 Feet
Map designed by Rochester & Associates, Inc. in August 2008.
All existing information obtained from Hall County, Georgia GIS.
Revised: Dec 3, 2008

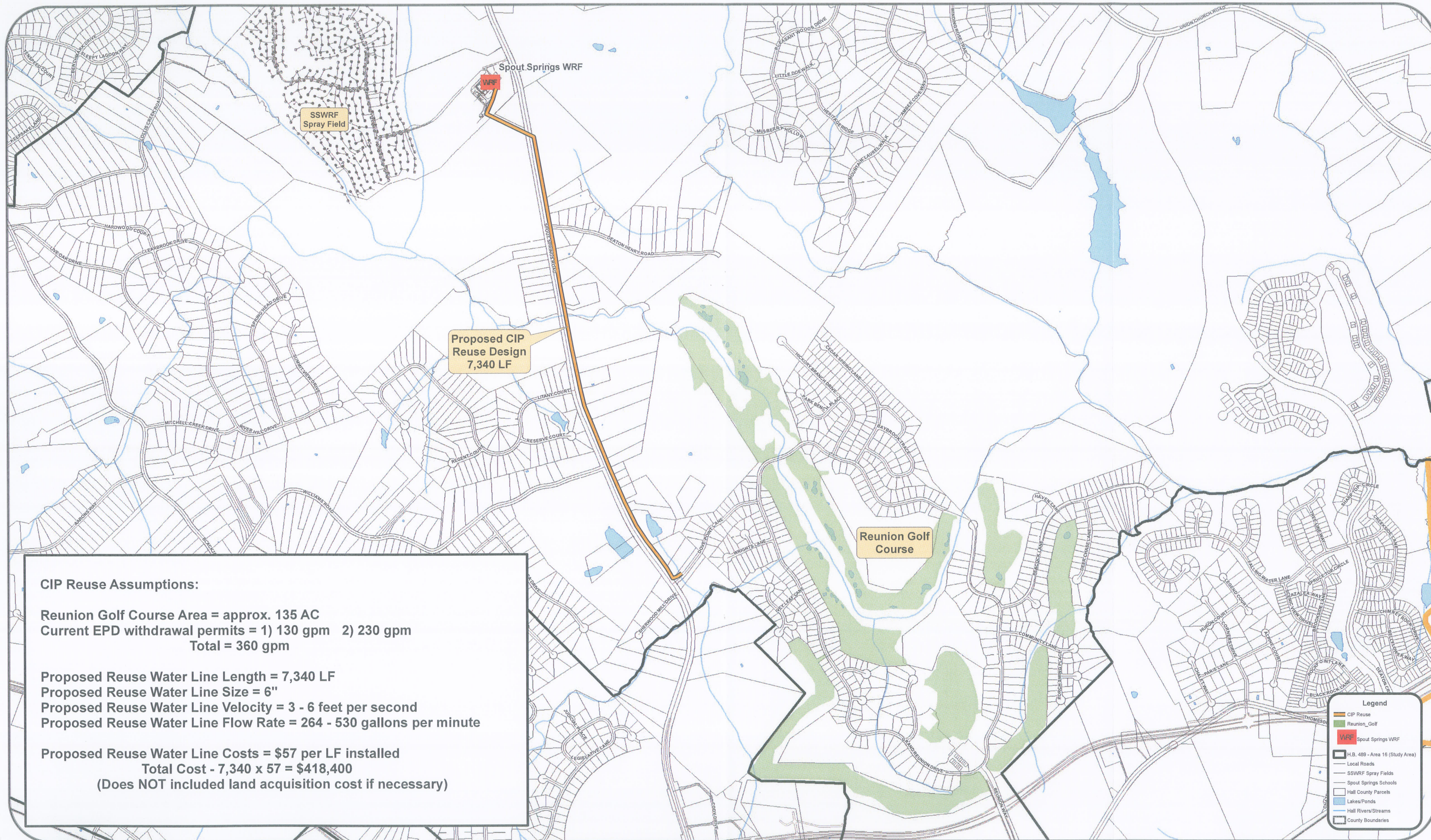
Mulberry Creek Regional Sewerage Facility

Reuse Water Line Overview

Hall County, Georgia

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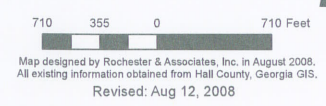
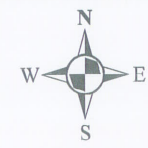
CIP Reuse Assumptions:

Reunion Golf Course Area = approx. 135 AC
 Current EPD withdrawal permits = 1) 130 gpm 2) 230 gpm
 Total = 360 gpm

Proposed Reuse Water Line Length = 7,340 LF
 Proposed Reuse Water Line Size = 6"
 Proposed Reuse Water Line Velocity = 3 - 6 feet per second
 Proposed Reuse Water Line Flow Rate = 264 - 530 gallons per minute

Proposed Reuse Water Line Costs = \$57 per LF installed
 Total Cost - 7,340 x 57 = \$418,400
 (Does NOT include land acquisition cost if necessary)

- Legend**
- CIP Reuse
 - Reunion Golf
 - WRF Spout Springs WRF
 - H.B. 489 - Area 16 (Study Area)
 - Local Roads
 - SSWRF Spray Fields
 - Spout Springs Schools
 - Hall County Parcels
 - Lakes/Ponds
 - Hall Rivers/Streams
 - County Boundaries



Mulberry Creek Regional Sewerage Facility

Reuse Water Line Details

Hall County, Georgia

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 independently verified.





Legend

GPUD Meter Point Service @ Point

- Sewer Only
- Water Only
- Water & Sewer

Deaton_Parcels

- GPUD & Hall County
- GPUD NO Hall County
- No Meter
- H.B. 489 - Area 16 (Study Area)

Road Improvements

- Road Improvements
- Local Roads

Hall County Parcels

- Hall County Parcels
- VDC_AMMENITY

Lakes/Ponds

- Lakes/Ponds

Hall Rivers/Streams

- Hall Rivers/Streams

County Boundaries

- County Boundaries

South Hall Unit Rate Project - Meter Study
 Sewer/Water Connections for Village at Deaton Creek: GPUD vs. Hall County
 Hall County, Georgia



400 200 0 400 Feet
 Map designed by Rochester & Associates, Inc. in August 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

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South Hall Unit Rate Project - Meter Study

Sewer/Water Connections for Reunion: GPUD vs. Hall County

Hall County, Georgia

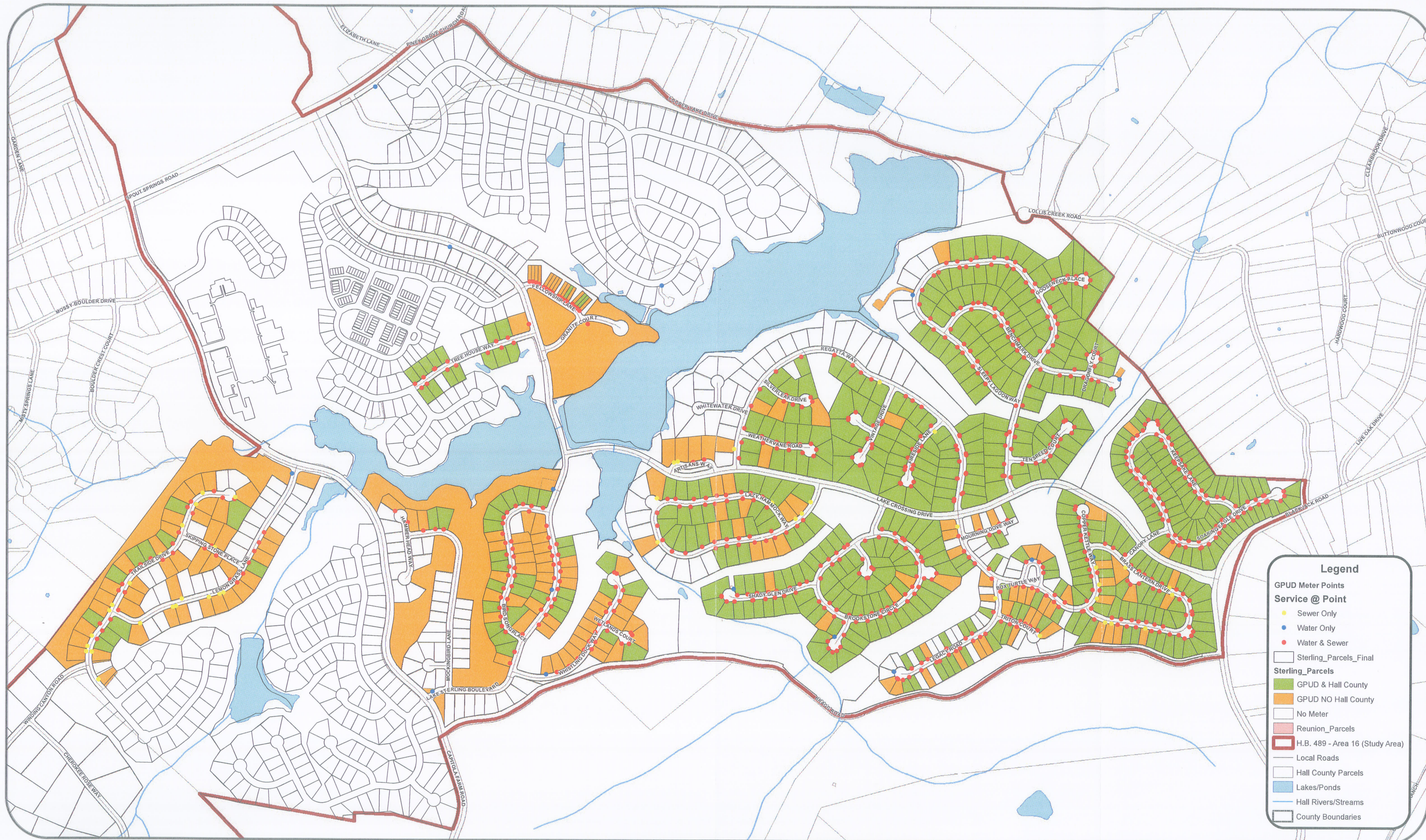


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 Map designed by Rochester & Associates, Inc. in August 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

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South Hall Unit Rate Project - Meter Study
 Sewer/Water Connections for Sterling on the Lakes: GPUD vs. Hall County
 Hall County, Georgia

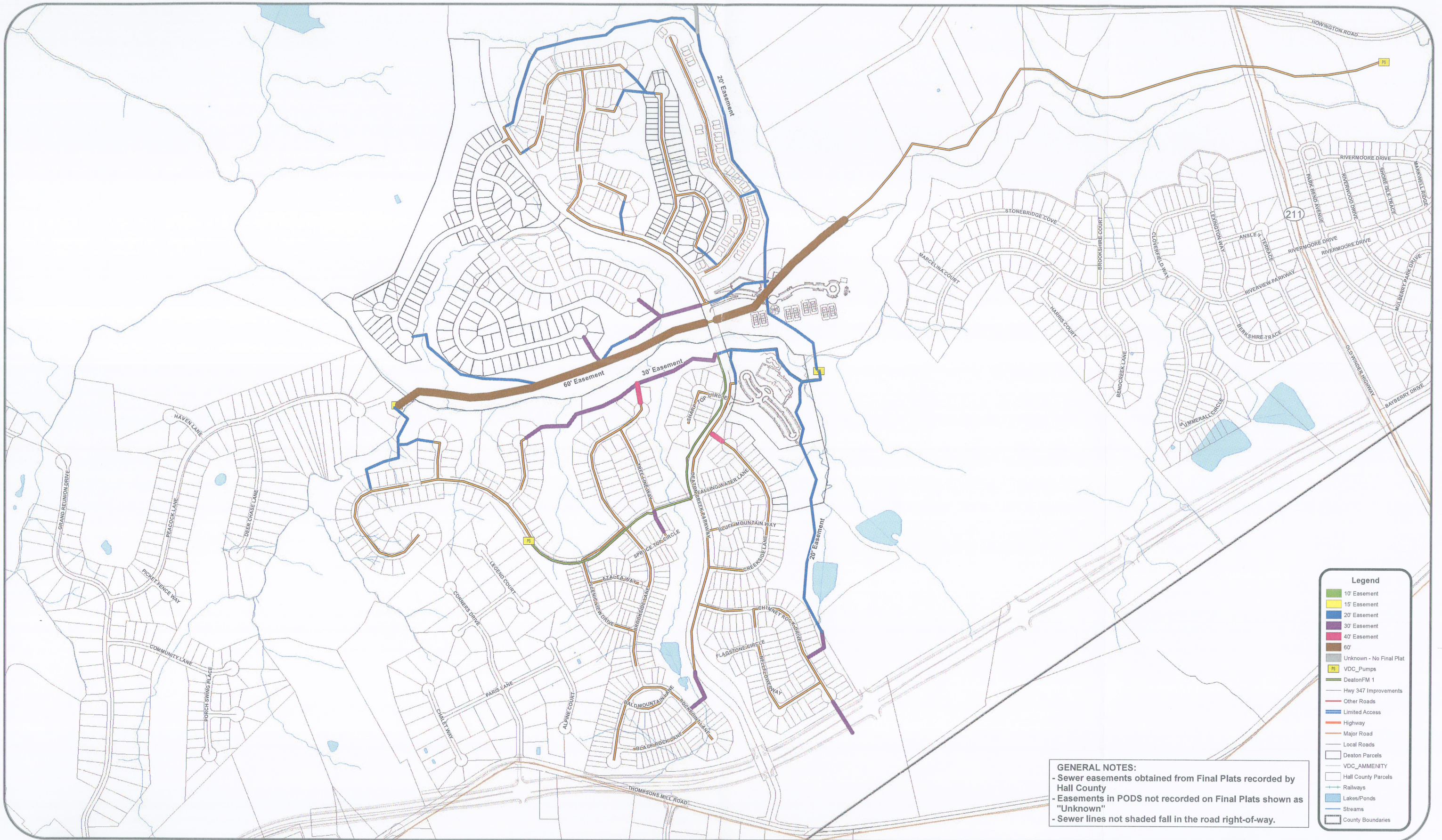


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Legend

- 10' Easement
- 15' Easement
- 20' Easement
- 30' Easement
- 40' Easement
- 60'
- Unknown - No Final Plat
- VDC_Pumps
- DeatonFM 1
- Hwy 347 Improvements
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Deaton Parcels
- VDC_AMMUNITY
- Hall County Parcels
- Railways
- Lakes/Ponds
- Streams
- County Boundaries

GENERAL NOTES:
 - Sewer easements obtained from Final Plats recorded by Hall County
 - Easements in PODS not recorded on Final Plats shown as "Unknown"
 - Sewer lines not shaded fall in the road right-of-way.

South Hall Unit Rate Project - Easement Study

Village at Deaton Creek Sewer Easements

Hall County, Georgia

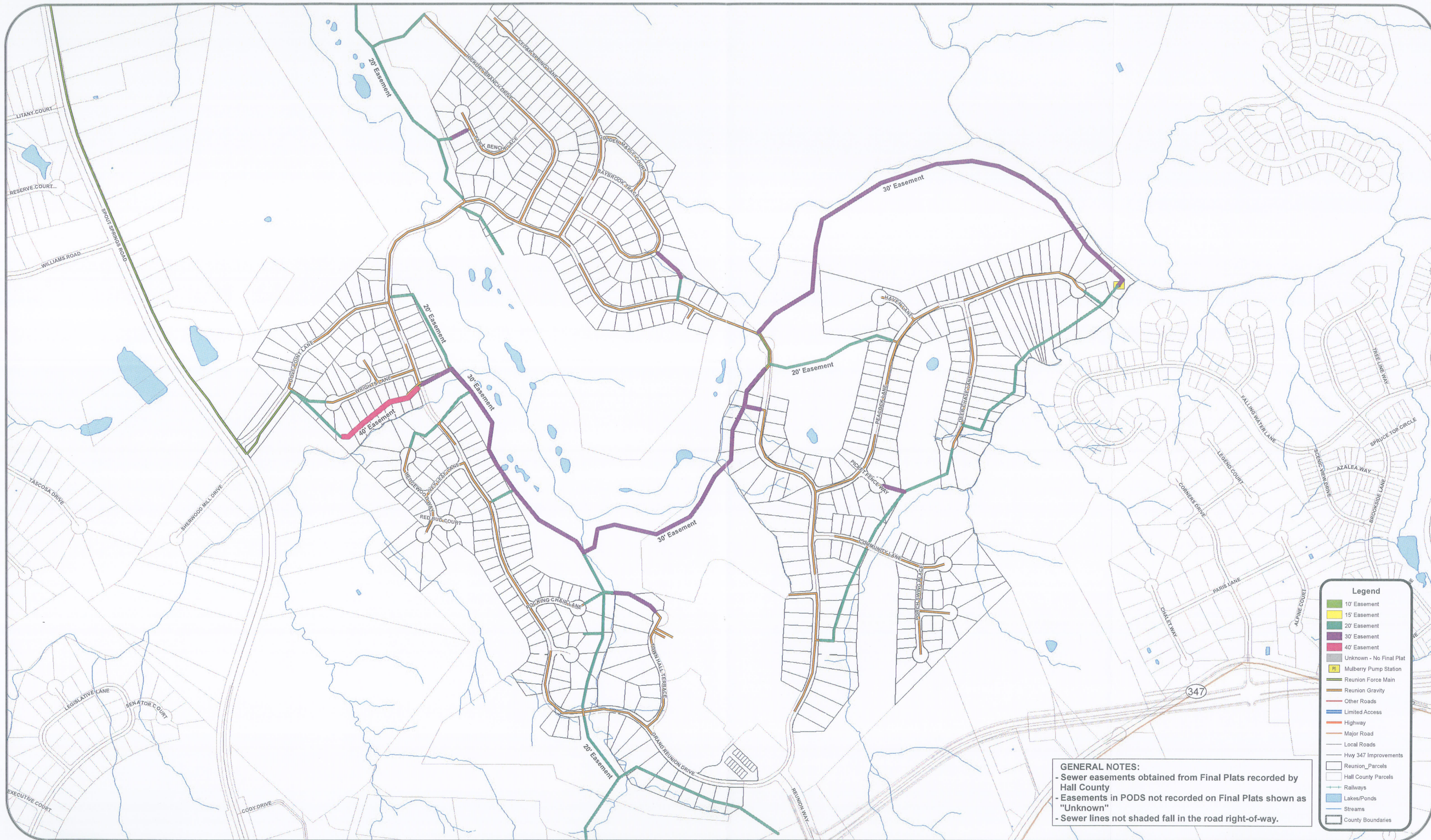


390 195 0 390 Feet

Map designed by Rochester & Associates, Inc. in August 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

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Legend

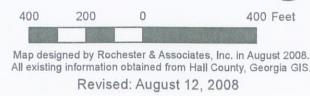
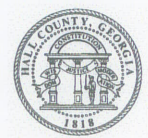
- 10' Easement
- 15' Easement
- 20' Easement
- 30' Easement
- 40' Easement
- Unknown - No Final Plat
- Mulberry Pump Station
- Reunion Force Main
- Reunion Gravity
- Other Roads
- Limited Access
- Highway
- Major Road
- Local Roads
- Hwy 347 Improvements
- Reunion_Parcel
- Hall County Parcel
- Railways
- Lakes/Ponds
- Streams
- County Boundaries

GENERAL NOTES:
 - Sewer easements obtained from Final Plats recorded by Hall County
 - Easements in PODS not recorded on Final Plats shown as "Unknown"
 - Sewer lines not shaded fall in the road right-of-way.

South Hall Unit Rate Project - Easement Study

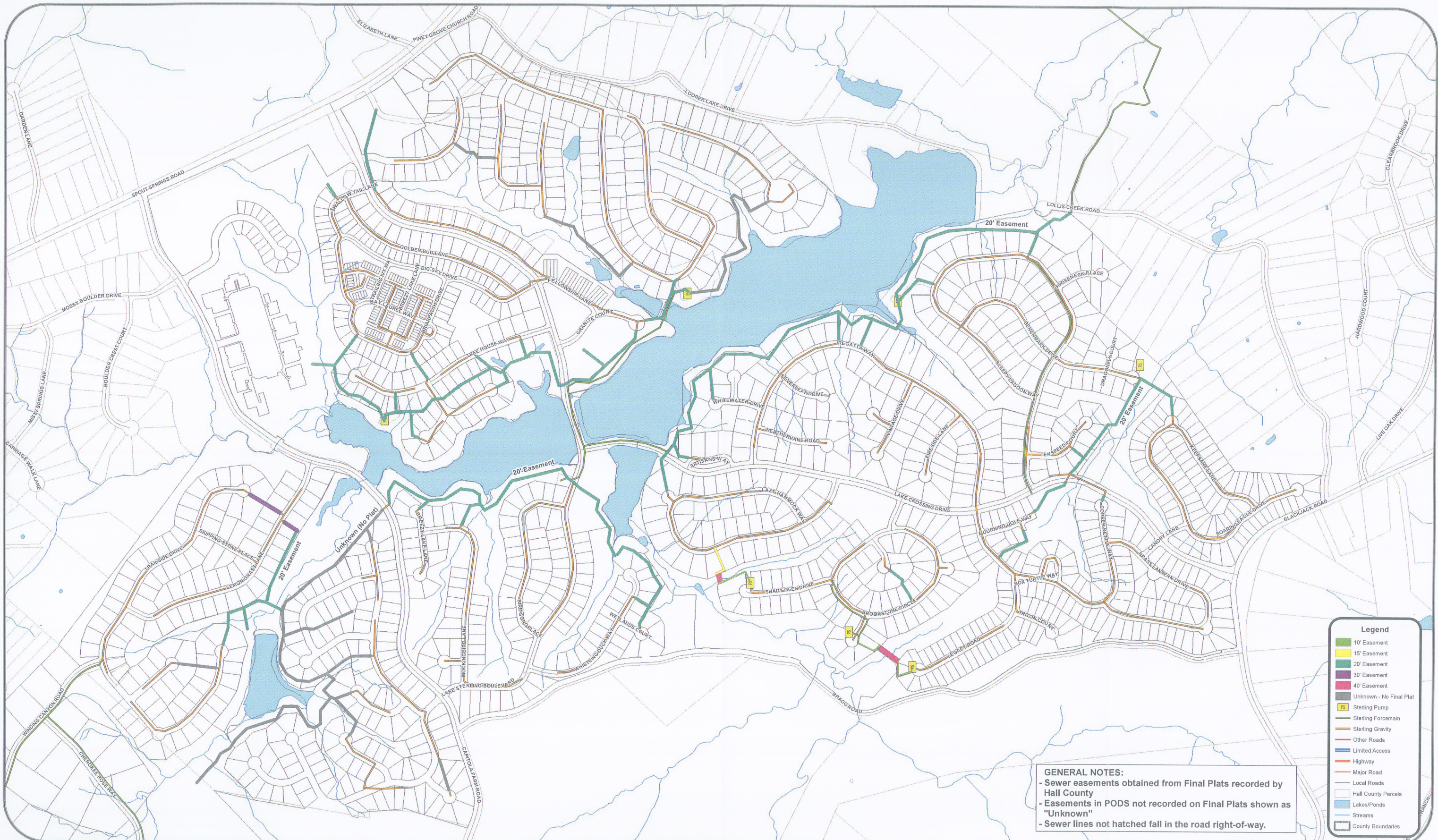
Reunion Prelim Easement Exhibit

Hall County, Georgia



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- Legend**
- 10' Easement
 - 15' Easement
 - 20' Easement
 - 30' Easement
 - 40' Easement
 - Unknown - No Final Plat
 - Sterling Pump
 - Sterling Forcemain
 - Sterling Gravity
 - Other Roads
 - Limited Access
 - Highway
 - Major Road
 - Local Roads
 - Hall County Parcels
 - Lakes/Ponds
 - Streams
 - County Boundaries

GENERAL NOTES:
 - Sewer easements obtained from Final Plats recorded by Hall County
 - Easements in PODS not recorded on Final Plats shown as "Unknown"
 - Sewer lines not hatched fall in the road right-of-way.



400 200 0 400 Feet
 Map designed by Rochester & Associates, Inc. in August 2008.
 All existing information obtained from Hall County, Georgia GIS.
 Revised: August 12, 2008

South Hall Unit Rate Project - Easement Study

Sterling on the Lake Sewer Easement Overview
 Hall County, Georgia

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Appendix E
Hall County Debt Service Amortization Schedule

SOURCES AND USES OF FUNDS

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Dated Date 04/24/2008
Delivery Date 04/24/2008

Sources:

Bond Proceeds:	
Par Amount	14,500,000.00
<hr/>	
	14,500,000.00
<hr/>	

Uses:

Project Fund Deposits:	
Defeasance / Project Fund	14,309,000.50
Delivery Date Expenses:	
Cost of Issuance	71,551.50
Underwriter's Discount	44,989.00
Letter of Credit	61,409.00
Remarketing Fee	13,050.00
	<hr/>
	190,999.50
	<hr/>
	14,500,000.00
	<hr/>

Appendix E
Hall County Debt Service Amortization Schedule

BOND DEBT SERVICE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Period Ending	Principal	Coupon	Interest	Debt Service
04/01/2009			542,223.34	542,223.34
04/01/2010			579,999.96	579,999.96
04/01/2011			579,999.96	579,999.96
04/01/2012			581,328.50	581,328.50
04/01/2013			578,671.42	578,671.42
04/01/2014			579,999.96	579,999.96
04/01/2015			579,999.96	579,999.96
04/01/2016			581,328.50	581,328.50
04/01/2017			578,671.42	578,671.42
04/01/2018			579,999.96	579,999.96
04/01/2019			579,999.96	579,999.96
04/01/2020			581,328.50	581,328.50
04/01/2021			578,671.42	578,671.42
04/01/2022			579,999.96	579,999.96
04/01/2023			579,999.96	579,999.96
04/01/2024			581,328.50	581,328.50
04/01/2025			578,671.42	578,671.42
04/01/2026			579,999.96	579,999.96
04/01/2027	14,500,000	4.000%	579,999.96	15,079,999.96
	14,500,000		10,982,222.62	25,482,222.62

Appendix E
Hall County Debt Service Amortization Schedule

BOND SUMMARY STATISTICS

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds.
Series 2008
- Final Numbers -

Dated Date	04/24/2008
Delivery Date	04/24/2008
Last Maturity	04/01/2027
Arbitrage Yield	4.492023%
True Interest Cost (TIC)	4.057197%
Net Interest Cost (NIC)	4.016122%
All-In TIC	4.669150%
Average Coupon	3.999737%
Average Life (years)	18.936
Duration of Issue (years)	13.297
Par Amount	14,500,000.00
Bond Proceeds	14,500,000.00
Total Interest	10,982,222.62
Net Interest	11,027,211.62
Total Debt Service	25,482,222.62
Maximum Annual Debt Service	15,079,999.96
Average Annual Debt Service	1,345,694.61
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	3.102690
Total Underwriter's Discount	3.102690
Bid Price	99.689731

Bond Component	Par Value	Price	Average Coupon	Average Life
2027 Term Bond	14,500,000.00	100.000	4.000%	18.936
	14,500,000.00			18.936

	TIC	All-In TIC	Arbitrage Yield
Par Value	14,500,000.00	14,500,000.00	14,500,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount	(44,989.00)	(44,989.00)	
- Cost of Issuance Expense		(71,551.50)	
- Other Amounts		(74,459.00)	(61,409.00)
Target Value	14,455,011.00	14,309,000.50	14,438,591.00
Target Date	04/24/2008	04/24/2008	04/24/2008
Yield	4.057197%	4.669150%	4.492023%

Appendix E Hall County Debt Service Amortization Schedule

Apr 22, 2008 6:09 pm Prepared by Banc of America Securities LLC

Page 4

NET DEBT SERVICE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Date	Total Debt Service	Letter of Credit	Remarketing Fee	Upfront Trustee Fee	Net Debt Service
05/01/2008	11,092.90				11,092.90
06/01/2008	49,125.68				49,125.68
07/01/2008	47,540.98				47,540.98
08/01/2008	49,125.68				49,125.68
09/01/2008	49,125.68				49,125.68
10/01/2008	47,540.98				47,540.98
11/01/2008	49,125.68				49,125.68
12/01/2008	47,540.98				47,540.98
01/01/2009	49,125.68			2,500	51,625.68
02/01/2009	49,125.68				49,125.68
03/01/2009	44,493.15				44,493.15
04/01/2009	49,260.27				49,260.27
04/24/2009		63,953.49	13,050		77,003.49
05/01/2009	47,671.23				47,671.23
06/01/2009	49,260.27				49,260.27
07/01/2009	47,671.23				47,671.23
08/01/2009	49,260.27				49,260.27
09/01/2009	49,260.27				49,260.27
10/01/2009	47,671.23				47,671.23
11/01/2009	49,260.27				49,260.27
12/01/2009	47,671.23				47,671.23
01/01/2010	49,260.27			2,500	51,760.27
02/01/2010	49,260.27				49,260.27
03/01/2010	44,493.15				44,493.15
04/01/2010	49,260.27				49,260.27
04/24/2010		63,953.49	13,050		77,003.49
05/01/2010	47,671.23				47,671.23
06/01/2010	49,260.27				49,260.27
07/01/2010	47,671.23				47,671.23
08/01/2010	49,260.27				49,260.27
09/01/2010	49,260.27				49,260.27
10/01/2010	47,671.23				47,671.23
11/01/2010	49,260.27				49,260.27
12/01/2010	47,671.23				47,671.23
01/01/2011	49,260.27			2,500	51,760.27
02/01/2011	49,260.27				49,260.27
03/01/2011	44,493.15				44,493.15
04/01/2011	49,260.27				49,260.27
04/24/2011		64,128.71	13,050		77,178.71
05/01/2011	47,671.23				47,671.23
06/01/2011	49,260.27				49,260.27
07/01/2011	47,671.23				47,671.23
08/01/2011	49,260.27				49,260.27
09/01/2011	49,260.27				49,260.27
10/01/2011	47,671.23				47,671.23
11/01/2011	49,260.27				49,260.27
12/01/2011	47,671.23				47,671.23
01/01/2012	49,260.27			2,500	51,760.27
02/01/2012	49,260.27				49,260.27
03/01/2012	45,956.28				45,956.28
04/01/2012	49,125.68				49,125.68
04/24/2012		63,953.49	13,050		77,003.49
05/01/2012	47,540.98				47,540.98

Appendix E
Hall County Debt Service Amortization Schedule

NET DEBT SERVICE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Date	Total Debt Service	Letter of Credit	Remarketing Fee	Upfront Trustee Fee	Net Debt Service
06/01/2012	49,125.68				49,125.68
07/01/2012	47,540.98				47,540.98
08/01/2012	49,125.68				49,125.68
09/01/2012	49,125.68				49,125.68
10/01/2012	47,540.98				47,540.98
11/01/2012	49,125.68				49,125.68
12/01/2012	47,540.98				47,540.98
01/01/2013	49,125.68			2,500	51,625.68
02/01/2013	49,125.68				49,125.68
03/01/2013	44,493.15				44,493.15
04/01/2013	49,260.27				49,260.27
04/24/2013		63,953.49	13,050		77,003.49
05/01/2013	47,671.23				47,671.23
06/01/2013	49,260.27				49,260.27
07/01/2013	47,671.23				47,671.23
08/01/2013	49,260.27				49,260.27
09/01/2013	49,260.27				49,260.27
10/01/2013	47,671.23				47,671.23
11/01/2013	49,260.27				49,260.27
12/01/2013	47,671.23				47,671.23
01/01/2014	49,260.27			2,500	51,760.27
02/01/2014	49,260.27				49,260.27
03/01/2014	44,493.15				44,493.15
04/01/2014	49,260.27				49,260.27
04/24/2014		63,953.49	13,050		77,003.49
05/01/2014	47,671.23				47,671.23
06/01/2014	49,260.27				49,260.27
07/01/2014	47,671.23				47,671.23
08/01/2014	49,260.27				49,260.27
09/01/2014	49,260.27				49,260.27
10/01/2014	47,671.23				47,671.23
11/01/2014	49,260.27				49,260.27
12/01/2014	47,671.23				47,671.23
01/01/2015	49,260.27			2,500	51,760.27
02/01/2015	49,260.27				49,260.27
03/01/2015	44,493.15				44,493.15
04/01/2015	49,260.27				49,260.27
04/24/2015		64,128.71	13,050		77,178.71
05/01/2015	47,671.23				47,671.23
06/01/2015	49,260.27				49,260.27
07/01/2015	47,671.23				47,671.23
08/01/2015	49,260.27				49,260.27
09/01/2015	49,260.27				49,260.27
10/01/2015	47,671.23				47,671.23
11/01/2015	49,260.27				49,260.27
12/01/2015	47,671.23				47,671.23
01/01/2016	49,260.27			2,500	51,760.27
02/01/2016	49,260.27				49,260.27
03/01/2016	45,956.28				45,956.28
04/01/2016	49,125.68				49,125.68
04/24/2016		63,953.49	13,050		77,003.49
05/01/2016	47,540.98				47,540.98
06/01/2016	49,125.68				49,125.68

Appendix E
Hall County Debt Service Amortization Schedule

NET DEBT SERVICE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Date	Total Debt Service	Letter of Credit	Remarketing Fee	Upfront Trustee Fee	Net Debt Service
07/01/2016	47,540.98				47,540.98
08/01/2016	49,125.68				49,125.68
09/01/2016	49,125.68				49,125.68
10/01/2016	47,540.98				47,540.98
11/01/2016	49,125.68				49,125.68
12/01/2016	47,540.98				47,540.98
01/01/2017	49,125.68			2,500	51,625.68
02/01/2017	49,125.68				49,125.68
03/01/2017	44,493.15				44,493.15
04/01/2017	49,260.27				49,260.27
04/24/2017		63,953.49	13,050		77,003.49
05/01/2017	47,671.23				47,671.23
06/01/2017	49,260.27				49,260.27
07/01/2017	47,671.23				47,671.23
08/01/2017	49,260.27				49,260.27
09/01/2017	49,260.27				49,260.27
10/01/2017	47,671.23				47,671.23
11/01/2017	49,260.27				49,260.27
12/01/2017	47,671.23				47,671.23
01/01/2018	49,260.27			2,500	51,760.27
02/01/2018	49,260.27				49,260.27
03/01/2018	44,493.15				44,493.15
04/01/2018	49,260.27				49,260.27
04/24/2018		63,953.49	13,050		77,003.49
05/01/2018	47,671.23				47,671.23
06/01/2018	49,260.27				49,260.27
07/01/2018	47,671.23				47,671.23
08/01/2018	49,260.27				49,260.27
09/01/2018	49,260.27				49,260.27
10/01/2018	47,671.23				47,671.23
11/01/2018	49,260.27				49,260.27
12/01/2018	47,671.23				47,671.23
01/01/2019	49,260.27			2,500	51,760.27
02/01/2019	49,260.27				49,260.27
03/01/2019	44,493.15				44,493.15
04/01/2019	49,260.27				49,260.27
04/24/2019		64,128.71	13,050		77,178.71
05/01/2019	47,671.23				47,671.23
06/01/2019	49,260.27				49,260.27
07/01/2019	47,671.23				47,671.23
08/01/2019	49,260.27				49,260.27
09/01/2019	49,260.27				49,260.27
10/01/2019	47,671.23				47,671.23
11/01/2019	49,260.27				49,260.27
12/01/2019	47,671.23				47,671.23
01/01/2020	49,260.27			2,500	51,760.27
02/01/2020	49,260.27				49,260.27
03/01/2020	45,956.28				45,956.28
04/01/2020	49,125.68				49,125.68
04/24/2020		63,953.49	13,050		77,003.49
05/01/2020	47,540.98				47,540.98
06/01/2020	49,125.68				49,125.68
07/01/2020	47,540.98				47,540.98

Appendix E
Hall County Debt Service Amortization Schedule

NET DEBT SERVICE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds.
Series 2008
- Final Numbers -

Date	Total Debt Service	Letter of Credit	Remarketing Fee	Upfront Trustee Fee	Net Debt Service
08/01/2020	49,125.68				49,125.68
09/01/2020	49,125.68				49,125.68
10/01/2020	47,540.98				47,540.98
11/01/2020	49,125.68				49,125.68
12/01/2020	47,540.98				47,540.98
01/01/2021	49,125.68			2,500	51,625.68
02/01/2021	49,125.68				49,125.68
03/01/2021	44,493.15				44,493.15
04/01/2021	49,260.27				49,260.27
04/24/2021		63,953.49	13,050		77,003.49
05/01/2021	47,671.23				47,671.23
06/01/2021	49,260.27				49,260.27
07/01/2021	47,671.23				47,671.23
08/01/2021	49,260.27				49,260.27
09/01/2021	49,260.27				49,260.27
10/01/2021	47,671.23				47,671.23
11/01/2021	49,260.27				49,260.27
12/01/2021	47,671.23				47,671.23
01/01/2022	49,260.27			2,500	51,760.27
02/01/2022	49,260.27				49,260.27
03/01/2022	44,493.15				44,493.15
04/01/2022	49,260.27				49,260.27
04/24/2022		63,953.49	13,050		77,003.49
05/01/2022	47,671.23				47,671.23
06/01/2022	49,260.27				49,260.27
07/01/2022	47,671.23				47,671.23
08/01/2022	49,260.27				49,260.27
09/01/2022	49,260.27				49,260.27
10/01/2022	47,671.23				47,671.23
11/01/2022	49,260.27				49,260.27
12/01/2022	47,671.23				47,671.23
01/01/2023	49,260.27			2,500	51,760.27
02/01/2023	49,260.27				49,260.27
03/01/2023	44,493.15				44,493.15
04/01/2023	49,260.27				49,260.27
04/24/2023		64,128.71	13,050		77,178.71
05/01/2023	47,671.23				47,671.23
06/01/2023	49,260.27				49,260.27
07/01/2023	47,671.23				47,671.23
08/01/2023	49,260.27				49,260.27
09/01/2023	49,260.27				49,260.27
10/01/2023	47,671.23				47,671.23
11/01/2023	49,260.27				49,260.27
12/01/2023	47,671.23				47,671.23
01/01/2024	49,260.27			2,500	51,760.27
02/01/2024	49,260.27				49,260.27
03/01/2024	45,956.28				45,956.28
04/01/2024	49,125.68				49,125.68
04/24/2024		63,953.49	13,050		77,003.49
05/01/2024	47,540.98				47,540.98
06/01/2024	49,125.68				49,125.68
07/01/2024	47,540.98				47,540.98
08/01/2024	49,125.68				49,125.68

Appendix E
Hall County Debt Service Amortization Schedule

NET DEBT SERVICE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Date	Total Debt Service	Letter of Credit	Remarketing Fee	Upfront Trustee Fee	Net Debt Service
09/01/2024	49,125.68				49,125.68
10/01/2024	47,540.98				47,540.98
11/01/2024	49,125.68				49,125.68
12/01/2024	47,540.98				47,540.98
01/01/2025	49,125.68			2,500	51,625.68
02/01/2025	49,125.68				49,125.68
03/01/2025	44,493.15				44,493.15
04/01/2025	49,260.27				49,260.27
04/24/2025		63,953.49	13,050		77,003.49
05/01/2025	47,671.23				47,671.23
06/01/2025	49,260.27				49,260.27
07/01/2025	47,671.23				47,671.23
08/01/2025	49,260.27				49,260.27
09/01/2025	49,260.27				49,260.27
10/01/2025	47,671.23				47,671.23
11/01/2025	49,260.27				49,260.27
12/01/2025	47,671.23				47,671.23
01/01/2026	49,260.27			2,500	51,760.27
02/01/2026	49,260.27				49,260.27
03/01/2026	44,493.15				44,493.15
04/01/2026	49,260.27				49,260.27
04/24/2026		59,970.02	13,050		73,020.02
05/01/2026	47,671.23				47,671.23
06/01/2026	49,260.27				49,260.27
07/01/2026	47,671.23				47,671.23
08/01/2026	49,260.27				49,260.27
09/01/2026	49,260.27				49,260.27
10/01/2026	47,671.23				47,671.23
11/01/2026	49,260.27				49,260.27
12/01/2026	47,671.23				47,671.23
01/01/2027	49,260.27			2,500	51,760.27
02/01/2027	49,260.27				49,260.27
03/01/2027	44,493.15				44,493.15
04/01/2027	14,549,260.27				14,549,260.27
	25,482,222.62	1,147,880.23	234,900	47,500	26,912,502.85

Appendix E
Hall County Debt Service Amortization Schedule

COST OF ISSUANCE

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Cost of Issuance	\$/1000	Amount
Bond Counsel	2.15090	31,188.00
Underwriter's/Bank Counsel Fe	1.72414	25,000.00
Trustee Termination Fee	0.03448	500.00
Trustee Acceptance Fee	0.10345	1,500.00
Rating Agency Fee	0.60000	8,700.00
POS / OS Printing Fee	0.27586	4,000.00
Miscellaneous	0.04576	663.50
	4.93459	71,551.50

Appendix E
Hall County Debt Service Amortization Schedule

UNDERWRITER'S DISCOUNT

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Underwriter's Discount	\$/1000	Amount
Underwriting Fee	2.99000	43,355.00
FIRNA	0.03600	435.00
CUSIP	0.00959	139.00
DTC	0.01966	285.00
Dayloan	0.01207	175.00
Municipal Services Fee	0.04138	600.00
	3.10269	44,989.00

Appendix E Hall County Debt Service Amortization Schedule

Apr 22, 2008 6:09 pm Prepared by Banc of America Securities LLC

Page 11

FORMULA VERIFICATION

Gainesville and Hall County Development Authority
Variable Rate Refunding Revenue Bonds,
Series 2008
- Final Numbers -

Component	Formula	Vector	Value
LOC	61,409		61,409.00
LOC	.43% of Bond Value paid annual in advance starting 4/24/2009	V1	
LOC	.43% of 35 days of interest at 12% paid annual in advance starting 4/24/2009	V2	
LOC	Letter of Credit	V3	
REMARKET	.09% of Bond Value paid annual as of date starting 4/24/2008	V4	
REMARKET	\$4,000 paid annual in advance starting 4/24/2008	V5	
REMARKET	Remarketing Fee	V6	
TRUSTEE	\$2,500 paid annual in advance starting 1/1/2009	V7	

Date	V1	V2	V3	V4	V5	V6	V7
04/24/2008			61,409.00	13,050	4,000	13,050	
01/01/2009							2,500
04/24/2009	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2010							2,500
04/24/2010	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2011							2,500
04/24/2011	63,389.17	739.54	64,128.71	13,050	4,000	13,050	
01/01/2012							2,500
04/24/2012	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2013							2,500
04/24/2013	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2014							2,500
04/24/2014	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2015							2,500
04/24/2015	63,389.17	739.54	64,128.71	13,050	4,000	13,050	
01/01/2016							2,500
04/24/2016	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2017							2,500
04/24/2017	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2018							2,500
04/24/2018	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2019							2,500
04/24/2019	63,389.17	739.54	64,128.71	13,050	4,000	13,050	
01/01/2020							2,500
04/24/2020	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2021							2,500
04/24/2021	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2022							2,500
04/24/2022	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2023							2,500
04/24/2023	63,389.17	739.54	64,128.71	13,050	4,000	13,050	
01/01/2024							2,500
04/24/2024	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2025							2,500
04/24/2025	63,215.97	737.52	63,953.49	13,050	4,000	13,050	
01/01/2026							2,500
04/24/2026	59,232.50	737.52	59,970.02	13,050	4,000	13,050	
01/01/2027							2,500
	1,134,596.81	13,283.44	1,209,289.23	247,950	76,000	247,950	47,500