

AN ORDINANCE NO. 2008____:
ADOPTION OF A 2008 SEWER CAPITAL IMPROVEMENT PLAN

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KERSHAW COUNTY

BE IT ORDAINED BY THE COUNTY COUNCIL OF KERSHAW COUNTY, SOUTH
CAROLINA, IN MEETING DULY ASSEMBLED:

ARTICLE I

FINDINGS OF FACT

As incident to the adoption of this Ordinance, the County Council of Kershaw County (the "Council"), the governing body of Kershaw County, South Carolina (the "County"), finds each fact stated herein is true and correct.

Section 1.01

1. The County is a body politic and a political subdivision of the State of South Carolina. The Council is the governing body of the County.

2. Pursuant to Sections 44-55-1410 (2006) and 4-9-30(5) of the Code of Laws of South Carolina, 1976, and a favorable referendum vote of the people of Kershaw County, at an election held on November 5, 1996, the County is authorized to acquire, construct, improve, enlarge, operate and maintain within the County a system for the collection, treatment and disposition of sewage and to place into effect schedules of rates and charges for the use of these sewer facilities.

3. By Ordinance dated June 12, 2007, Kershaw County Council created the Kershaw County Sewer District, comprised of the entire unincorporated area of Kershaw County (the "District") to provide sewer service in the unincorporated areas of Kershaw County.

4. By Ordinance dated August 14, 2007 the Kershaw County Council adopted the Comprehensive Plan for Kershaw County 2006-2016, which was the ten year update to the County's Comprehensive Plan. One of the key recommendations of the Comprehensive Plan was the development of a five year Capital Improvement Program (the "CIP"), which was duly developed by the Planning Commission and received from the Planning Commission by Kershaw County Council by Ordinance dated May 13, 2008.

5. The CIP identified approximately \$20.5 million in capital improvements that will need to be constructed in the five year period 2008-2013 to the sewer treatment system operated by the County. The CIP indicates that an additional 3,137 Residential Development Units, or "RDUs," capacity will be provided by the County sewer system (the "System") during that time.

6. The Council has reviewed the Kershaw County, South Carolina, Five-year Sewer System Capital Improvement Plan Issued by the Utilities Department of Kershaw County, as incorporated verbatim into the CIP as Appendix E thereto (the "Sewer CIP") and Council finds the Plan to be appropriate and sufficient to comply with Section 6-1-1080, S.C. Code of Laws, 1976, as amended.

ARTICLE II

2008 SEWER CAPITAL IMPROVEMENT PLAN

Section 2.01 2008 Sewer Capital Improvement Plan Adopted

1. Kershaw County hereby adopts the Kershaw County Five-Year Sewer System Capital Improvement Plan, dated 2008, attached hereto as Exhibit A as the current sewer system capital improvement plan adopted by the County in satisfaction of the requirements of Section 6-1-1080 of the Code of Laws of South Carolina, 1976. The County, acting through its Utilities Department, reserves the right to amend or modify the plan, or to change the designated improvements, sequencing of improvements or scope of improvements at any time with or without amending this ordinance or reissuing the plan.

2. This Ordinance shall take effect immediately upon adoption.

DONE BY VOTE OF A POSITIVE MAJORITY OF THE MEMBERS OF KERSHAW COUNTY COUNCIL IN MEETING DULY ASSEMBLED, this ____ day of _____, 2008.

KERSHAW COUNTY COUNCIL

[SEAL]

By: _____
Chairman, Kershaw County Council

ATTEST:

Clerk, Kershaw County Council

1st Reading: _____, 2008
2nd Reading: _____, 2008
Public Hearing: _____, 2008
3rd Reading: _____, 2008

I certify that the notice of the public hearing held in this matter was duly advertised in proper statutory form in a newspaper of general circulation in Kershaw County , South Carolina at least 30 days prior to the holding of said hearing.

Clerk, Kershaw County Council

**APPENDIX E
KERSHAW COUNTY PUBLIC SEWER
CIP REPORT**

Purpose and Scope

The purpose of this document is to outline a 5-year capital improvements plan for the Kershaw County wastewater collection system. During recent years the region has experienced rapid growth due to its proximity to the Columbia Metropolitan area. As documented in the Wastewater Master Plan for Kershaw County completed in November of 2000 by Hayes, Seay, Mattern & Mattern, Inc, the majority of this growth has been centralized in the south-west section of the county in the areas surrounding Lugoff and Elgin. The continued growth is dependent on the availability of essential infrastructure which includes wastewater collection, transportation, and treatment facilities. Based on the pattern of growth and the existing infrastructure, this capital improvements plan will focus on this section of the county.

The capital improvements plan (program) as outlined herein will base the plan on wastewater tap requests received to date by Kershaw County with a 10% growth factor for additional growth in the area. Additionally, the plan will include wastewater flows from industries which the County anticipates tying in to the system within the next five years.

This plan is drafted with the specific intention that it serve as the capital improvement plan required by Section 6-1-1080(1) of the Code of Laws of South Carolina (The Development Impact Fee Act), 1976, as a condition for the imposition of a development impact fee by water and wastewater utilities. As required by Sections 6-1-920(2) and (3) of that statute, a "capital improvement plan" must identify the improvements with a useful life of five years or more which are necessary to increase the service capacity of a public facility for which development impact fees may be used as a funding source. Such plans are otherwise exempt from the provisions of Chapter 1 of Article 6 by express provisions of Section 6-1-1080.

This document, which outlines a five-year capital improvement plan for the Kershaw County wastewater collection system is not a recommendation of a specific sewer impact fee structure.

Existing System

Kershaw County owns and operates one of three major public wastewater treatment systems within the county. The Kershaw County WWTP is currently permitted for a discharge of 0.72 MGD to the Wateree River; however, the county has recently secured a construction permit for the expansion of this WWTP to 1.25 MGD expandable to 2.0 MGD with little modification. These improvements are expected to begin during March of 2008 with an expected completion within 18 months of initiation. In addition to ownership of the WWTP, Kershaw County maintains 23 pump stations throughout the service area, force mains ranging in size from 2-½" to 10", and gravity sewer ranging in size from 6" to 18". As currently configured the wastewater system transmits all wastewater flows west of the Town of Lugoff through a series of pump stations along Highway 1. Each of these large pump stations are currently designed for a rated capacity of 350 gpm. The current configuration of the Kershaw County wastewater collection system is outlined in Exhibit 1. Due to the rapid growth in this area it is necessary that the County open a new corridor for transportation of wastewater from west to east. The proposed route

route for this additional corridor is outlined in **Exhibit 1**. The individual projects and the timing of these projects are outlined in the following sections.

Estimated Wastewater Flows

As previously mentioned, the south and west portions of Kershaw County are currently experiencing heavy growth, as outlined in the tap requests summarized below. Based on this estimate the projected increase in wastewater flows in the region due to residential and commercial growth is 934,640 gallons per day. In addition to the residential and commercial growth, it is anticipated that Kershaw County will connect several industries to its wastewater system within the next five years (Kawashima, Clariant, and Cogsdill Tools). As outlined in the table below the overall increase in wastewater flows over the next five years is anticipated to reach in excess of 2,000,000 gallons per day. With increases of this magnitude it is imperative that the County outline a feasible plan for collection and transmission of this wastewater.

Tap Type	# of Taps	Requested Capacity	TMS #
Residential	35	14,000	310-00-00-060
Residential	50	20,000	310-00-00-085
Residential	180	72,000	358-00-00-011
Residential	220	88,000	309-00-00-053
Residential	74	29,600	281-00-00-035
Residential	79	31,600	335-00-00-005
Residential	280	112,000	358-00-00-111
Residential	49	19,600	296-00-00-072
Residential	4	1,600	335-00-00-085
Residential	20	8,000	308-00-00-060
Residential	200	80,000	336-00-00-115
Commercial	2	14,400	283-00-00-013
Commercial	6	2,400	283-00-00-013
Commercial	1	2,240	335-18-00-013
Residential	50	20,000	
Residential	30	12,000	296-18-00-024
Residential	260	104,000	350-00-00-038
Residential	450	180,000	281-00-00-044
Residential	1	400	310-00-00-060
Residential	1	400	
Residential	180	72,000	338-00-00-023
Commercial/Residential	105	50,000	
Residential	1	400	
Total Commercial/Residential Flows		934,640	
Equivalent Residential Users		2,337	
Anticipated Wastewater Flows			
Kawashima		600,000	
Clariant		500,000	
Cogsdill Tool		20,000	
Total Industrial Flows		1,120,000	
Equivalent Residential Users		2,800	

Existing System Deficiencies

Kelsney Ridge/Steven Campbell Drive Development

As outlined in the projected flows above, there are two large developments proposed in the area comprising Tax Map #358 along Kelsney Ridge Road and Steven Campbell Drive. In total the proposed development is for an average daily flow of 184,000 gpd, or a peak flow of 320 gpm. Due to the existing grade in the area, the construction of two new pump stations would be necessary to provide service to the proposed developments. The closest existing infrastructure to the proposed development is the

Elgin IGA pump station which has a rated capacity of 200 gpm. However, due to capacity issues at the IGA pump station it is proposed for the force main from the developments to bypass the IGA pump station and manifold into the force main from the existing White Pond Road pump station. Initially this sewer would be directed to the Town of Elgin pump station until such times that the run times at the Town of Elgin pump station become too large. The flow would then be reversed to send the wastewater to the existing White Pond Road pump station. Although this will be a long run of force main the route is downhill. Because these upgrades are necessary for future growth it is anticipated that these costs would be offset through the collection of sewer impact fees.

<u>Item</u>	<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1	200 gpm Duplex Pump Station	1	ls	\$200,000.00	\$200,000
2	Force Main				
	6-Inch PVC	2,900	lf	\$25.00	\$72,500
	6-Inch DIP	100	lf	\$35.00	\$3,500
	Air Release Valves	1	ea	\$4,000.00	\$4,000
3	320 gpm Duplex Pump Station	1	ls	\$250,000.00	\$250,000
4	Force Main				
	8-Inch PVC	9,750	lf	\$30.00	\$292,500
	8-Inch DIP	250	lf	\$40.00	\$10,000
	Air Release Valves	1	ea	\$4,000.00	\$4,000
5	Connection to Gravity Sewer	1	ls	\$5,000.00	\$5,000
SUBTOTAL					\$841,500
ENGINEERING & CONTINGENCY (25%)					\$210,375
TOTAL					\$1,051,875

Elgin #4 Pump Station

The Elgin #4 pump station is currently designed for 200 gpm. The existing pump station receives wastewater from the Town of Elgin pump station, a pump station serving Pine Forest, Leslie M. Stover School and other existing development in the area. In addition, there is approximately 31,600 gpd of sewer capacity being requested by developers in the area. Due to the volume of wastewater being transmitted to this system it is recommended that the pumps and panels be upgraded to supply a pumping capacity of 350 gpm. Additionally, the wet well will need to be rehabilitated simultaneously due to aggressive wastewater entering the pump station. The estimated costs are outlined in the table below. Because these upgrades are necessary for future growth it is anticipated that these costs would be offset through the collection of sewer impact fees.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	Upgrade of Pumps and Panels	1	ls	\$40,000.00	\$40,000
2	Rehabilitation of Wetwell	1	ls	\$20,000.00	\$20,000
				SUBTOTAL	\$60,000
				ENGINEERING & CONTINGENCY (25%)	\$15,000
				TOTAL	\$75,000

Elgin #2 Pump Station

The Elgin #2 pump station is a submersible duplex pump station with a design capacity currently of 350 gpm which is transmitted through an 8-inch force main. Based on existing data the pumps run for up to 140 minutes a day each, which correlates to an existing wastewater flow at the pump station of 98,000 gpd. According to tap requests received by the County there is an additional 96,000 gpd of wastewater flow anticipated from new development in the area. Based on these flows and the need to provide adequate capacity for wastewater collected within the Town of Elgin it is recommended that this pump station be upgraded to a capacity of 600 gpm. At these increased flows, the capacity of the receptor gravity sewer is inadequate. Therefore, it is recommended that the force main from this pump station be extended to bypass this gravity sewer. The estimated costs are outlined in the table below. Because these upgrades are necessary for future growth it is anticipated that these costs would be offset through the collection of sewer impact fees.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	600 gpm Duplex Pump Station	1	ls	\$300,000.00	\$300,000
2	Force Main				
	8-Inch PVC	4,100	lf	\$30.00	\$123,000
	8-Inch DIP	400	lf	\$40.00	\$16,000
	Air Release Valves	1	ea	\$4,000.00	\$4,000
3	Connection to Gravity Sewer	1	ls	\$5,000.00	\$5,000
				SUBTOTAL	\$448,000
				ENGINEERING & CONTINGENCY (25%)	\$112,000
				TOTAL	\$560,000

Elgin #1 Pump Station

The Elgin #1 pump station is a submersible duplex pump station with a design capacity currently of 350 gpm which is transmitted through an 8-inch force main. Based on existing data the pumps run for up to 260 minutes a day each, which correlates to an existing wastewater flow at the pump station of 182,000 gpd. According to tap requests received by the County there is an additional 20,000 gpd of wastewater flow anticipated from new development in the area. Based on these flows and the need to provide adequate capacity for wastewater collected within the Town of Elgin and in the area surrounding Elgin #2 pump station, it is recommended that this pump station be upgraded to a capacity of 800 gpm. At these increased flows, the capacity of the receptor gravity sewer is inadequate. Therefore, it is recommended that the force main from this pump station be extended to the large 18-inch sewer

interceptor north of the Baldwin pump station. The estimated costs are outlined in the table below. Because these upgrades are necessary for future growth it is anticipated that these costs would be offset through the collection of sewer impact fees.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	800 gpm Duplex Pump Station	1	ls	\$400,000.00	\$400,000
2	Force Main				
	10-Inch PVC	13,000	lf	\$35.00	\$455,000
	10-Inch DIP	1,500	lf	\$45.00	\$67,500
	Air Release Valves	1	ea	\$4,000.00	\$4,000
3	Connection to Gravity Sewer	1	ls	\$5,000.00	\$5,000
SUBTOTAL					\$931,500
ENGINEERING & CONTINGENCY (25%)					\$232,875
TOTAL					\$1,164,375

Baldwin Pump Station

The existing Baldwin pump station is duplex suction lift pump station which currently experiences high run-times due to increased flows to the pump station. It is anticipated that these issues will be eliminated by extending the force main from Elgin #1 pump station around the Baldwin pumps. Although this routing eliminates the flow concerns at the pump station, the station has been in service for nearly twenty years and is in need of replacement. The estimated cost of this replacement is summarized in the table below. Because these costs are consider a maintenance cost it is anticipated that these costs would be offset through the operations budget.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	Replacement of Existing PS	1	ls	\$200,000.00	\$200,000
SUBTOTAL					\$200,000
ENGINEERING & CONTINGENCY (25%)					\$50,000
TOTAL					\$250,000

Rabon's Crossroads Development

As outlined in the projected flows above, there are two large developments that have requested sewer service near Highway 34 northwest of the Town of Lugoff. These developments will include a potential 209,600 gpd of wastewater generated in the area. The County does not have existing sewer service in the area; therefore, it will be necessary to extend gravity sewer to an area near the developments. The estimated costs for implementing this extension are included in the table below. This gravity sewer will transmit the wastewater from the area to an existing 12-inch gravity sewer line. Because these upgrades are necessary for future growth it is anticipated that these costs would be offset through the collection of sewer impact fees.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	Gravity Sewer				
	12-Inch PVC	6,400	lf	\$75.00	\$480,000
	12-Inch DIP	600	lf	\$85.00	\$51,000
	Jack & Bore	150	lf	\$300.00	\$45,000
2	Manholes	30	ls	\$2,500.00	\$75,000
SUBTOTAL					\$651,000
ENGINEERING & CONTINGENCY (25%)					\$162,750
TOTAL					\$813,750

Clariant Pump Station

As previously mentioned it is anticipated that Clariant will likely tie on to the sewer system in the near future. The transportation of this wastewater flow will require a new major transmission line from west to east along Whiting Way to reach the WWTP. Discussions with Clariant personnel indicated that the industry could send a peak of 500,000 gpd to the system. Therefore, a new pump station with adequate capacity is recommended with force main routed to a low point along Whiting Way to another new pump station. The estimated costs for implementing this extension are included in the table below. Because these upgrades are necessary for future industrial flow and will allow additional residential growth throughout the system it is anticipated that these costs could be offset through the collection of sewer impact fees and grants.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	350 gpm Duplex Pump Station	1	ls	\$240,000.00	\$240,000
2	Force Main				
	8-Inch PVC	4,000	lf	\$30.00	\$120,000
	8-Inch DIP	400	lf	\$40.00	\$16,000
	Air Release Valves	1	ea	\$4,000.00	\$4,000
SUBTOTAL					\$380,000
ENGINEERING & CONTINGENCY (25%)					\$95,000
TOTAL					\$475,000

Whiting Way Pump Station

The proposed Whiting Way pump station would collect wastewater from the Clariant pump station, the White Pond Road pump station, and the Highway 12 pump station. The new pump station would transmit the wastewater from these areas to a new pump station near Kawashima and Cogsdill Tools for final transmission to the influent pump station. The estimated costs for implementing this extension are included in the table below. Because these upgrades are necessary for future industrial flow and will allow additional residential growth throughout the system it is anticipated that these costs could be offset through the collection of sewer impact fees and grants.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	1150 gpm Duplex Pump Station	1	ls	\$550,000.00	\$550,000
2	Force Main				
	12-Inch PVC	27,000	lf	\$45.00	\$1,215,000
	12-Inch DIP	500	lf	\$55.00	\$27,500
	Directional Bore	200	lf	\$250.00	\$50,000
	Air Release Valves	3	ca	\$4,000.00	\$12,000
SUBTOTAL					\$1,854,500
ENGINEERING & CONTINGENCY (25%)					\$463,625
TOTAL					\$2,318,125

Kawashima Pump Station

As previously mentioned it is anticipated that Kawashima Tools will likely tie on to the sewer system in the near future. Discussions with Kawashima personnel indicated that the industry could send as much as 600,000 gpd to the collection system. Therefore, the proposed pump station at Kawashima will be sized with adequate capacity for this flow as well as the flow transmitted along Whiting Way from the Whiting Way pump station. This new pump station will transmit wastewater flows directly to the influent pump station for introduction to the WWTP. The estimated costs for implementing this extension are included in the table below. Because these upgrades are necessary for future industrial flow and will allow additional residential growth throughout the system it is anticipated that these costs could be offset through the collection of sewer impact fees and grants.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	1850 gpm Duplex Pump Station	2	ls	\$600,000.00	\$1,200,000
2	Force Main				
	16-Inch PVC	26,000	lf	\$55.00	\$1,430,000
	16-Inch DIP	500	lf	\$65.00	\$32,500
	Directional Bore	200	lf	\$300.00	\$60,000
	Air Release Valves	2	ca	\$4,000.00	\$8,000
SUBTOTAL					\$2,730,500
ENGINEERING & CONTINGENCY (25%)					\$682,625
TOTAL					\$3,413,125

Influent Pump Station

Due to the rapid growth in the area and the increase in sewer capacity resulting from this growth, the existing influent pump station is grossly undersized. It is recommended that an entirely new pump station and force main paralleling the existing force main be installed. The influent pump station should have adequate capacity to transmit wastewater flows for the proposed 4.0 MGD WWTP. The estimated costs for implementing this extension are included in the table below. Because these upgrades are necessary for future development as well as industrial flow throughout the system it is anticipated that these costs could be offset through the collection of sewer impact fees and grants.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	4.0 MGD Duplex Pump Station	1	Is	\$1,000,000.00	\$1,000,000
2	Force Main				
	24-Inch PVC	3,000	If	\$80.00	\$240,000
	24-Inch DIP	300	If	\$90.00	\$27,000
SUBTOTAL					\$1,267,000
ENGINEERING & CONTINGENCY (25%)					\$316,750
TOTAL					\$1,583,750

Expanded Wastewater Treatment Plant

As previously mentioned, Kershaw County is set to construct a new 1.25 MGD WWTP expandable to 2.0 MGD with little modifications. However due to the rapid growth of the area, the 2.0 MGD capacity will be consumed almost immediately upon completion. Therefore, the County will need to implement proposed modifications at the new WWTP to have the capability of handling the projected 4.0 MGD of wastewater. These improvements will include additional SBR basins, ultraviolet disinfection, and the installation of sludge dewatering operations. The estimated costs for implementing these upgrades are included in the table below. Because these upgrades are necessary for future development as well as industrial flow throughout the system it is anticipated that these costs could be offset through the collection of sewer impact fees and grants.

Item	Description	Qty	Unit	Unit Cost	Total Cost
1	2.0 MGD Expansion	1	Is	\$7,000,000.00	\$7,000,000
SUBTOTAL					\$7,000,000
ENGINEERING & CONTINGENCY (25%)					\$1,750,000
TOTAL					\$8,750,000

Overview & Schedule

A review of the sewer tap requests and the probable schedule for development was reviewed to determine a probable schedule for the multiple capital improvements projects outlined above. Based on this review, the anticipated schedule for these projects is summarized below.

KELSNEY RIDGE/STEVEN CAMPBELL DRIVE	\$	1,051,875	2009
ELGIN #4 PUMP STATION UPGRADE	\$	75,000	2008
ELGIN #2 PUMP STATION UPGRADE	\$	560,000	2011
ELGIN #1 PUMP STATION UPGRADE	\$	1,164,375	2011
BALDWIN PUMP STATION REHABILITATION	\$	250,000	2009
HIGHWAY 34 (RABON'S)	\$	813,750	2009
CLARIANT PUMP STATION	\$	475,000	2010
WHITING WAY PUMP STATION	\$	2,318,125	2010
KAWASHIMA PUMP STATION	\$	3,413,125	2010
INFLUENT PUMP STATION	\$	1,583,750	2008
WWTP EXPANSION	\$	8,750,000	2012-2013
TOTAL	\$	20,455,000	