Smith Seckman Reid, Inc.

2995 Sidco Drive
Nashville, TN 37204
(615) 383-1113
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February 13, 2009

Mr. Phillip Simmons
Tennessee Department of Environment and Conservation
Division of Water Pollution Control
6th Floor, L&C Tower
401 Church Street
Nashville, Tennessee 37243

RE: **Monticello Gravity Sewer**
Franklin, Tennessee
SSR Project No. 08-41-029.0

Dear Mr. Simmons:

The City of Franklin is planning to construct approximately 10,315 LF of 8-inch diameter gravity sewer within the City of Franklin Right-of-Way and within Monticello Subdivision. The gravity sewer will provide service to 109 existing home sites in Monticello Subdivision and tie to existing gravity sewer running parallel to Hillsboro Road.

Attached are five (5) sets of drawings and appropriate calculations for your review and approval. The lines will be constructed according to City of Franklin state-approved standard specifications and details for sanitary sewer. We are including a check for $1,050.00 to cover the review fee for the gravity sewer line. If you have any questions, or if you need further information, please call me at (615) 383-1113. Thank you for your attention to this project.

Sincerely,

SMITH SECKMAN REID, INC.

Andrew T. Johnson, P.E.

Enclosures

Cc: Eric Gardner – City of Franklin
Mark Hilty – City of Franklin
08-41-029.0 (6)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

DIVISION OF WATER POLLUTION CONTROL

Plans Review Fee Worksheet

	Activity		Fee Paid	Fee Due
1.	Wastewater Plants:			
	Major Industrial Facility w/flow ≥ 5 MGD	=	$_____	$1,500.00
	Major Industrial Facility w/flow < 5 MGD	=	$_____	$1,000.00
	Minor Industrial Facility w/flow ≥ 0.1 MGD	=	$_____	$ 500.00
	Minor Industrial Facility w/flow < 0.1 MGD	=	$_____	$ 250.00
	Sewage Treatment Facility w/design flow ≥ 5 MGD	=	$_____	$1,500.00
	Sewage Treatment Facility w/design flow ≥ 1 but < 5 MGD	=	$_____	$1,000.00
	Sewage Treatment Facility w/design flow ≥ 0.075 MGD but < 1 MGD	=	$_____	$ 500.00
	Sewage Treatment Facility w/design flow ≤ 0.075 MGD	=	$_____	$ 250.00
2.	Collection Systems:			
	Collection Lines - $25.00 per 250 feet (or portion thereof) of sewage collection line not to exceed $1,500.00 (No fee for Force Main Review) 10,315/250 = 41+ = 42x25	=	$ 1,050.00	
	Example 501 linear feet sewer / 250= 2+ = 3 x 25 = $ 75			
3.	Equalization Basins:			
	Holding Capacity ≥ 5 million gallons (MG)	=	$_____	$ 300.00
	≥ 1 MG but < 5 MG	=	$_____	$ 200.00
	≥ 0.075 MG but < 1 MG	=	$_____	$ 100.00
	< 0.075 MG	=	$_____	$ 50.00
4.	Pumping Stations:			
	Design Capacity ≥ 5 MGD (3473 GPM)	=	$_____	$ 300.00
	≥ 1 MGD but < 5 MGD (695 GPM – 3473 GPM)	=	$_____	$ 200.00
	≥ 0.075 MGD but < 1 MGD (52 GPM – 695 GPM)	=	$_____	$ 100.00
	< 0.075 MGD (52 GPM)	=	$_____	$ 50.00
5.	Wastewater Plant and/or Collection System Modifications:			
	The plans review fee for modifications to wastewater plants and/or collection systems shall be 20% of the full review fee based on the category and size of the resulting facility.	=	$_____	
	TOTAL PLAN REVIEW FEE (sum of all individual fees)	=	$_____	

Owner: City of Franklin, TN
Project: Monticello Gravity Sewer
SSR Project Number: 08-41-029.0
Date: 2/11/09

HYDRAULIC CALCULATIONS

Manning's Equation for Gravity Flow

LINE	FROM M.H.	TO M.H.	DNSTREAM INVERT (ft)	UPSTEAM INVERT (ft)	GRND ELEV UPSTEAM (ft)	LENGTH (ft)	SEWER DIA. (in)	SLOPE (ft/ft)	MANNINGS "n"	VELOCITY (fps)	CAPACITY (mgd)
"A"	A1	A2	604.20	608.30	627.50	388.10	8	0.0106	0.012	3.85	0.87
"A"	A2	A3	608.50	609.40	624.00	300.00	8	0.0030	0.012	2.05	0.46
"A"	A3	A4	609.60	610.32	621.50	240.00	8	0.0030	0.012	2.05	0.46
"A"	A4	A5	610.52	611.57	622.00	350.00	8	0.0030	0.011	2.24	0.50
"A"	A5	A6	611.77	612.82	622.50	350.00	8	0.0030	0.011	2.24	0.50
"A"	A6	A7	613.02	614.07	623.00	350.00	8	0.0030	0.011	2.24	0.50
"A"	A7	A8	614.27	615.32	621.00	350.00	8	0.0030	0.011	2.24	0.50
"A"	A8	A9	615.52	617.60	622.00	260.00	8	0.0080	0.011	3.66	0.82
"A"	A9	A10	617.80	618.72	623.00	115.00	8	0.0080	0.011	3.66	0.82
"A"	A10	A11	618.92	620.12	625.00	150.00	8	0.0080	0.011	3.66	0.82
"A"	A11	A12	620.32	620.92	627.00	200.00	8	0.0030	0.011	2.24	0.50
"A"	A12	A13	621.12	632.25	638.50	445.00	8	0.0250	0.011	6.46	1.46
"A"	A13	A14	632.45	641.45	647.50	180.00	8	0.0500	0.011	9.14	2.06
"B"	A2	B1	608.50	617.95	631.00	210.00	8	0.0450	0.011	8.67	1.95
"B"	B1	B2	618.15	622.77	628.50	330.00	8	0.0140	0.011	4.84	1.09
"B"	B2	B3	622.97	628.01	633.50	360.00	8	0.0140	0.011	4.84	1.09
"B"	B3	B4	628.21	629.11	633.00	300.00	8	0.0030	0.011	2.24	0.50
"B"	B4	B5	629.31	629.73	634.00	140.00	8	0.0030	0.011	2.24	0.50

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Manning's Equation for Gravity Flow

LINE	FROM M.H.	TO M.H.	DNSTREAM INVERT (ft)	UPSTEAM INVERT (ft)	GRND ELEV UPSTEAM (ft)	LENGTH (ft)	SEWER DIA. (in)	SLOPE (ft/ft)	MANNINGS "n"	VELOCITY (fps)	CAPACITY (mgd)
"C"	A4	C1	610.52	622.52	629.00	400.00	8	0.0300	0.011	7.08	1.60
"C"	C1	C2	622.72	622.98	629.50	85.00	8	0.0031	0.011	2.26	0.51
"C"	C2	C3	623.18	628.88	633.50	190.00	8	0.0300	0.011	7.08	1.60
"C"	C3	C4	629.08	631.42	637.50	260.00	8	0.0090	0.011	3.88	0.87
"C"	C4	C5	631.62	633.26	641.00	410.00	8	0.0040	0.011	2.59	0.58
"C"	C5	C6	633.46	634.68	646.25	305.00	8	0.0040	0.011	2.59	0.58
"C"	C6	C7	634.88	634.99	647.50	27.00	8	0.0041	0.011	2.61	0.59
"C6"	C6	C6-1	634.88	645.08	653.25	170.00	8	0.0600	0.011	10.01	2.26
"C7"	C7	C7-1	634.99	635.56	640.00	190.00	8	0.0030	0.011	2.24	0.50
"C2"	C2	C2-1	623.18	626.28	636.50	310.00	8	0.0100	0.011	4.09	0.92
"C2"	C2-1	C2-2	626.48	628.28	635.25	240.00	8	0.0075	0.011	3.54	0.80
"C2"	C2-2	C2-3	628.48	630.58	636.00	280.00	8	0.0075	0.011	3.54	0.80
"C4"	C4	C4-1	631.62	636.87	642.50	150.00	8	0.0350	0.011	7.65	1.72
"C4"	C4-1	C4-2	637.07	642.32	649.00	350.00	8	0.0150	0.011	5.01	1.13
"A12"	A12	A12-1	621.12	624.12	629.50	400.00	8	0.0075	0.011	3.54	0.80
"A12"	A12-1	A12-2	624.32	630.02	637.00	380.00	8	0.0150	0.011	5.01	1.13
"A13"	A13	A13-1	632.45	633.11	640.00	220.00	8	0.0030	0.011	2.24	0.50
"A13"	A13-1	A13-2	633.31	633.97	639.00	220.00	8	0.0030	0.011	2.24	0.50
"A13"	A13-2	A13-3	634.17	635.22	642.50	350.00	8	0.0030	0.011	2.24	0.50
"A13"	A13-3	A13-4	635.42	644.42	648.50	360.00	8	0.0250	0.011	6.46	1.46