

**TFG**  
**THE FOSTER GROUP**

---

P.O. BOX 26282  
Leawood, KS 66225  
Tel: (913) 345-1410  
Fax: (913) 345-1640

**The Foster Group, LLC**  
Bart Foster, President  
Cell: (913) 530-6240  
bfoster@fostergroupllc.com

MEMORANDUM

Executive Summary Financial Forecast Model

November 12, 2018

To: Nicolette Bateson

From: Bart Foster

At your request, we have developed an “executive summary” version of our financial forecast model. This tool is designed to easily illustrate potential impacts of alternative assumptions and policies on key financial metrics. While it is not as robust as the modeling tools we utilize when preparing financial feasibility and related forecast analyses, we believe it can provide valuable information to stakeholders in a simplified manner.

The foundational assumptions and projections for this forecast model are consistent with our financial feasibility report(s) developed in support of the recent bond sales, which contained financial forecasts for a five year period ending with FY 2023. We have extended the forecast period to FY 2030 in order to provide a longer term vision, consistent with the analyses we’ve been discussing over the past year.

The first page of the model illustrates forecasted revenues and revenue requirements under three key assumptions:

1. Annual increases in Charges;
2. Annual increases in O&M Budget;
3. Average annual CIP Financing requirements.

Based on decisions regarding these assumptions, the model computes the adequacy of existing fund balances and revenue transfers to finance capital improvement requirements, and calculates amounts of additional debt necessary to fully fund the CIP. The debt service requirements are computed and impact the financial metrics accordingly. The version of the model reflected in the attached exhibits is “pre loaded” with assumptions consistent with the recent feasibility reports, and with our understanding of the latest long term CIP plans – although annualized and “funded at” 80% of planning levels. This equates to approximate annual amounts of \$140 million for Water and \$120 million for Sewer.

The second page of the model presents forecasted results for key metrics, designed to be reflected in a “red/yellow/green” format aligned with relative rating agency assessments. As

we have discussed in prior conversations on this topic, these metrics are not necessarily definitive, but do provide guidance on how the investment community views the credit worthiness of GLWA and its peers.

We note that the metrics and criteria illustrated on page 2 should be considered a work in progress, and we encourage review by GLWA's financial advisor and other stakeholders. Having said that, we believe the presentation on page 2 for each system is fairly self evident, and we'll not elaborate herein. Rather, we stand prepared to present this model to the Audit Committee on November 16, and to illustrate hypothetical results of alternative assumptions and policy considerations.

Executive Summary Forecast Worksheet  
Water Supply System - \$ millions

Revenue / Revenue Req't Forecast	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
<b><u>GLWA Wholesale System</u></b>												
1 Charge Increase - %	<b>4.0%</b>	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Cumulative		4.0%	8.2%	12.5%	17.0%	21.7%	26.5%	31.6%	36.9%	42.3%	48.0%	53.9%
2 Baseline Revenue	327.6	327.6	327.6	327.6	327.6	327.6	327.6	327.6	327.6	327.6	327.6	327.6
3 Charge Increase Revenue		<u>13.1</u>	<u>26.7</u>	<u>40.9</u>	<u>55.6</u>	<u>71.0</u>	<u>86.9</u>	<u>103.5</u>	<u>120.7</u>	<u>138.7</u>	<u>157.3</u>	<u>176.7</u>
4 Revenue from Charges	327.6	340.7	354.3	368.5	383.2	398.5	414.5	431.1	448.3	466.2	484.9	504.3
5 Non Operating Revenue	3.0	3.8	3.7	3.4	3.1	2.5	2.7	2.6	2.7	2.7	2.8	2.8
6 Total Revenue	330.5	344.5	358.0	371.9	386.3	401.1	417.2	433.7	451.0	469.0	487.6	507.1
7 Operating Expense Increase - %	<b>2.0%</b>	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
8 O&M Budget	121.6	124.0	126.5	129.0	131.6	134.2	136.9	139.6	142.4	145.3	148.2	151.1
9 O&M Pension Obligation	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>1.2</u>						
10 Operating Expense	127.6	130.0	132.5	135.1	137.6	135.4	138.1	140.8	143.6	146.5	149.4	152.3
11 Net Revenue	202.9	214.5	225.5	236.9	248.6	265.7	279.1	292.8	307.3	322.5	338.2	354.7
<b><u>Existing Debt Service</u></b>												
12 Principal	40.2	48.6	61.0	60.1	67.0	70.3	73.6	77.1	79.5	82.9	86.8	93.8
13 Interest	<u>91.2</u>	<u>90.5</u>	<u>89.5</u>	<u>86.6</u>	<u>83.8</u>	<u>80.6</u>	<u>77.3</u>	<u>73.7</u>	<u>70.1</u>	<u>66.3</u>	<u>62.3</u>	<u>58.1</u>
14 Total	131.4	139.1	150.5	146.7	150.8	150.9	150.8	150.8	149.6	149.2	149.1	151.9
15 Net Revenue after Existing Debt Svc	71.5	75.3	75.0	90.2	97.9	114.8	128.2	142.0	157.7	173.3	189.2	202.8
16 Fixed MBO Requirements	35.3	36.1	36.2	36.3	36.4	29.1	30.5	30.6	30.4	30.3	30.4	30.4
17 Available for Capital / New Debt Svc	<b>36.3</b>	<b>39.2</b>	<b>38.8</b>	<b>53.9</b>	<b>61.5</b>	<b>85.7</b>	<b>97.7</b>	<b>111.4</b>	<b>127.3</b>	<b>143.0</b>	<b>158.8</b>	<b>172.4</b>
18 Existing Available Capital Funds	383.2	<u>30.0</u>	<u>100.8</u>	<u>101.2</u>	<u>61.3</u>	<u>0.0</u>						
19 Total CIP Funding	<b>140.0</b>	<b>66.3</b>	<b>140.0</b>	<b>140.0</b>	<b>115.2</b>	<b>61.5</b>	<b>85.7</b>	<b>97.7</b>	<b>111.4</b>	<b>127.3</b>	<b>143.0</b>	<b>158.8</b>
20 Carryover Capital Funding Balance	353.2	252.5	151.3	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
21 Additional Bond Proceeds Needed		<b>0.0</b>	<b>0.0</b>	<b>24.8</b>	<b>78.5</b>	<b>54.3</b>	<b>42.3</b>	<b>28.6</b>	<b>12.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
22 Cumulative Additional Bonds	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>24.8</b>	<b>103.4</b>	<b>157.7</b>	<b>199.9</b>	<b>228.5</b>	<b>241.2</b>	<b>241.2</b>	<b>241.2</b>	<b>241.2</b>
23 Additional Debt Service	0.0	0.0	0.0	1.5	6.2	9.4	11.9	13.6	14.4	14.4	14.4	14.4

Executive Summary Forecast Worksheet  
Water Supply System - \$ millions

Metric Calculations	Metric Target			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Min A	Min AA	Min AAA	Note											
<b>Operating Margin</b>															
24				137.3	125.8	119.8	122.1	124.0	103.6	82.9	83.2	84.3	86.4	89.3	93.0
25				258.9	249.8	246.3	251.1	255.6	237.8	219.8	222.8	226.8	231.7	237.5	244.1
26				68.7	90.9	108.0	117.4	127.6	160.8	194.7	208.2	221.5	234.6	247.4	260.1
27	25%	40%	50%	21.0%	26.7%	30.5%	31.9%	33.3%	40.3%	47.0%	48.3%	49.4%	50.3%	51.0%	51.6%
<b>Regional Revenue Allocation</b>															
28				38.6%	37.7%	37.0%	36.3%	35.6%	33.8%	33.1%	32.5%	31.8%	31.2%	30.6%	30.0%
29	40%	33%	25%	39.8%	40.4%	42.0%	39.4%	39.0%	37.6%	36.2%	34.8%	33.2%	31.8%	30.6%	29.9%
30				10.7%	10.5%	10.1%	9.8%	9.4%	7.3%	7.3%	7.1%	6.7%	6.5%	6.2%	6.0%
31				11.0%	11.4%	10.8%	14.5%	15.9%	21.4%	23.4%	25.7%	28.2%	30.5%	32.6%	34.0%
32				100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Debt Service Coverage</b>															
33				36.7	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8
34				239.7	251.2	262.3	273.7	285.4	302.5	315.9	329.7	344.2	359.3	375.1	391.5
35	1.25	1.70	2.00	1.43	1.43	1.40	1.47	1.47	1.53	1.58	1.63	1.71	1.79	1.87	1.92
36	1.50	2.00	2.25	2.01	2.03	2.07	2.12	2.08	2.15	2.21	2.28	2.36	2.47	2.58	2.69
<b>Debt to Operating Revenue</b>															
37				2,416.2	2,353.3	2,276.9	2,200.8	2,117.0	2,029.1	1,937.1	1,840.8	1,741.1	1,637.1	1,528.2	1,411.3
38					0.0	0.0	24.8	103.0	155.5	194.9	219.9	228.3	223.6	218.7	213.7
39				272.0	264.9	256.3	247.7	238.3	228.4	218.1	207.2	196.0	184.3	172.0	158.9
40				2,688.2	2,618.2	2,533.3	2,473.4	2,458.2	2,413.0	2,350.2	2,267.9	2,165.4	2,045.0	1,919.0	1,783.9
41	7.0	4.0	2.0	6.59	6.19	5.79	5.47	5.26	5.07	4.75	4.44	4.10	3.74	3.38	3.04
42	65%	105%	145%	54.3%	61.6%	64.5%	74.8%	76.3%	100.5%	138.6%	152.6%	168.2%	182.2%	194.0%	201.0%
43	-	250	500	(99.6)	(113.6)	(109.3)	(93.9)	(68.4)	(8.2)	88.9	203.2	335.4	485.9	654.8	842.1
44	1.00	0.90	0.75	1.14	1.11	1.07	1.04	1.04	1.01	0.97	0.92	0.86	0.81	0.75	0.69

TFG

THE FOSTER GROUP

Executive Summary Forecast Worksheet  
Sewage Disposal System - \$ millions

Revenue / Revenue Req't Forecast	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b><u>GLWA Wholesale System</u></b>												
1 Charge Increase - %	<b>4.0%</b>	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Cumulative		4.0%	8.2%	12.5%	17.0%	21.7%	26.5%	31.6%	36.9%	42.3%	48.0%	53.9%
2 Baseline Revenue	465.6	465.6	465.6	465.6	465.6	465.6	465.6	465.6	465.6	465.6	465.6	465.6
3 Charge Increase Revenue		<u>18.6</u>	<u>38.0</u>	<u>58.1</u>	<u>79.1</u>	<u>100.9</u>	<u>123.5</u>	<u>147.1</u>	<u>171.6</u>	<u>197.1</u>	<u>223.6</u>	<u>251.2</u>
4 Revenue from Charges	465.6	484.2	503.6	523.7	544.7	566.5	589.1	612.7	637.2	662.7	689.2	716.7
5 Non Operating Revenue	2.8	4.6	3.6	3.6	3.7	3.7	3.9	4.0	4.2	4.5	5.0	5.8
6 Total Revenue	468.3	488.8	507.2	527.3	548.3	570.1	593.0	616.6	641.4	667.2	694.2	722.5
7 Operating Expense Increase - %	<b>2.0%</b>	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
8 O&M Budget	191.1	194.9	198.8	202.8	206.8	211.0	215.2	219.5	223.9	228.4	232.9	237.6
9 O&M Pension Obligation	<u>10.8</u>	<u>10.8</u>	<u>10.8</u>	<u>10.8</u>	<u>10.8</u>	<u>2.1</u>						
10 Operating Expense	201.9	205.7	209.6	213.6	217.7	213.1	217.3	221.6	226.0	230.5	235.0	239.7
11 Net Revenue	266.4	283.1	297.5	313.7	330.7	357.0	375.7	395.1	415.4	436.7	459.2	482.9
<b><u>Existing Debt Service</u></b>												
12 Principal	89.7	96.6	95.0	107.8	104.2	114.5	104.7	119.0	126.5	130.6	127.8	141.6
13 Interest	<u>118.6</u>	<u>117.3</u>	<u>114.3</u>	<u>106.7</u>	<u>102.6</u>	<u>98.6</u>	<u>94.0</u>	<u>89.5</u>	<u>85.0</u>	<u>80.3</u>	<u>75.1</u>	<u>70.2</u>
14 Total	208.4	214.0	209.3	214.6	206.8	213.1	198.7	208.4	211.5	210.9	202.9	211.8
15 Net Revenue after Existing Debt Svc	58.0	69.1	88.2	99.1	123.9	144.0	177.0	186.6	203.9	225.8	256.3	271.0
16 Fixed MBO Requirements	45.1	46.5	46.6	46.8	47.0	37.2	39.5	39.6	39.3	39.0	39.1	39.2
17 Available for Capital / New Debt Svc	<b>13.0</b>	<b>22.6</b>	<b>41.6</b>	<b>52.3</b>	<b>76.9</b>	<b>106.8</b>	<b>137.5</b>	<b>147.0</b>	<b>164.6</b>	<b>186.8</b>	<b>217.2</b>	<b>231.8</b>
18 Existing Available Capital Funds	196.6	<u>30.0</u>	<u>76.6</u>	<u>0.0</u>								
19 Total CIP Funding	<b>120.0</b>	<b>43.0</b>	<b>99.2</b>	<b>41.6</b>	<b>52.3</b>	<b>76.9</b>	<b>106.8</b>	<b>137.5</b>	<b>147.0</b>	<b>164.6</b>	<b>217.2</b>	<b>231.8</b>
20 Carryover Capital Funding Balance	166.6	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
21 Additional Bond Proceeds Needed		<b>20.8</b>	<b>78.4</b>	<b>67.7</b>	<b>43.1</b>	<b>13.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
22 Cumulative Additional Bonds	<b>0.0</b>	<b>20.8</b>	<b>99.2</b>	<b>166.9</b>	<b>210.0</b>	<b>223.2</b>						
23 Additional Debt Service	0.0	1.2	5.9	9.9	12.5	13.3	13.3	13.3	13.3	13.3	13.3	13.3

Executive Summary Forecast Worksheet  
Sewage Disposal System - \$ millions

Metric Calculations	Metric Target			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
	Min A	Min AA	Min AAA	Note														
<b>Operating Margin</b>																		
24	Depreciation Expense			160.3	141.1	130.9	129.7	130.4	122.3	114.9	117.8	121.2	125.6	131.1	137.6			
25	Total Operating Expenses			351.4	336.0	329.7	332.5	337.2	333.2	330.1	337.2	345.1	354.0	364.0	375.2			
26	Operating Margin			114.2	148.2	173.9	191.2	207.4	233.2	259.0	275.4	292.1	308.7	325.1	341.6			
27	Operating Margin %			25%	40%	50%	24.5%	30.6%	34.5%	36.5%	38.1%	41.2%	44.0%	45.0%	45.8%	46.6%	47.2%	47.7%
<b>Regional Revenue Allocation</b>																		
28	O&M			43.1%	42.1%	41.3%	40.5%	39.7%	37.4%	36.6%	35.9%	35.2%	34.5%	33.9%	33.2%			
29	Debt Service			40%	33%	25%	44.5%	43.8%	41.3%	40.7%	37.7%	37.4%	33.5%	33.8%	33.0%	31.6%	29.2%	29.3%
30	Non-Operating Expense			9.6%	9.5%	9.2%	8.9%	8.6%	6.5%	6.7%	6.4%	6.1%	5.9%	5.6%	5.4%			
31	Capital Financing			2.8%	4.6%	8.2%	9.9%	14.0%	18.7%	23.2%	23.8%	25.7%	28.0%	31.3%	32.1%			
32	Total			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
<b>Debt Service Coverage</b>																		
33	Net Revenue - Local System (a)			29.3	31.6	31.7	31.6	31.7	31.7	31.6	31.6	31.7	31.7	31.7	31.7			
34	Total Net Revenues			295.7	314.7	329.2	345.3	362.3	388.7	407.4	426.7	447.0	468.4	490.8	514.5			
35	Debt Service Coverage			1.25	1.70	2.00	1.24	1.27	1.33	1.35	1.44	1.51	1.67	1.68	1.74	1.83	1.98	2.00
36	Sr. Lien Debt Service Coverage			1.50	2.00	2.25	2.05	2.13	2.38	2.24	2.21	2.41	2.61	2.51	2.62	2.75	2.88	2.93
<b>Debt to Operating Revenue</b>																		
37	Outstanding Debt Balance			3,050.7	2,941.0	2,832.3	2,710.2	2,591.1	2,461.2	2,340.3	2,204.4	2,060.3	1,911.3	1,764.2	1,602.5			
38	Additional Principal				20.8	98.9	164.9	205.0	214.4	210.2	205.8	201.3	196.5	191.6	186.4			
39	Estimated Premium/Discount			272.0	262.2	252.5	241.6	231.0	219.4	208.7	196.5	183.7	170.4	157.3	142.9			
40	Outstanding Indebtedness			3,322.7	3,224.0	3,183.7	3,116.7	3,027.2	2,895.0	2,759.1	2,606.8	2,445.2	2,278.2	2,113.1	1,931.8			
41	Debt to Operating Revenue			7.0	4.0	2.0	5.85	5.45	5.21	4.93	4.62	4.30	3.94	3.60	3.26	2.93	2.62	2.31
42	Free Cash as a % of Depreciation			65%	105%	145%	41.2%	52.5%	68.4%	74.3%	90.9%	105.6%	140.9%	145.6%	155.5%	167.3%	183.1%	184.6%
43	Net Position			-	250	500	(167.5)	(172.9)	(151.7)	(108.1)	(45.7)	46.1	169.3	314.4	482.0	672.3	886.0	1,122.9
44	Debt / Asset Ratio			1.00	0.90	0.75	1.08	1.06	1.06	1.04	1.02	0.98	0.94	0.89	0.84	0.79	0.74	0.69