City of Spruce Grove

Utility Rates Review

September 2022

The City of Spruce Grove

CORVUS Business Advisors

Agenda

- Scope
- Methodology
- Water
  - Key Inputs
  - Revenue Requirements
  - Updated Rates
- Sewer Revenue Requirements & Updated Rates
- Stormwater Revenue Requirements & Updated Rates
- Solid Waste Rates
- Rate Change & Rate Comparison
- Q&A. Please Hold Questions Until The End

Scope and Methodology

Scope

- Establish updated full cost “consumption” rate strategies for in boundary customers of the City’s water, sewer, stormwater, and solid waste utilities.
- Separate the City’s water and sewer rate into independent rates in alignment with leading practices.
- Other tertiary rates are beyond the scope of this review (e.g., unmetered charges, bulk water charges, sustainability charges, meter rental, service connection fees, penalties, water shutoffs, irrigation, dumping charges, beyond boundary rates, etc.)
- 10-year rate review period from 2023-2032.

Methodology

Two accepted methods for determining revenue requirements of utility systems:

1. The Cash Needs Approach
   - Includes: (1) O&M, (2) debt, and (3) capital requirements
   - Develops revenue requirements based upon what is being spent today
   - Con: Revenue requirements can fluctuate dramatically with cash demands that result from large capital expenditures.
2. The Utility (Full Cost) Approach
   - Includes: (1) O&M, (2) depreciation on capital assets in service, and (3) a return on assets in service.
   - Develops revenue requirements based upon on the assets that are consumed in service delivery (depreciation) and through financial returns on the asset base that will sustain the service in the future.
   - Pro: Results in greater water and sewer rate stability (not a volatile / subject to rate swings) and enables the utility to rehab/replace assets at the end of their life.

Rate Model

- Water and sewer rate model comprised of the following key inputs and outputs:

- Existing assets (TCA) – “contributed” vs. “system acquired”
- Future assets (Capital Plan) and proposed financing – “contributed” vs. “system acquired”
- Depreciation forecast
- Existing and future debt financing
- Operating and maintenance costs
- Return on asset base:
  - Equity – AUC “generic rate of return” (8.5%)
  - Debt – equivalent to average interest rate requirements
  - Contributed Assets – 0%
  - Working Capital – AUC “ generic rate of return” (8.5%)
- Customer consumption and service sizes

Revenue Requirements

Rate Impacts

Reserve Balances

✓ The quality of information we received from City staff was very good.

Water Revenue Requirements & Rates

Water Revenue Requirements:
Existing Water Infrastructure

- The City has ~$120.3 Million of water infrastructure in service. Assets are (on average) at 38% of their book-life (62% remaining).
- It is important that reserves be accumulated for future asset rehabilitation and reconstruction.
- As shown later in this presentation, current water rates are not generating reserves for future asset replacement.

Description	Gross Cost	Accumulated Depreciation	Net Book Value	Remaining % of Asset
System Acquired Assets				
75 Year Assets	$ -	$ -	$ -	0%
50 Year Assets	$ 34,331,961	$ 12,738,790	$ 21,593,171	63%
45 Year Assets	$ 9,558,306	$ 8,090,581	$ 1,467,726	15%
40 Year Assets	$ 11,802,166	$ 6,294,536	$ 5,507,631	47%
30 Year Assets	$ 18,050,960	$ 3,286,656	$ 14,764,303	82%
20 Year Assets	$ 5,955,836	$ 2,740,488	$ 3,215,347	54%
10 Year Assets	$ 64,046	$ 22,707	$ 41,339	65%
Total Acquired	**$ 79,763,275**	**$ 33,173,759**	**$ 46,589,517**	**58%**
Contributed Assets				
50 Year Assets	$ 12,326,477	$ 4,688,679	$ 7,637,799	62%
45 Year Assets	$ 14,238,112	$ 3,922,788	$ 10,315,324	72%
40 Year Assets	$ 9,744,045	$ 3,248,499	$ 6,495,545	67%
30 Year Assets	$ 4,231,654	$ 949,630	$ 3,282,024	78%
20 Year Assets	$ -	$ -	$ -	0%
10 Year Assets	$ -	$ -	$ -	0%
Total Contributed	**$ 40,540,288**	**$ 12,809,596**	**$ 27,730,692**	**68%**
Total All Assets	**$ 120,303,564**	**$ 45,983,355**	**$ 74,320,209**	**62%**

Water Revenue Requirements:

Water Capital Plan (Part 1)

		Inflation	3.00%	Allocation of Cost		System Acquired Financing		Contributed Financing		
Description	**Current Cost**	**Year**	**Future Cost**	**System Acquired**	**Contributed**	**Debentures**	**Reserves**	**Grants**	**Developers**	
Water Main 400mm - Ball Diamond & South of Hwy 16A	$ 3,960,000	2025	$ 4,327,199	$ -	$ 4,327,199	$ -	$ -	$ -	$ 4,327,199	$
Water Main 400mm - Diamond Ave in South Industrial	$ 5,280,000	2025	$ 5,769,599	$ -	$ 5,769,599	$ -	$ -	$ -	$ 5,769,599	$
Pressure Reducing Valves - 13	$ 300,000	2025	$ 327,818	$ -	$ 327,818	$ -	$ -	$ -	$ 327,818	$
Pressure Reducing Valves - 14	$ 300,000	2025	$ 327,818	$ -	$ 327,818	$ -	$ -	$ -	$ 327,818	$
Pressure Reducing Valves - 15	$ 180,000	2025	$ 196,691	$ -	$ 196,691	$ -	$ -	$ -	$ 196,691	$
Pressure Reducing Valves - 10	$ 300,000	2025	$ 327,818	$ -	$ 327,818	$ -	$ -	$ -	$ 327,818	$
Pressure Reducing Valves - 6, 7, 8, 9	$ 1,200,000	2023	$ 1,236,000	$ -	$ 1,236,000	$ -	$ -	$ -	$ 1,236,000	$
Pressure Reducing Valves - 11, 12	$ 360,000	2025	$ 393,382	$ -	$ 393,382	$ -	$ -	$ -	$ 393,382	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Industrial WM and Surface Rehab- Diamond Avenue and Century Road	$ 2,782,900	2023	$ 2,866,387	$ 2,866,387	$ -	$ -	$ 2,866,387	$ -	$ -	$
Industrial WM and Surface Rehab - Diamond Avenue to Water Reservoir	$ 1,657,100	2023	$ 1,706,813	$ 1,706,813	$ -	$ -	$ 1,706,813	$ -	$ -	$
Industrial WM and Surface Rehab - Madison Crescent	$ 3,840,000	2024	$ 4,073,856	$ 4,073,856	$ -	$ 4,073,856	$ -	$ -	$ -	$
Industrial WM and Surface Rehab - Alberta Avenue and Yellowhead Road	$ 2,520,000	2026	$ 2,836,282	$ 2,836,282	$ -	$ 200,000	$ 2,636,282	$ -	$ -	$
Industrial WM and Surface Rehab - Shep Street and South Avenue (Golden Spike Rd to 2021 limit)	$ 3,180,000	2027	$ 3,686,492	$ 3,686,492	$ -	$ 925,000	$ 2,761,492	$ -	$ -	$
Industrial WM and Surface Rehab - Diamond Avenue and Oswald Drive	$ 4,440,000	2028	$ 5,301,592	$ 5,301,592	$ -	$ 3,300,000	$ 2,001,592	$ -	$ -	$
Industrial WM and Surface Rehab - Oswald Drive	$ 1,920,000	2029	$ 2,361,358	$ 2,361,358	$ -	$ 700,000	$ 1,661,358	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Support to City Center ARP - McLeod Avenue and Main Street	$ 893,754	2022	$ 893,754	$ 893,754	$ -	$ -	$ 893,754	$ -	$ -	$
Support to City Center ARP - Jespersen (King to Queen and 16A)	$ 1,250,000	2022	$ 1,250,000	$ 1,250,000	$ -	$ 1,113,866	$ 136,134	$ -	$ -	$
Support to City Center ARP - Calahoo (South Ave to First Ave)	$ 750,000	2023	$ 772,500	$ 772,500	$ -	$ -	$ 772,500	$ -	$ -	$
Support to City Center ARP - Lanes (South McLeod Ave to north of McLeod Ave)	$ 530,000	2023	$ 545,900	$ 545,900	$ -	$ -	$ 545,900	$ -	$ -	$
Support to City Center ARP - Lanes (north McLeod Ave from Queen Street for 200m)	$ 300,000	2023	$ 309,000	$ 309,000	$ -	$ -	$ 309,000	$ -	$ -	$
Support to City Center ARP - McLeod Avenue and Main Street	$ 209,159	2023	$ 215,433	$ 215,433	$ -	$ -	$ 215,433	$ -	$ -	$
Support to City Center ARP - Main Street (1st Avenue)	$ 209,159	2023	$ 215,433	$ 215,433	$ -	$ -	$ 215,433	$ -	$ -	$
Support to City Center ARP - Calahoo (First Ave to Mohr)	$ 1,500,000	2023	$ 1,545,000	$ 1,545,000	$ -	$ -	$ 1,545,000	$ -	$ -	$
Support to City Center ARP - Mohr Ave (from Queen to Calahoo)	$ 873,840	2024	$ 927,057	$ 927,057	$ -	$ 500,000	$ 427,057	$ -	$ -	$
Support to City Center ARP - Church Road (Queen to Calahoo via lane north of Andrews Crescent)	$ 688,480	2024	$ 730,408	$ 730,408	$ -	$ -	$ 730,408	$ -	$ -	$
Support to City Center ARP - Church Road (King to Queen)	$ 635,520	2024	$ 674,223	$ 674,223	$ -	$ -	$ 674,223	$ -	$ -	$
Support to City Center ARP - McPherson (Queen to Main)	$ 635,520	2024	$ 674,223	$ 674,223	$ -	$ -	$ 674,223	$ -	$ -	$
Support to City Center ARP - Main Street	$ 476,640	2024	$ 505,667	$ 505,667	$ -	$ -	$ 505,667	$ -	$ -	$
Support to City Center ARP - 1st Ave, Mohr and Lanes	$ 2,279,000	2025	$ 2,490,325	$ 2,490,325	$ -	$ -	$ 2,490,325	$ -	$ -	$
Support to City Center ARP - King Street	$ 4,163,000	2026	$ 4,685,493	$ 4,685,493	$ -	$ 4,685,493	$ -	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Water Meter Replacement Program	$ 232,000	2022	$ 232,000	$ 232,000	$ -	$ -	$ 232,000	$ -	$ -	$
Water Meter Replacement Program	$ 309,900	2023	$ 319,197	$ 319,197	$ -	$ -	$ 319,197	$ -	$ -	$
Water Meter Replacement Program	$ 310,000	2024	$ 328,879	$ 328,879	$ -	$ -	$ 328,879	$ -	$ -	$
Water Meter Replacement Program	$ 309,900	2025	$ 338,636	$ 338,636	$ -	$ -	$ 338,636	$ -	$ -	$
Water Meter Replacement Program	$ 309,900	2026	$ 348,795	$ 348,795	$ -	$ -	$ 348,795	$ -	$ -	$
Water Meter Replacement Program	$ 309,900	2027	$ 359,259	$ 359,259	$ -	$ -	$ 359,259	$ -	$ -	$
Water Meter Replacement Program	$ 309,900	2028	$ 370,037	$ 370,037	$ -	$ -	$ 370,037	$ -	$ -	$
Water Meter Replacement Program	$ 309,600	2029	$ 380,769	$ 380,769	$ -	$ -	$ 380,769	$ -	$ -	$
Water Meter Replacement Program	$ 309,700	2030	$ 392,319	$ 392,319	$ -	$ -	$ 392,319	$ -	$ -	$
Water Meter Replacement Program	$ 309,600	2031	$ 403,958	$ 403,958	$ -	$ -	$ 403,958	$ -	$ -	$
Water Meter Replacement Program	$ 309,500	2032	$ 415,942	$ 415,942	$ -	$ -	$ 415,942	$ -	$ -	$

Water Revenue Requirements:
Water Capital Plan (Part 2)

Water Rehabilitation Program - Grove Meadows Neighbourhood	$ 3,643,000	2027	$ 4,223,235	$ 4,223,235	$ -	$ -	$ 4,223,235	$ -	$ -	$
Water Rehabilitation Program - Millgrove (Morel & Mathias areas) and Millgrove Dr.	$ 4,099,443	2028	$ 4,894,949	$ 4,894,949	$ -	$ -	$ 4,894,949	$ -	$ -	$
Water Rehabilitation Program - Millgrove (Morel & Mathias areas) and Millgrove Dr.	$ 4,432,399	2029	$ 5,451,292	$ 5,451,292	$ -	$ -	$ 5,451,292	$ -	$ -	$
Water Rehabilitation Program - Millgrove (Morel & Mathias areas) and Millgrove Dr.	$ 4,818,991	2030	$ 6,104,554	$ 6,104,554	$ -	$ -	$ 6,104,554	$ -	$ -	$
Water Rehabilitation Program - Millgrove (Morel & Mathias areas) and Millgrove Dr.	$ 5,236,511	2031	$ 6,832,459	$ 6,832,459	$ -	$ -	$ 6,832,459	$ -	$ -	$
Water Rehabilitation Program - Millgrove (Morel & Mathias areas) and Millgrove Dr.	$ 5,236,511	2032	$ 7,037,433	$ 7,037,433	$ -	$ -	$ 7,037,433	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2022	$ 188,400	$ 188,400	$ -	$ -	$ 188,400	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2023	$ 194,052	$ 194,052	$ -	$ -	$ 194,052	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2024	$ 199,874	$ 199,874	$ -	$ -	$ 199,874	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2025	$ 205,870	$ 205,870	$ -	$ -	$ 205,870	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2026	$ 212,046	$ 212,046	$ -	$ -	$ 212,046	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2027	$ 218,407	$ 218,407	$ -	$ -	$ 218,407	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2028	$ 224,959	$ 224,959	$ -	$ -	$ 224,959	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2029	$ 231,708	$ 231,708	$ -	$ -	$ 231,708	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2030	$ 238,659	$ 238,659	$ -	$ -	$ 238,659	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2031	$ 245,819	$ 245,819	$ -	$ -	$ 245,819	$ -	$ -	$
Water Meters Growth Plan	$ 188,400	2032	$ 253,194	$ 253,194	$ -	$ -	$ 253,194	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Hydro Vac Drying Pad Facility (Water 20%/Sewer 15%/Drainage 65%)	$ 75,000	2022	$ 75,000	$ 75,000	$ -	$ -	$ 75,000	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - Chev Equinox Meter Reader (Finance)	$ 38,000	2027	$ 44,052	$ 44,052	$ -	$ -	$ 44,052	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 2012 Ford 1 ton chassis with attached body- Water 50%/Sewer 50%)	$ 39,665	2022	$ 39,665	$ 39,665	$ -	$ -	$ 39,665	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 2015 Ford 3/4 Ton 4x4 with tool boxes (Water 50%/Sewer 50%)	$ 21,000	2025	$ 22,947	$ 22,947	$ -	$ -	$ 22,947	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 2016 Ford 3/4 Ton 4x4 with tool boxes (Water 50%/Sewer 50%)	$ 21,750	2026	$ 24,480	$ 24,480	$ -	$ -	$ 24,480	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - F150 with Tool Box (Water 50%/Sewer 50%)	$ 19,500	2027	$ 22,606	$ 22,606	$ -	$ -	$ 22,606	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 1 Ton Truck with Hydraulic Dump Box (Water 50%/Sewer 50%)	$ 30,500	2027	$ 35,358	$ 35,358	$ -	$ -	$ 35,358	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 2015 F350 (Water 50%/Sewer 50%)	$ 31,750	2025	$ 34,694	$ 34,694	$ -	$ -	$ 34,694	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 2020 Ford F150 (Water 50%/Sewer 50%)	$ 21,250	2030	$ 26,919	$ 26,919	$ -	$ -	$ 26,919	$ -	$ -	$
Vehicle Lifecycle Replacement Plan - 2020 F450 4x2 Chassis CA (Water 50%/Sewer 50%)	$ 31,500	2030	$ 39,903	$ 39,903	$ -	$ -	$ 39,903	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Equipment Lifecycle Replacement Plan - 2014 5T Tandem Flusher (Water 10%/Sewer 60%/Drainage 30%)	$ 60,500	2024	$ 64,184	$ 64,184	$ -	$ -	$ 64,184	$ -	$ -	$
Equipment Lifecycle Replacement Plan - Unit357Caterpillar450F Backhoe (Water 20%/Sewer 20%/Drainage 60%)	$ 47,200	2024	$ 50,074	$ 50,074	$ -	$ -	$ 50,074	$ -	$ -	$
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$
Hypercon Pipe Diver Line Inspection	$ 410,000	2024	$ 434,969	$ 434,969	$ -	$ -	$ 434,969	$ -	$ -	$
	$ 81,330,841		$ 93,935,073	$ 81,028,748	$ 12,906,325	$ 15,498,215	$ 65,530,533	$ -	$ 12,906,325	$

- The City's water capital plan totals **$93.94 million** in the year of construction.
- **$12.9 million** will be contributed by way of developers and other contributions
- Of the remainder, the bulk (**~$65.5 million**) will be financed by way of the water utility reserve.
- We estimate that debentures of **~$15.5 million** will be required to finance the rest (City currently planning for ~$1.1 million).

Water Revenue Requirements:

Existing and Future Debt Payments

- Principal and interest payments during the 10-year period will be ~$8.0 Million.

Year	Existing Debt			Future Debt			Total Debt		
	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
2023	$ 93,299	$ 36,800	$ 130,099	$ 23,834	$ 53,072	$ 76,906	$ 117,133	$ 89,872	$ 207,005
2024	$ 95,064	$ 35,035	$ 130,099	$ 24,989	$ 51,917	$ 76,906	$ 120,053	$ 86,952	$ 207,005
2025	$ 96,861	$ 33,238	$ 130,099	$ 124,068	$ 268,635	$ 392,704	$ 220,930	$ 301,873	$ 522,803
2026	$ 98,693	$ 31,406	$ 130,099	$ 130,082	$ 262,621	$ 392,704	$ 228,775	$ 294,028	$ 522,803
2027	$ 100,559	$ 29,540	$ 130,099	$ 240,924	$ 489,094	$ 730,018	$ 341,483	$ 518,634	$ 860,117
2028	$ 102,460	$ 27,639	$ 130,099	$ 272,395	$ 521,488	$ 793,884	$ 374,856	$ 549,127	$ 923,983
2029	$ 104,398	$ 25,702	$ 130,099	$ 356,210	$ 665,519	$ 1,021,729	$ 460,608	$ 691,220	$ 1,151,828
2030	$ 106,372	$ 23,728	$ 130,099	$ 388,455	$ 681,605	$ 1,070,060	$ 494,827	$ 705,332	$ 1,200,159
2031	$ 108,383	$ 21,716	$ 130,099	$ 407,285	$ 662,775	$ 1,070,060	$ 515,668	$ 684,491	$ 1,200,159
2032	$ 110,432	$ 19,667	$ 130,099	$ 427,028	$ 643,032	$ 1,070,060	$ 537,460	$ 662,699	$ 1,200,159
Total	**$ 1,016,520**	**$ 284,471**	**$ 1,300,991**	**$ 2,395,272**	**$ 4,299,759**	**$ 6,695,030**	**$ 3,411,792**	**$ 4,584,229**	**$ 7,996,022**

Water Revenue Requirements:

Operating and Maintenance Costs

- O&M costs increase from ~$10.9 Million to $14.2 Million during the 10-year planning period.

Year	Miscellaneous Recoveries	Expenditures	Net Expenditures
2023	$ 438,200	$ 11,296,780	$ 10,858,580
2024	$ 451,345	$ 11,635,683	$ 11,184,338
2025	$ 464,886	$ 11,984,754	$ 11,519,868
2026	$ 478,832	$ 12,344,296	$ 11,865,464
2027	$ 493,197	$ 12,714,625	$ 12,221,428
2028	$ 507,993	$ 13,096,064	$ 12,588,071
2029	$ 523,233	$ 13,488,946	$ 12,965,713
2030	$ 538,930	$ 13,893,614	$ 13,354,684
2031	$ 555,098	$ 14,310,423	$ 13,755,325
2032	$ 571,751	$ 14,739,735	$ 14,167,984

*In establishing net expenditures, the City's 2023 O&M budget for water was normalized by removing principal and interest payments (managed elsewhere in the model), amortization, and costs pertaining to other operations (e.g., truck fill costs pertain to bulk water rates).
**Miscellaneous recoveries include permit and inspection charges, sale of water meters, etc.

Water Revenue Requirements:
Depreciation Expense on Acquired Assets

- Depreciation averages **~$2.6 million** per year over the 10-year review period.

Description	2023	2024	2025	2026	2027
75 Year Assets	$ -	$ -	$ -	$ -	$ -
50 Year Assets	$ 771,596	$ 935,696	$ 1,043,128	$ 1,150,124	$ 1,311,519
45 Year Assets	$ 181,963	$ 181,963	$ 181,963	$ 135,473	$ 88,982
40 Year Assets	$ 172,602	$ 172,602	$ 172,602	$ 172,602	$ 172,602
30 Year Assets	$ 550,859	$ 557,424	$ 564,187	$ 570,871	$ 577,763
20 Year Assets	$ 297,792	$ 297,792	$ 296,763	$ 292,278	$ 285,041
10 Year Assets	$ 6,405	$ 32,647	$ 61,771	$ 65,877	$ 72,202
Total Depreciation	$ 1,981,216	$ 2,178,124	$ 2,320,414	$ 2,387,225	$ 2,508,110

Description	2028	2029	2030	2031	2032
75 Year Assets	$ -	$ -	$ -	$ -	$ -
50 Year Assets	$ 1,499,875	$ 1,687,336	$ 1,834,099	$ 1,971,432	$ 2,118,330
45 Year Assets	$ 88,982	$ 58,693	$ 28,404	$ 28,404	$ 28,404
40 Year Assets	$ 172,602	$ 172,602	$ 172,602	$ 172,602	$ 172,602
30 Year Assets	$ 585,153	$ 592,764	$ 600,603	$ 608,642	$ 616,923
20 Year Assets	$ 265,554	$ 242,088	$ 226,678	$ 197,613	$ 170,492
10 Year Assets	$ 77,303	$ 77,303	$ 80,644	$ 83,985	$ 82,002
Total Depreciation	$ 2,689,469	$ 2,830,786	$ 2,943,031	$ 3,062,679	$ 3,188,753

Water Revenue Requirements:
Return on Assets in Service

- Under the Full Cost approach, system acquired assets earn a rate of return, called the Generic Rate of Return (or Generic Cost of Capital). This is set by the AUC and is currently 8.5%.
- Returns are based on a deemed capital structure of 40% debt and 60% equity. A deemed capital structure helps smooth revenue requirement during periods of abnormally low or high capital construction.
- For water utility, this yields a return on assets in service of ~$3.9 Million in Year 1 of the 10-year reporting period. The average return on all assets is 4.7%.

2023							
Description	**Actual Capital In Service**	**% Actual Capital Structure**	**% Actual System Acquired Asset Structure**	**Deemed % System Acquired Asset Structure**	**Deemed Rate Base**	**Rate of Return**	**Return on Rate Base**
System Acquired Assets							
Debt Portion	$ 3,092,429	3.80%	5.80%	40.00%	$ 21,319,206	4.79%	$ 1,021,190
Equity Portion	$ 50,205,586	61.71%	94.20%	60.00%	$ 31,978,809	8.50%	$ 2,718,199
Total System Acquired	$ 53,298,015	65.51%	100.00%	100.00%	$ 53,298,015		$ 3,739,389
Contributed Assets	$ 28,065,018	34.49%			$ 28,065,018	0.00%	$ -
Total Assets	$ 81,363,034	100.00%			$ 81,363,034		$ 3,739,389
Working Capital	$ 10,858,580				$ 1,357,323	8.50%	$ 115,372
						Total Return	$ 3,854,761
							4.66%

Water Revenue Requirements:
Summary of Revenue Requirements

- The water utility's revenue requirement grows from **$16.7 million** in year 1 to **$24.4 million** in year 10.

Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
O&M costs (Net)	$10,858,580	$11,184,338	$11,519,868	$11,865,464	$12,221,428	$12,588,071	$12,965,713	$13,354,684	$13,755,325	$14,167,984
Depreciation	$ 1,981,216	$ 2,178,124	$ 2,320,414	$ 2,387,225	$ 2,508,110	$ 2,689,469	$ 2,830,786	$ 2,943,031	$ 3,062,679	$ 3,188,753
Return										
System Assets - Debt	$ 1,021,190	$ 1,145,448	$ 1,160,241	$ 1,269,834	$ 1,386,351	$ 1,541,587	$ 1,648,774	$ 1,722,719	$ 1,807,398	$ 1,893,959
System Assets - Equity	$ 2,718,199	$ 3,048,949	$ 3,088,324	$ 3,380,037	$ 3,690,183	$ 4,103,389	$ 4,388,700	$ 4,585,526	$ 4,810,923	$ 5,041,332
Contributed Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Working Capital	$ 115,372	$ 118,834	$ 122,399	$ 126,071	$ 129,853	$ 133,748	$ 137,761	$ 141,894	$ 146,150	$ 150,535
Principal Shortfall	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$16,694,558	$17,675,692	$18,211,245	$19,028,629	$19,935,925	$21,056,264	$21,971,734	$22,747,853	$23,582,474	$24,442,563

*Principal Shortfall: If depreciation is insufficient to cover the principal debt payment, then there is a principal shortfall and this amount is added to the revenue requirements.

Customers

- The City currently has approximately 12,960 water customers, the vast majority (98%) of which have a 5/8" water meter.

	5/8" (15mm)	3/4" (19mm)	3/4" (20mm)	1" (25mm)	1.5" (37mm)	1.5" (38mm)	2" (50mm)	3" (75mm)	4" (100mm)	6" (150mm)	Total
Jan	12,777	166	-	64	-	35	40	13	3	1	13,099
Feb	12,784	166	-	64	-	35	40	13	3	1	13,106
Mar	12,807	166	-	64	-	35	40	13	3	1	13,129
Apr	12,488	165	-	64	-	35	39	13	3	1	12,808
May	12,522	165	-	63	-	35	39	13	3	1	12,841
Jun	12,511	165	-	64	-	35	39	13	3	1	12,831
Jul	12,552	165	-	64	-	35	39	13	3	1	12,872
Aug	12,564	165	-	64	-	35	39	13	3	1	12,884
Sep	12,616	166	-	64	-	35	39	13	3	1	12,937
Oct	12,666	166	-	64	-	35	39	13	3	1	12,987
Nov	12,671	166	-	64	-	35	39	13	3	1	12,992
Dec	12,708	163	-	64	-	35	40	13	3	1	13,027
Average	12,639	165	-	64	-	35	39	13	3	1	12,959
%	97.53%	1.28%	0.00%	0.49%	0.00%	0.27%	0.30%	0.10%	0.02%	0.01%	100.00%

*Water customers/demand will increase an average of 2.29% per year over the review period.

Updated Water Rates

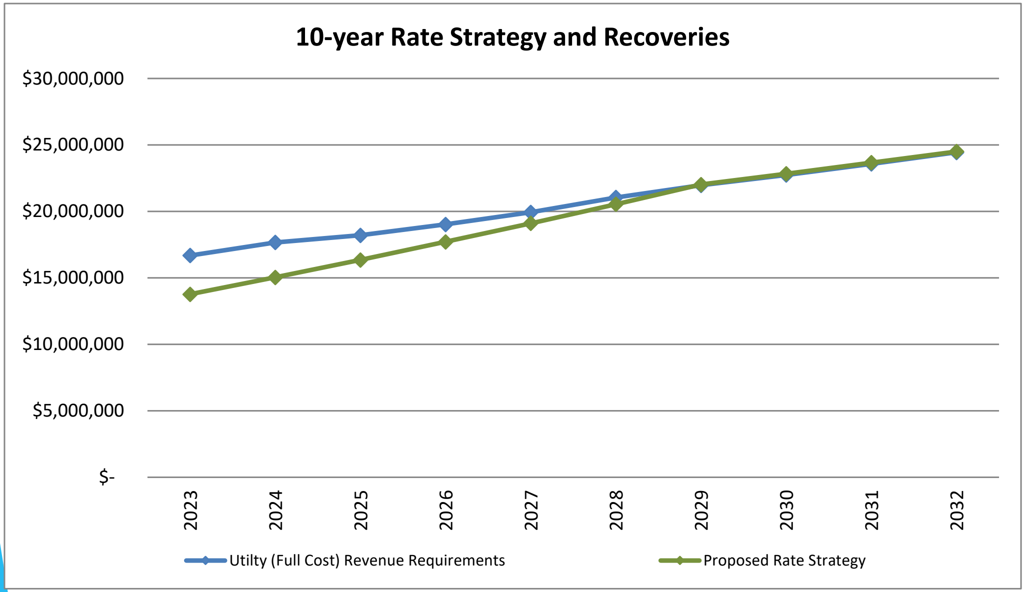
- The City currently charges $6.331/m³ for both water and sewer services. Of this charge, the City estimates that **$4.31/m³** are dedicated to the water utility. This rate is generating revenues that are below the revenue needed to achieve full cost requirements.
- To meet the water utility's the full cost revenue requirements in 2023 will require a charge of **$5.58/m³**. To jump to this rate immediately would mean significant impacts on customers. Accordingly, we recommend the City gradually increase rates over a number years—with a rate gradually increasing from $4.60/m³ in 2023 to $6.70/m³ in 2032.

Year	Water Charge Per m3
2023	$ 4.60
2024	$ 4.90
2025	$ 5.20
2026	$ 5.50
2027	$ 5.80
2028	$ 6.10
2029	$ 6.40
2030	$ 6.50
2031	$ 6.60
2032	$ 6.70

*It is recommended municipalities approve rate increases 1 year at a time, thereby allowing for rate adjustments as inputs change (e.g., capital plan).

Updated Water Rate Strategy:
Path Toward Self Sustainability

- The proposed rate strategy will enable the City to meet cash requirements in year 3 and reach full cost requirements in 2029.
- At the end of the 10-year review period, the water utility will have generated a reserve of $5.8 million, to be used for future rehabilitation and maintenance of the water system.



Year	Reserve Receipts	Reserves Applied	Reserve Balance
2022	$ -	$ -	$ 6,659,586
2023	$ 2,705,626	$ 8,689,715	$ 675,496
2024	$ 3,650,873	$ 4,089,558	$ 236,812
2025	$ 4,315,849	$ 3,092,472	$ 1,460,188
2026	$ 5,326,209	$ 3,221,603	$ 3,564,795
2027	$ 6,029,789	$ 7,664,409	$ 1,930,175
2028	$ 7,035,495	$ 7,491,537	$ 1,474,133
2029	$ 7,908,319	$ 7,725,127	$ 1,657,325
2030	$ 8,285,913	$ 6,802,354	$ 3,140,883
2031	$ 8,713,689	$ 7,482,236	$ 4,372,336
2032	$ 9,139,620	$ 7,706,569	$ 5,805,388

Note: moving forward the utility reserve should be separated into 4…one for each utility.

Sewer Revenue Requirements & Rates

Sewer Revenue Requirements:
Summary of Revenue Requirements

- The sewer utility's revenue requirement grows from **$5.9 million** in year 1 to **$7.7 million** in year 10.

Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
O&M costs (Net)	4,907,349	5,119,958	5,273,556	5,431,763	5,594,716	5,762,558	5,935,434	6,113,497	6,296,902	6,485,809
Depreciation	342,806	361,929	400,400	403,823	393,369	401,536	402,456	405,948	416,799	421,346
Return										
System Assets - Debt	137,610	156,062	88,666	268,021	200,310	201,474	203,512	207,117	209,545	212,242
System Assets - Equity	458,609	462,345	538,210	518,864	523,929	526,287	530,851	539,398	544,758	550,686
Contributed Assets	-	-	-	-	-	-	-	-	-	-
Working Capital	52,141	54,400	56,032	57,712	59,444	61,227	63,064	64,956	66,905	68,912
Principal Shortfall	-	-	-	-	-	-	-	-	-	-
Total	5,898,515	6,154,693	6,356,864	6,680,183	6,771,768	6,953,081	7,135,317	7,330,916	7,534,909	7,738,994

*Principal Shortfall: If depreciation is insufficient to cover the principal debt payment, then there is a principal shortfall and this amount is added to the revenue requirements.

Updated Sewer Rates

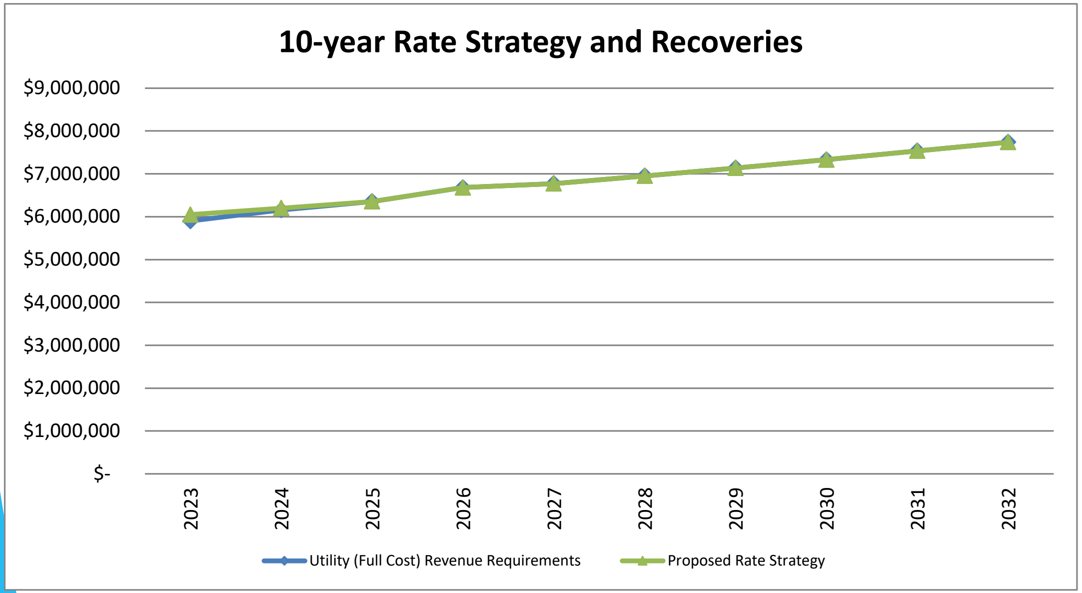
- The City currently charges \$6.331/m³ for both water and sewer services. Of this charge, the City estimates that **\$2.02/m³** is dedicated to the sewer utility. This rate is generating revenues that meet full cost requirements.
- To meet the sewer utility's the full cost revenue requirements in 2023 we recommend the City maintain the current rate of \$2.02/m³ in 2023 and increasing minimally to \$2.07/m³ in 2026 and then increasing to \$2.12/m³ in 2032 .

Year	Sanitary Sewer Charge Per m3
2023	$ 2.02
2024	$ 2.02
2025	$ 2.02
2026	$ 2.07
2027	$ 2.06
2028	$ 2.06
2029	$ 2.07
2030	$ 2.09
2031	$ 2.10
2032	$ 2.12

*It is recommended municipalities approve rate increases 1 year at a time, thereby allowing for rate adjustments as inputs change (e.g., capital plan).

Updated Sewer Rate Strategy:
Path Toward Self Sustainability

- The proposed rate strategy will enable the City to meet the full cost requirement through out the 10-year period.
- At the end of the 10-year review period, the sewer utility will have generated a reserve of $5.0 million, to be used for future rehabilitation and maintenance of the sewer system.



Year	Reserve Receipts	Reserve Applied	Reserve Balance
2022		684,485	(600,453)
2023	929,613	141,871	187,289
2024	870,723	435,181	622,831
2025	870,703	1,492,915	619
2026	1,003,496	24,480	979,635
2027	1,149,777	492,692	1,636,720
2028	1,163,248	447,770	2,352,198
2029	1,172,608	491,950	3,032,856
2030	1,190,144	573,530	3,649,469
2031	1,210,731	521,909	4,338,291
2032	1,225,910	537,567	5,026,634

Stormwater Revenue Requirements & Rates

Stormwater Revenue Requirements:

Summary of Revenue Requirements

- The stormwater utility's revenue requirement previously grew from **$3.3 million** in year 1 to **$3.8 million** in year 10. Revenue requirement are now **$3.3 million** in year 1 to **$4.0 million** in year 10.

Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
O&M costs (Net)	$ 1,579,374	$ 1,626,755	$ 1,675,558	$ 1,725,825	$ 1,777,600	$ 1,830,928	$ 1,885,855	$ 1,942,431	$ 2,000,704	$ 2,060,725
Depreciation	$ 476,462	$ 512,731	$ 540,304	$ 553,952	$ 555,242	$ 557,115	$ 560,946	$ 560,252	$ 563,752	$ 573,414
Return										
System Assets - Debt	$ 345,603	$ 363,934	$ 380,004	$ 380,712	$ 378,958	$ 376,863	$ 376,483	$ 375,700	$ 374,648	$ 374,348
System Assets - Equity	$ 919,925	$ 968,718	$ 1,011,493	$ 1,013,377	$ 1,008,708	$ 1,003,132	$ 1,002,122	$ 1,000,037	$ 997,238	$ 996,438
Contributed Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Working Capital	$ 16,781	$ 17,284	$ 17,803	$ 18,337	$ 18,887	$ 19,454	$ 20,037	$ 20,638	$ 21,257	$ 21,895
Principal Shortfall	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 3,338,145	$ 3,489,423	$ 3,625,161	$ 3,692,202	$ 3,739,395	$ 3,787,491	$ 3,845,444	$ 3,899,059	$ 3,957,599	$ 4,026,820

*<u>Principal Shortfall</u>: If depreciation is insufficient to cover the principal debt payment, then there is a principal shortfall and this amount is added to the revenue requirements.

Updated Stormwater Rates

- The City currently charges $11.50/mo for base/small customers. Small customers have water meters <1" and make up 99% of the City's total customers. The City currently charges $46.00/mo for large customers. Large customers have water meters =>1" and make up just 1% of the City's total customers. On average, large customers utilize 4X the stormwater system capacity than small customers, hence the price differential.
- To meet the stormwater utility's full cost revenue requirements in 2023 will require a charge of $20.98/mo for base/small customers. Rather then moving toward the new rate in one leap, we recommended the City stay on the path of gradual rate in alignment with the rate plan adopted in 2020, with some adjustments. Accordingly, we recommend the City establish a small/large monthly rate of $14.55/$58.20 in 2023 increasing gradually to $21.85/$86.60 in 2026. From 2026 onward, rates decrease gradually to $20.70/82.80, <u>assuming capital plan requirements remain as is</u>.

Previous Rate Strategy:

$ 7.30	$ 11.50	$ 14.55	$ 16.50	$ 20.50
$ 37.20	$ 46.00	$ 58.20	$ 66.00	$ 82.00

Updated Strategy:

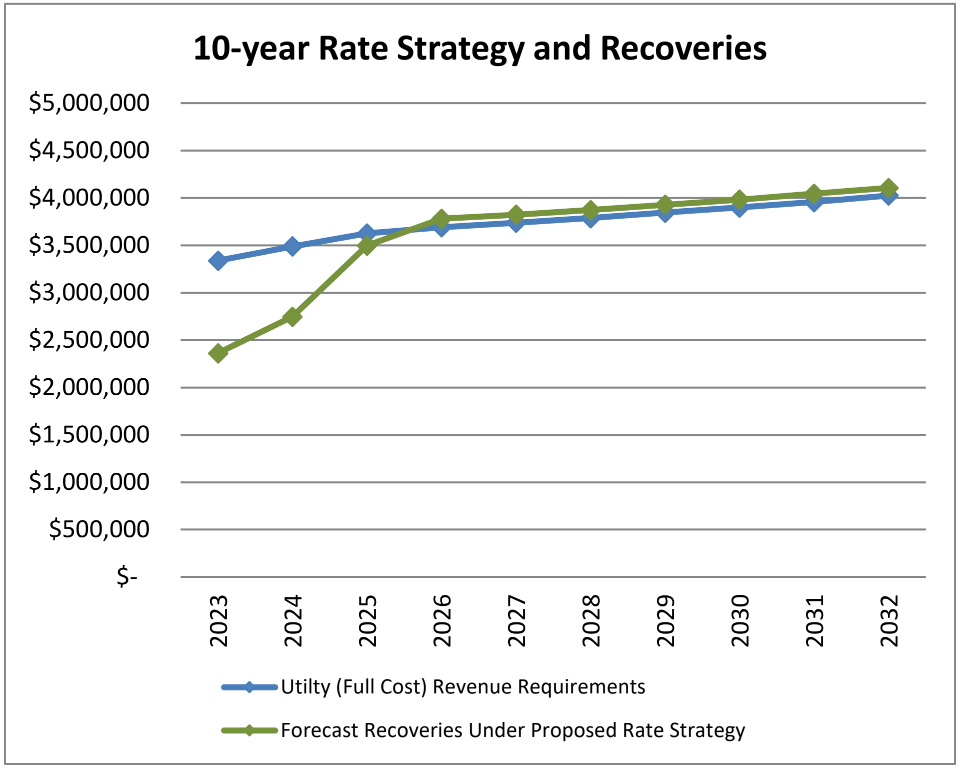
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Small Customers (<1")	$ 14.55	$ 16.50	$ 20.50	$ 21.65	$ 21.40	$ 21.20	$ 21.05	$ 20.90	$ 20.80	$ 20.70
Large Customers (>=1")	$ 58.20	$ 66.00	$ 82.00	$ 86.60	$ 85.60	$ 84.80	$ 84.20	$ 83.60	$ 83.20	$ 82.80

It is recommended municipalities approve rate increases 1 year at a time, thereby allowing for rate adjustments as inputs change (e.g., capital plan).

Updated Stormwater Rate Strategy:

Path Toward Self Sustainability

- The proposed rate strategy will enable the City to reach full cost requirements in 2025, which is 3 years sooner than originally planned when the utility strategy was adopted in 2020.
- Previously, the reserve was forecast to grow to $10.9 million. Now, at the end of the 10-year review period the stormwater utility will have generated a reserve of $9.4 million, to be used for future rehabilitation and maintenance of the stormwater system.



Year	Reserve Receipts	Reserve Applied	Reserve Balance
2022		$ 552,250	$ 1,125,877
2023	$ 591,835	$ 1,493,753	$ 223,959
2024	$ 904,968	$ 1,119,452	$ 9,475
2025	$ 1,606,605	$ 519,375	$ 1,096,705
2026	$ 1,840,522	$ 1,379,021	$ 1,558,206
2027	$ 1,831,243	$ 590,892	$ 2,798,557
2028	$ 1,826,556	$ 463,709	$ 4,161,404
2029	$ 1,827,663	$ 447,769	$ 5,541,298
2030	$ 1,825,176	$ 541,144	$ 6,825,330
2031	$ 1,829,374	$ 508,861	$ 8,145,842
2032	$ 1,854,487	$ 557,726	$ 9,442,604

Solid Waste Rates

Solid Waste Utility Rates

- The solid waste utility was reviewed. However, Administration anticipates potentially significant changes stemming from the solid waste contract re-tendering in spring 2023.
- Accordingly, Administration recommends rates remain unchanged pending confirmation of contract re-tendering.

Rate Change & Rate Comparison

Rate Comparison

	2022 Rates									2023
	City of Edmonton	Town of Stony Plain	City of Spruce Grove	City of Fort Sask	City of St. Albert	Parkland County	City of Leduc	City of Beaumont	Strathcona County	City of Spruce Grove
RESIDENTIAL WATER										
Consumption Charge (/m3)	$ 2.24	$ 3.71	$ 4.31	$ 2.95	$ 1.85	$ 3.02	$ 2.62	$ 2.10	$ 2.78	$ 4.60
Fixed Charge	$ -	$ -	$ -	$ -	$ 11.75	$ 23.33	$ 10.32	$ -	$ -	$ -
Capacity Charge:										
16mm (5/8")	$ 15.05	$ -	$ -	$ 6.64	$ -	$ -	$ -	$ 15.25	$ 5.36	$ -
19mm/20mm (3/4")	$ 22.58	$ -	$ -	$ 9.56	$ -	$ -	$ -	$ 15.25	$ 6.12	$ -
25mm (1")	$ 37.63	$ -	$ -	$ 17.00	$ -	$ -	$ -	$ 24.27	$ 7.01	$ -
37mm/38mm/40mm (1 1/2")	$ 75.27	$ -	$ -	$ 38.25	$ -	$ -	$ -	$ 33.77	$ 11.90	$ -
50mm (2")	$ 120.43	$ -	$ -	$ 67.99	$ -	$ -	$ -	$ 39.02	$ 15.30	$ -
80mm (3")	$ 225.80	$ -	$ -	$ 152.99	$ -	$ -	$ -	$ 41.91	$ 35.85	$ -
100mm (4")	$ 376.35	$ -	$ -	$ 271.97	$ -	$ -	$ -	$ 53.51	$ 55.13	$ -
150mm (6")	$ 752.69	$ -	$ -	$ 611.94	$ -	$ -	$ -	$ -	$ 96.10	$ -
200mm (8")	$ 1,204.30	$ -	$ -	$ 1,087.90	$ -	$ -	$ -	$ -	$ 171.10	$ -
250mm (10")	$ 1,731.19	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 426.10	$ -
300mm (12")	$ 2,541.08	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RESIDENTIAL SEWER										
Consumption Charge (/m3)	$ 1.25	$ 3.06	$ 2.02	$ 2.62	$ 2.08	$ 1.74	$ 2.05	$ 1.85	$ 1.90	$ 2.02
Fixed Charge	$ -	$ -	$ -	$ 5.60	$ 13.76	$ 23.76	$ 8.50	$ 9.64	$ 14.88	$ -
Capacity Charge:										
16mm (5/8")	$ 10.65	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19mm/20mm (3/4")	$ 19.18	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25mm (1")	$ 29.83	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37mm/38mm/40mm (1 1/2")	$ 57.53	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50mm (2")	$ 78.84	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80mm (3")	$ 162.90	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
100mm (4")	$ 303.42	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
150mm (6")	$ 573.93	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
200mm (8")	$ 915.70	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
250mm (10")	$ 2,272.48	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
300mm (12")	$ 2,272.48	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
STORMWATER										
Residential Stormwater	$ 34.37	$ 17.85	$ 11.50	$ 5.00	$ 18.00	tax supported	$ 5.00	$ 6.48	$ -	$ 14.55
RESIDENTIAL SOLID WASTE										
Small Bin Pick-up (120L)	$ 43.32	$ 25.84	$ 25.25	$ 26.81	$ 27.47	n/a	$ 24.53	$ 25.02	$ 25.45	$ 25.25
Large Bin Pick-up (240L)	$ 48.32	$ 25.84	$ 28.50	$ 26.81	$ 32.62	n/a	$ 24.53	$ 25.02	$ 25.45	$ 28.50
	1	2	3	4	5	6	7	8	9	
Average Household Monthly Bill (5/8", 20m3, Large Bin)	**$ 178.14**	**$ 179.13**	**$ 166.60**	**$ 155.45**	**$ 154.73**	**$ 142.29**	**$ 141.75**	**$ 135.39**	**$ 139.29**	
Forecast 2023 Rate (3% Inflation)	**$ 183.49**	**$ 184.51**		**$ 160.11**	**$ 159.37**	**$ 146.56**	**$ 146.00**	**$ 139.45**	**$ 143.47**	**$ 175.45**

Q&A….

Thank-you

CORVUS Business Advisors

780-428-4110

gweiss@corvusbusinessadvisors.com