




WATER AND WASTEWATER REVIEW

COW Meeting
Feb 18th, 2025





AGENDA

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02 BACKGROUND

03 PROPOSAL

04 WATER ANALYSIS

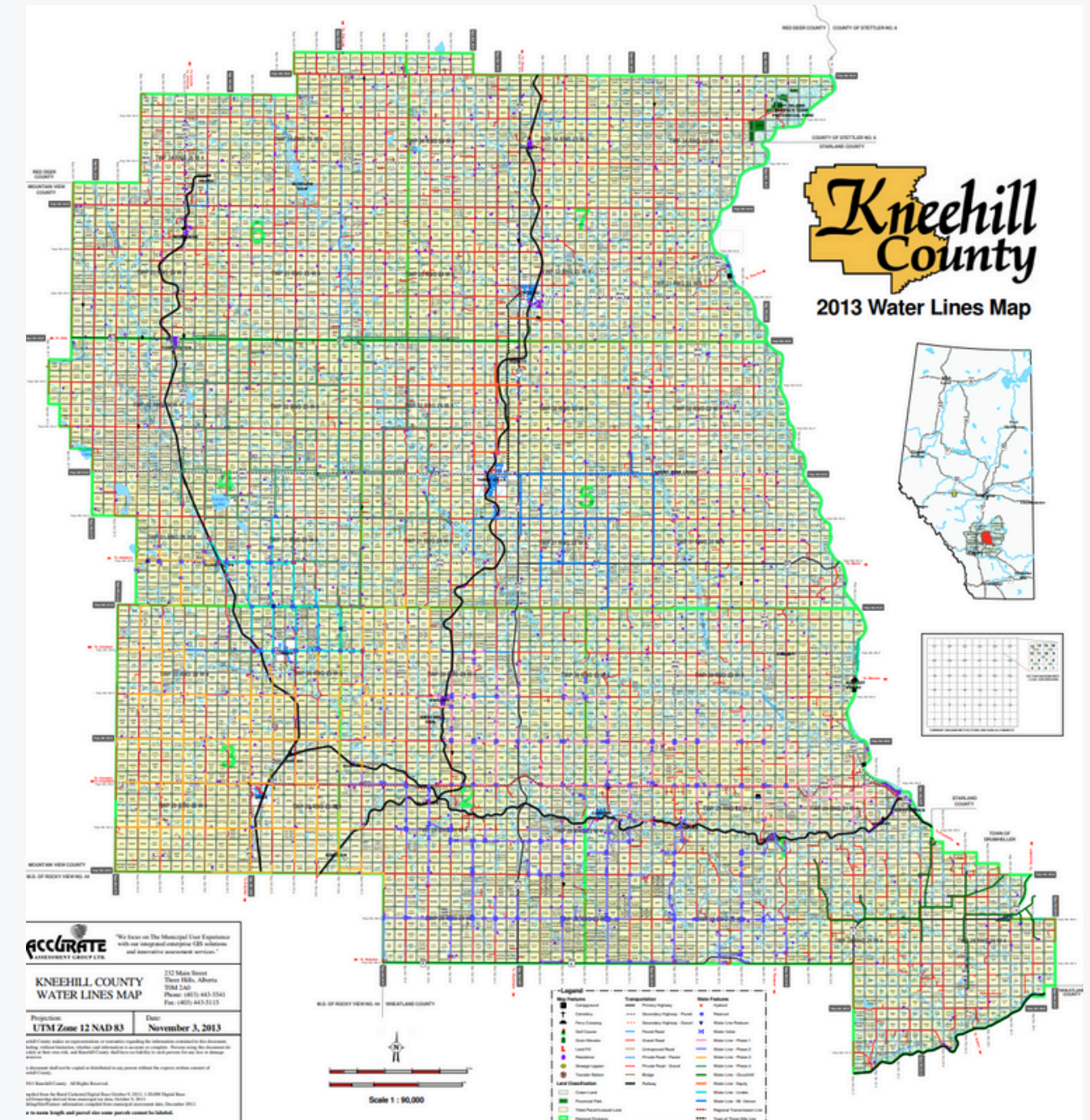
05 WASTEWATER ANALYSIS

06 TOTAL UTILITY ANALYSIS

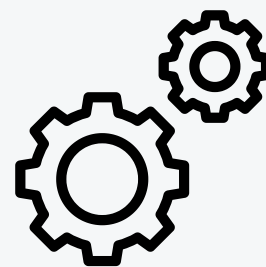
07 CONSIDERATIONS

ASSUMPTIONS

- This report is a high-level overview of the County's water and wastewater systems.
 - It represents the most accurate figures achievable with the available resources.
- Operational revenue and expenses were sourced from Microsoft GP
- The analysis focuses on the utility system as a complete entity rather than examining the 13 individual water systems.



BACKGROUND



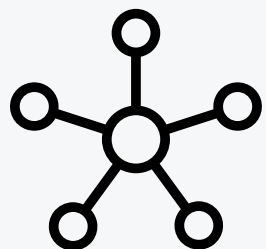
UTILITY SYSTEM PRIMARY FUNCTION

Deliver safe, reliable, and potable water to residents.



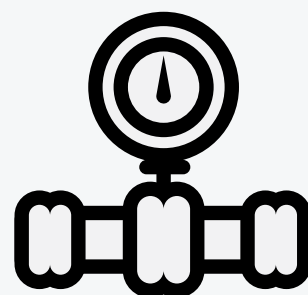
SERVICE AREA

Covers ~50% of the County, including rural areas and the hamlets of Huxley, Swalwell, Torrington, and Wimborne.



COMPONENTS OF SYSTEM

900 km of pipelines, 9 reservoirs, 9 pumphouses, and 2 booster stations.



DISTRIBUTION STATISTICS

Average daily distribution: 615 m³

Average annual distribution: 224,575 m³



PROPOSAL

Kneehill County subsidizes the water and wastewater systems through general taxes. The aim of this review was to understand the extent of this subsidization.

RESULTS

- The goal of any utility system is to achieve as close to cost recovery as possible.
- In 2024, considering the operational revenue and expense amounts, the County subsidized 38% of the total utility system.
- Options explored to reach cost recovery:
 - Universal rate per m³ for water systems
 - Monthly service and usage-based fee for wastewater systems

WATER ANALYSIS

WATER AND BULK WATER DISTRIBUTION

Total Water Distribution (m ³)				
2020	2021	2022	2023	2024
216,619	220,146	207,921	236,160	242,030
Total Bulk Water Distribution (m ³)				
2020	2021	2022	2023	2024
27,455	40,172	62,832	66,658	59,525
Combined Total Water Volume (m ³)				
2020	2021	2022	2023	2024
244,074	260,318	270,753	302,818	301,555

LOSS INCORPORATION

	2020	2021	2022	2023	2024
Total Systems with ~10% Loss	194,957	198,131	187,129	212,544	217,827
Loss Amount (m ³)	21,662	22,015	20,792	23,616	24,203

Water loss is an inevitable aspect of any water system. According to Environment Canada, the average water loss is estimated to be around 13%.

For this review, Administration is considering a 10% water loss.

WATER ANALYSIS

REVENUE, EXPENSES, AND SUBSIDY

Total Revenue from Water Distribution Sales				
2020	2021	2022	2023	2024
\$794,962	\$844,491	\$858,654	\$938,046	\$952,906
Total Revenue from Bulk Water Sales				
2020	2021	2022	2023	2024
\$124,558	\$179,716	\$319,382	\$303,931	\$270,071
Total Water System Revenue				
2020	2021	2022	2023	2024
\$1,004,871	\$1,106,198	\$1,257,359	\$1,326,154	\$1,316,992

Total Water System Expenses				
2020	2021	2022	2023	2024
\$1,669,102	\$1,879,572	\$1,959,673	\$2,061,299	\$1,999,313

Total Water System Subsidy				
2020	2021	2022	2023	2024
\$664,231 (40%)	\$773,374 (41%)	\$702,314 (36%)	\$735,145 (36%)	\$682,321 (34%)

WATER ANALYSIS

WATER SYSTEM PER M³

Year	Total Revenue	Total Expenses	Combined Total Water Volume (m ³)	Revenue per m ³	Cost per m ³	Subsidy per m ³	Total Subsidy
2020	\$1,004,871	\$1,669,102	244,074	\$4.12	\$6.84	\$2.72	\$664,231
2021	\$1,106,198	\$1,879,572	260,318	\$4.25	\$7.22	\$2.97	\$773,374
2022	\$1,257,359	\$1,959,673	270,753	\$4.64	\$7.24	\$2.59	\$702,314
2023	\$1,326,154	\$2,061,299	302,818	\$4.38	\$6.81	\$2.43	\$735,145
2024	\$1,316,992	\$1,999,313	301,555	\$4.37	\$6.63	\$2.26	\$682,321

WASTEWATER ANALYSIS

REVENUE, EXPENSES, AND SUBSIDY

Total Sanitary System Revenue				
2020	2021	2022	2023	2024
\$14,526	\$14,451	\$14,419	\$14,467	\$14,492

Total Sanitary System Expenses				
2020	2021	2022	2023	2024
\$99,583	\$143,880	\$124,478	\$131,623	\$133,702

Total Sanitary System Subsidy				
2020	2021	2022	2023	2024
\$85,057 (85%)	\$129,428 (90%)	\$110,059 (88%)	\$117,157 (89%)	\$119,210 (89%)

WASTEWATER ANALYSIS

WASTEWATER SYSTEM PER M³

Year	Total Revenue	Total Expenses	Wastewater Treated (m ³)	Revenue per m ³	Cost per m ³	Subsidy per m ³	Total Subsidy
2020	\$14,526	\$99,583	34,487	\$0.42	\$2.89	\$2.47	\$85,057
2021	\$14,451	\$143,880	38,608	\$0.37	\$3.73	\$3.35	\$129,429
2022	\$14,419	\$124,478	30,685	\$0.47	\$4.06	\$3.59	\$110,059
2023	\$14,467	\$131,623	34,253	\$0.42	\$3.84	\$3.42	\$117,156
2024	\$14,492	\$133,702	32,707	\$0.44	\$4.09	\$3.64	\$119,210

TOTAL UTILITY ANALYSIS

REVENUE, EXPENSES, AND SUBSIDY

Total Utility System Revenue				
2020	2021	2022	2023	2024
\$1,019,397	\$1,120,649	\$1,271,778	\$1,340,620	\$1,331,484

Total Utility System Expenses				
2020	2021	2022	2023	2024
\$1,768,685	\$2,023,452	\$2,084,151	\$2,192,922	\$2,133,014

Total Sanitary System Subsidy				
2020	2021	2022	2023	2024
\$749,288 42%	\$902,803 45%	\$812,373 39%	\$852,302 39%	\$801,530 38%

TOTAL UTILITY ANALYSIS

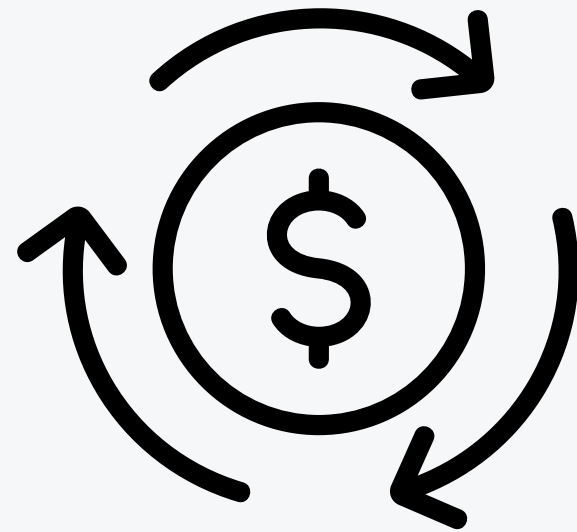
TOTAL SYSTEM PER M³

Year	Total Revenue	Total Expenses	Combined Total Water + Wastewater (m ³)	Revenue per m ³	Cost per m ³	Subsidy per m ³	Total Subsidy
2020	\$1,019,397	\$1,768,685	278,561	\$3.66	\$6.35	\$2.69	\$749,288
2021	\$1,120,649	\$2,023,452	298,926	\$3.75	\$6.77	\$3.02	\$902,803
2022	\$1,271,778	\$2,084,151	301,438	\$4.22	\$6.91	\$2.69	\$812,373
2023	\$1,340,620	\$2,192,922	337,071	\$3.98	\$6.51	\$2.53	\$852,302
2024	\$1,331,484	\$2,133,015	334,262	\$3.98	\$6.38	\$2.40	\$801,530

FUTURE CONSIDERATIONS

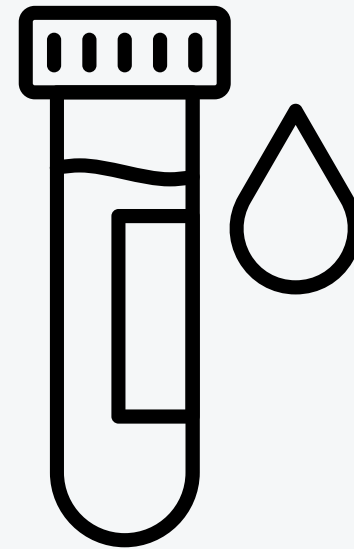
01

OPTIMIZED WATER RATE



02

**WASTEWATER USAGE
& SERVICE CHARGE**



03

LEVIES AND TAXES



OPTIMIZED WATER RATE

- Currently, the water rate differs by system:
 - General water distribution system charges \$4.05/m³
 - Huxley and Wimborne systems charge \$2.55/m³
 - Bulk water stations charge \$5.15/m³, plus a \$10 minimum fee per monthly bill.
- Calculates the full cost recovery rate for all systems to cover the total expense of operating Kneehill County's water system.

2024 (Actual)		2024 (Optimized)	
Total Water Volume (m³)	Total Expenses	Rate for Full Cost Recovery	Total Revenue
301,555	\$1,999,313	\$6.630011/m ³	\$1,999,313

WASTEWATER USAGE AND SERVICE CHARGE

Monthly Wastewater Usage Charge				
System	Monthly Water Volume Used (m ³)	Volume entering Collection System (m ³)	Wastewater Rate/m ³	Wastewater Charge
Huxley	443	398	\$2.51	\$1,000
Swalwell	708	638	\$2.51	\$1,600
Torrington	1615	1,454	\$2.51	\$3,649
Wimborne	196	177	\$2.51	\$443
Mobile Home Parks	Included with Torrington			

Monthly Wastewater Service Charge		
System	Number of Users	Monthly Flat Fee (@ \$20)
Huxley	43	\$860
Swalwell	53	\$1060
Torrington	103	\$2060
Wimborne	24	\$480
Mobile Home Parks	Included with Torrington	

Monthly Revenue	Yearly Revenue	Yearly Expense (2024)
\$11,152	\$133,830	\$133,702

LEVIES AND TAXES

S.382-S.389: SPECIAL TAX

Outlines the process by which municipal councils can levy special taxes to fund broad municipal services or purposes that benefit the entire municipality, such as waterworks and sewer systems projects.

S.391-S.409: LOCAL IMPROVEMENT TAX

Funds targeted infrastructure projects. These taxes are charged to properties directly benefiting from the improvements and can be spread over a set period.

S.648: OFF-SITE LEVIES

Charges levies to developers to fund essential infrastructure for new developments, including water and sewage. These fees must be used exclusively for capital projects that benefit the development, as outlined in the levy bylaw.



THANK YOU

Questions?