

Schedule "A" to By-law No. 2022-99

Sanitary Operating

| Account | 2022 Budget | 2022 Projected | 2023 Draft Budget | \$ Variance | % Variance | Notes | 2024 Forecast | 2025 Forecast |
|---|-------------------|-------------------|--------------------|-------------------|---------------|---|--------------------|--------------------|
| Talbotville | | | | | | | | |
| Revenue | | | | | | | | |
| Talbotville Per HH Flat Rate | (\$35,024) | (\$35,024) | (\$61,803) | (\$26,780) | 76.46% | | (\$69,575) | (\$98,783) |
| Talbotville Per M3 Rate | (\$59,874) | (\$59,874) | (\$101,002) | (\$41,128) | 68.69% | | (\$107,544) | (\$138,052) |
| Transfer from Talbotville Sewer Reserve | \$0 | | \$0 | \$0 | 0.00% | | \$0 | \$0 |
| Total Revenue | (\$94,897) | (\$94,898) | (\$162,805) | (\$43,878) | 86.00% | | (\$177,119) | (\$236,835) |
| Expenses | | | | | | | | |
| Wages | \$67,000 | \$72,000 | \$72,000 | \$5,000 | 7.46% | New - allocation of staff time | \$74,160 | \$76,385 |
| Overhead | \$20,000 | \$20,000 | \$23,000 | \$3,000 | 15.00% | | \$23,690 | \$24,401 |
| Roads Labour Allocation(Site Maint) | \$500 | \$500 | \$500 | \$0 | 0.00% | Site Maint, Driveway | \$515 | \$530 |
| Roads Machine Time Allocation(Site Maint) | \$500 | \$500 | \$500 | \$0 | 0.00% | Site Maint, Driveway | \$515 | \$530 |
| Training | \$2,000 | \$0 | \$2,000 | \$0 | 0.00% | Misc. Training, anticipate increase with staffing changes | \$2,060 | \$2,122 |
| Utilities | \$37,500 | \$48,915 | \$55,000 | \$17,500 | 46.67% | Based on Prior Year Actuals | \$56,650 | \$58,350 |
| Consummables, Chemicals | \$16,250 | \$16,250 | \$21,125 | \$4,875 | 30.00% | Consumables, Chemicals (+30%), supplies | \$21,759 | \$22,412 |
| Property Tax PIL | \$5,000 | \$5,000 | \$5,000 | \$0 | 0.00% | Based on Actuals | \$5,150 | \$5,305 |
| Property Maintenance | \$1,500 | \$1,500 | \$1,500 | \$0 | 0.00% | | \$1,545 | \$1,591 |
| Insurance | \$2,900 | \$3,240 | \$3,823 | \$923 | 31.83% | | \$3,938 | \$4,056 |
| Legal | \$1,000 | \$1,000 | \$1,000 | \$0 | 0.00% | | \$1,030 | \$1,061 |
| System Maintenance | \$5,000 | \$87,237 | \$30,000 | \$25,000 | 500.00% | Additional breakdown starting 2022 - see below | \$30,900 | \$31,827 |
| Misc | \$1,000 | \$1,000 | \$1,000 | \$0 | 0.00% | | \$1,030 | \$1,061 |
| Contracted Services | \$1,000 | \$1,000 | \$1,000 | \$0 | 0.00% | Other contracted service ie. Waste Coll \$500, Generator Insp, etc. | \$1,030 | \$1,061 |
| OCWA Contract | \$37,562 | \$37,562 | \$40,079 | \$2,517 | 6.70% | OCWA agreement CPI 6.7% for 2022 | \$41,281 | \$42,520 |
| OCWA Extra/Out of Scope | \$5,000 | \$30,200 | \$45,000 | \$40,000 | 800.00% | Extra/Out of Scope estimate for add'l services | \$46,350 | \$47,741 |
| Wastewater Testing | \$6,000 | \$2,500 | \$6,000 | \$0 | 0.00% | Based on Actuals | \$6,180 | \$6,365 |
| Plans and studies | \$5,000 | \$18,273 | \$5,000 | \$0 | 0.00% | Misc Studies, engineering | \$5,150 | \$5,305 |
| Replace Activated Carbon - Screening Room | \$2,500 | | \$2,500 | \$0 | 0.00% | \$5,000 every other year, annualized to \$2,500 | \$2,575 | \$2,652 |
| Cleaning Raw Equalization Tanks | \$4,000 | | \$4,000 | \$0 | 0.00% | | \$4,120 | \$4,244 |
| Membrane Cleaning | \$20,000 | | \$20,000 | \$0 | 0.00% | | \$20,600 | \$21,218 |
| Sludge/Biosolids Removal | \$5,500 | | \$50,000 | \$44,500 | 809.09% | reflects actual | \$51,500 | \$53,045 |

| Account | 2022 Budget | 2022 Projected | 2023 Draft Budget | \$ Variance | % Variance | Notes | 2024 Forecast | 2025 Forecast |
|---|--------------------|--------------------|--------------------|-------------------|---------------|--|--------------------|--------------------|
| Disolved Oxygen/pH Meter/Probe Repl | \$3,500 | | \$5,000 | \$1,500 | 42.86% | annualized to \$3,500 | \$5,150 | \$5,305 |
| Spare Filter Module Cartridges | \$2,000 | | \$2,000 | \$0 | 0.00% | | \$2,060 | \$2,122 |
| Equipment Failure/Replacement Contingency | \$5,000 | | \$5,000 | \$0 | 0.00% | items not planned for such as possible equipment, failure (blowers, motors, pumps, switches) | \$5,150 | \$5,305 |
| Total Expenses | \$257,212 | \$346,677 | \$402,027 | \$144,815 | 94.91% | | \$414,088 | \$426,510 |
| Net Operating (Revenue)/Expense | \$162,315 | \$251,779 | \$239,222 | \$100,937 | 99.39% | | \$236,969 | \$189,675 |
| Accumulated Operating Deficit | | | | | | | | |
| Talbotville System | \$667,713 | \$757,177 | \$996,399 | | | | \$1,233,368 | \$1,423,044 |
| Ferndale/Lynhurst Revenue | | | | | | | | |
| Ferndale Monthly | (\$38,481) | (\$40,000) | (\$43,176) | (\$6,004) | 18.49% | Offset below | (\$43,176) | (\$47,754) |
| Ferndale Per Cubic Meter | (\$69,842) | (\$70,000) | (\$74,970) | (\$8,443) | 13.75% | Offset below - to St. Thomas | (\$73,688) | (\$76,636) |
| Lynhurst Monthly (from St. Thomas) | (\$10,485) | (\$10,000) | (\$11,596) | (\$1,004) | 10.59% | Offset below | (\$11,596) | (\$12,825) |
| Sewer Investment Income | (\$2,000) | (\$2,000) | (\$2,000) | (\$1,000) | 100.00% | Reserve Interest - offset below with Transfer to Reserve | (\$2,000) | (\$2,000) |
| Total Revenue | (\$120,808) | (\$122,000) | (\$131,742) | (\$16,451) | | | (\$130,460) | (\$139,215) |
| Expenses | | | | | | | | |
| Ferndale Per Cubic Meter to St. Thomas | \$69,842 | \$70,000 | \$74,970 | \$8,443 | 13.75% | To St. Thomas | \$73,688 | \$76,636 |
| Transfer to sewer reserve | \$50,966 | \$52,000 | \$56,772 | \$8,008 | 18.64% | Ferndale, Lynhurst, Investment from above | \$56,772 | \$62,579 |
| Transfer to Capital Projects | \$25,000 | \$25,000 | \$25,000 | \$25,000 | 0.00% | Lynhurst Street Reconstruction - Sanitary Exp | | |
| Total Expenses | \$145,808 | \$147,000 | \$156,742 | \$41,451 | | | \$130,460 | \$139,215 |
| Reserve for Ferndale/Lynhurst | (\$491,282) | (\$491,282) | (\$516,282) | | | | (\$621,742) | (\$760,957) |
| Net Reserves - Sanitary | \$176,431 | \$265,895 | \$480,117 | | | | \$611,626 | \$662,087 |

| Account | 2022 Budget | 2022 Projected | 2023 Draft Budget | \$ Variance | % Variance | Notes | 2024 Forecast | 2025 Forecast |
|---|--------------|----------------|-------------------|-------------|------------|--|---------------|---------------|
| Inputs/Assumptions | | | | | | | | |
| 92 Talbotville Connections | | | | | | | | |
| 130 New connections Talbotville | | | | | | | | |
| 170 Connections Ferndale | | | | | | | | |
| 5 New Connection Ferndale | | | | | | | | |
| 168 m3 per HH as per Water/Wastewater Study | | | | | | | | |
| Rates as per the Water/Wastewater Study | | | | | | | | |
| Connections | | | | | | | | |
| Talbotville | 92 | | 235 | | | | 222 | 302 |
| Ferndale | 170 | | 175 | | | | 175 | 175 |
| Lynhurst | 47 | | 47 | | | | 47 | 47 |
| Growth (calc. based on 6 months) | | | | | | | | |
| Talbotville | 130 | | 31 | | | TM 85, TG 5, SL/GP 10, DHP 25, Other 5 | 80 | 80 |
| Talbotville - Other | | | | | | | 40 | 40 |
| Ferndale | 5 | | 0 | | | | | |
| Lynhurst | 0 | | 0 | | | | | |
| HH m3 Water Consumption | 168 | | 168 | | | | 168 | 168 |
| HH/Month | 18.59 | | 20.56 | | | | 20.56 | 22.74 |
| m3 Rate Talbotville | 2.27 | | 2.40 | | | | 2.27 | 2.27 |
| m3 Ferndale (to St. Thomas) | 2.41 | | 2.55 | | | | 2.5064 | 2.606656 |
| Talbotville / HH Flat Qrtrly | \$35,023.56 | | \$61,803.36 | | | | \$69,575.04 | \$98,782.56 |
| Talbotville m3 | \$59,873.52 | | \$101,001.60 | | | | \$107,543.52 | \$138,052.32 |
| Total Talbotville | \$94,897.08 | | \$162,804.96 | | | | \$177,118.56 | \$236,834.88 |
| Ferndale HH | \$38,481.30 | | \$43,176.00 | | | | \$43,176.00 | \$47,754.00 |
| Ferndale M3 (to St. Thomas) | \$69,841.80 | | \$74,970.00 | | | | \$73,688.16 | \$76,635.69 |
| Total Ferndale | \$108,323.10 | | \$118,146.00 | | | | \$116,864.16 | \$124,389.69 |
| Lynhurst HH (from St. Thomas) | \$10,484.76 | | \$11,595.84 | | | | \$11,595.84 | \$12,825.36 |
| Total Revenue | \$213,704.94 | | \$292,546.80 | | | | \$305,578.56 | \$374,049.93 |

Schedule "B" to By-law No. 2022-99

| Sanitary System Capital Forecast | | | | | |
|--|--------------------|--|-----------------------|--------------------|------------------------------------|
| | | | Funding Source | | |
| Capital Items and Projects | Budget | | Reserve | Other | Notes |
| 2022 Capital | | | | | |
| Carry Forwards | | | | | |
| Influent Piping Modifications from 2021 | \$3,500 | | | \$3,500 | To be funded by Connection Fees |
| Acoustic Audit - failed in 2018, needs to be redone | \$5,000 | | | \$5,000 | To be funded by Connection Fees |
| Fencing from 2021 | \$22,500 | | | \$22,500 | To be funded by future connections |
| Lynhurst Reconstruction - Sanitary Portion(from2020) | \$25,000 | | \$25,000 | | Ferndale/Lynhurst Capital Reserve |
| Forcemain to Development Lands | \$2,500,000 | | | \$2,500,000 | To be funded by Connection Fees |
| OCWA Capital Recommendations | | | | | |
| Filter Building Ventilation and Grate Cover | \$5,000 | | | \$5,000 | To be funded by Connection Fees |
| Antenna/Communication Upgrade | \$3,000 | | | \$3,000 | To be funded by Connection Fees |
| Infiltration Investigation | \$5,000 | | | \$5,000 | To be funded by Connection Fees |
| Equipment Storage Building | \$10,000 | | | \$10,000 | To be funded by Connection Fees |
| 2022 Total | \$2,579,000 | | \$25,000 | \$2,554,000 | |
| 2023 Capital | | | | | |
| Carry Forwards | | | | | |
| Antenna/Communication Upgrade | \$3,000 | | | \$3,000 | To be funded by Connection Fees |
| Equipment Storage Building | \$10,000 | | | \$10,000 | To be funded by Connection Fees |
| Forcemain to Development Lands | \$2,500,000 | | | \$2,500,000 | To be funded by Connection Fees |
| Regrading of driveway | \$50,000 | | | \$50,000 | Reserve |
| OCWA Capital Recommendations | | | | | |
| Membrane 1 Replacement | \$170,146 | | | \$170,146 | Reserve |
| 2023 Total | \$2,733,146 | | \$0 | \$2,733,146 | |

| Capital Items and Projects | Budget | | Reserve | Other | Notes |
|--|--------------------|------------|-----------------|--------------------|---------------------------------|
| 2024 Capital | | | | | |
| Rate Study (2024/2025) | \$15,000 | | \$15,000 | | Reserve |
| OCWA Capital Recommendations | \$5,000 | | \$5,000 | | Reserve |
| 2024 Total | \$20,000 | \$0 | \$20,000 | \$0 | |
| | | | | | |
| 2025 Capital | | | | | |
| Rate Study (2024/2025) | \$15,000 | | \$15,000 | \$0 | Reserve |
| WWTP Expansion needed when over 500 m3 | \$2,000,000 | | | \$2,000,000 | To be funded by Connection Fees |
| Fencing from 2021 | \$22,500 | | | | To be funded by Connection Fees |
| OCWA Capital Recommendations | \$5,000 | | \$5,000 | | Reserve |
| 2025 Total | \$2,042,500 | | \$20,000 | \$2,000,000 | |
| | | | | | |
| 2026 Capital | | | | | |
| OCWA Capital Recommendations | \$5,000 | | \$5,000 | | Reserve |
| 2026 Total | \$5,000 | | \$5,000 | \$0 | |
| | | | | | |
| 2027 Capital | | | | | |
| OCWA Capital Recommendations | | | | | |
| Membrane Pump Discharge Check Valves | \$5,000 | | \$5,000 | | Reserve |
| Membranes: Module Air Diffusers | \$5,000 | | \$5,000 | | Reserve |
| 2027 Total | \$10,000 | | \$10,000 | \$0 | |

The Corporation of The Township of Southwold

(6-Year Recommended Capital/Major Maintenance from 2023 to 2028)

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

| Ref. No. | Scope of Work | Cost Estimate | | | | | | Compliance | Health & Safety | Repair / Maintenance | Lifecycle Replacement | Improvement | Spare Parts Inventory | Approved by Client | Rationale for Project |
|--|--|------------------|------------------|------------------|------------------|------------------|------------------|------------|-----------------|----------------------|-----------------------|-------------|-----------------------|--------------------|---|
| | | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | | | | | | | | |
| Talbotville Waste Water Treatment | | | | | | | | | | | | | | | |
| 1 | Membrane Pump Discharge Check Valves | \$ - | \$ - | \$ - | \$ - | \$ 2,500.00 | \$ - | | | | | | | | Maintenance/Replacement of Check Valves |
| 2 | Screenings Room: Activated Carbon Replacement | \$ - | \$ 5,500.00 | \$ - | \$ 5,500.00 | \$ - | \$ 5,500.00 | | | | | | | | Carbon material was replaced in both carbon drums in 2022. Life expectancy is about 2 years. |
| 3 | Raw Equalization Tank Cleaning | \$ 4,000.00 | \$ 4,000.00 | \$ 4,000.00 | \$ 4,000.00 | \$ 4,000.00 | \$ 4,000.00 | | | | | | | | OWCA recommends that the tanks be cleaned 2 times per year. This helps reduce the loading on the fine screen allowing more efficient operation. |
| 4 | Plant Diesel Generator : Annual Inspection and Fuel | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | | | | | | | | The stand-by generator is required to have an annual inspection as per the requirements of the Environmental Compliance Approval (ECA) |
| 5 | Backflow Preventor: Annual Verification Inspection | \$ 750.00 | \$ 750.00 | \$ 750.00 | \$ 750.00 | \$ 750.00 | \$ 750.00 | | | | | | | | The two on site backflow preventers are required to be tested annually as per the township's bylaw. |
| 6 | Influent and Effluent Flowmeters: Annual Verifications | \$ 750.00 | \$ 750.00 | \$ 750.00 | \$ 750.00 | \$ 750.00 | \$ 750.00 | | | | | | | | All flow meters are required to be verified on an annual basis as per the Environmental Compliance Approval (ECA) |
| 7 | Screenings Room: Screenings Bags | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | | | | | | | | Screenings Bags are required to be regularly replaced as they collect unwanted materials from entering the treatment plant. Increased flushable wipes entering the sewer system are generating more frequent bag changeouts and impacted fine screen performance. |
| 8 | Membranes: Cleaning of Membranes | \$ 20,000.00 | \$ 20,000.00 | \$ 20,000.00 | \$ 20,000.00 | \$ 20,000.00 | \$ 20,000.00 | | | | | | | | Membranes were last cleaned by OCWA in the Summer/Fall of 2022. Membranes are required to be cleaned at a minimum annually or membranes will perform poorly and reduce plant capacity. |
| 9 | Plant chemicals (Chlorine, Alum, Caustic) | \$ 6,500.00 | \$ 6,500.00 | \$ 6,500.00 | \$ 6,500.00 | \$ 6,500.00 | \$ 6,500.00 | | | | | | | | Chemicals required for phosphorous removal, and pH adjustments and cleaning of the membranes during backwashes. |
| 10 | Membrane Room: Lifting Equipment Annual Inspection | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | \$ 1,000.00 | | | | | | | | Membrane room lifting equipment requires annual inspection/verification by a third party. |
| 11 | Effluent UV System:bulb and sleeve replacement | \$ 2,000.00 | \$ 2,000.00 | \$ 2,000.00 | \$ 2,000.00 | \$ 2,000.00 | \$ 2,000.00 | | | | | | | | UV effluent bulbs and sleeves should be cleaned every two years. |
| 12 | Plant Blowers Maintenance (Air Filters/Oil Changes) | \$ 1,500.00 | \$ 1,500.00 | \$ 1,500.00 | \$ 1,500.00 | \$ 1,500.00 | \$ 1,500.00 | | | | | | | | The wastewater plant has multiple blowers which require replacement of filters and annual replacement of oil. |
| 13 | Screenings Room:H2S gas detector annual inspection | \$ 600.00 | \$ 600.00 | \$ 600.00 | \$ 600.00 | \$ 600.00 | \$ 600.00 | | | | | | | | Screenings Room H2S gas detector requires to be inspected semi-annually and verified by the third party. |
| 14 | Sludge/biosolids removal and disposal | \$ 50,000.00 | \$ 50,000.00 | \$ 50,000.00 | \$ 50,000.00 | \$ 50,000.00 | \$ 50,000.00 | | | | | | | | Generation of sludge/biosolids requires ongoing removal to ensure plant can maintain available capacity. Sludge is currently transported to Greenway PCP in London Biweekly with roughly 4 loads to 6 loads per month. |
| 15 | Membrane Cassette Replacement | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | | | | | | | | Placeholder for replacement of fouled/damaged membranes. May be able to use spare cassettes from ZeeWeed transition. |
| 16 | Dissolved Oxygen/pH Meter Instrumentation/Probe Replacement | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | | | | | | | | The dissolved oxygen system controls the blowers to critical to ensure instruments operating correctly to ensure efficient operation. |
| 17 | Membrane :Module Air Diffusers | \$ - | \$ - | \$ - | \$ - | \$ 5,000.00 | \$ - | | | | | | | | A 2020 inspection revealed that diffusers in the modules are partially failing and should be replaced during the next cleaning process. |
| 18 | Storage Building for Equipment | \$ - | \$ 10,000.00 | \$ - | \$ - | \$ - | \$ - | | | | | | | | Placeholder for discussion on additional on-site storage space using shipping container. |
| 19 | Rocket Screw Press Sludge Dewatering Equipment Repairs | \$ 6,500.00 | \$ - | \$ - | \$ - | \$ - | \$ - | | | | | | | | Screw Press has not been required as all sludge has been hauled in liquid form. This will allow sludge to be dewatered for bin removal. |
| 20 | Rocket Screw Press Sludge Dewatering Commissioning | \$ 4,500.00 | \$ - | \$ - | \$ - | \$ - | \$ - | | | | | | | | Start-up training on screw press, commissioning, chemical optimization. |
| 21 | One MBR Tank upgrade to ZeeWeed 500S series membranes | \$ 170,146.00 | \$ - | \$ - | \$ - | \$ - | \$ - | | | | | | | | MBR Microclear Cassettes on one bank installed in 2017, with a 7 to 10 year life expectancy. It appears that capacity is greatly reduced after operating for 3 months. This replacement is required to meet existing flow requirements and allow for system growth. |
| 22 | Contingency: items not planned for such as possible equipment failure/blowers, motor, pumps switches | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 5,000.00 | | | | | | | | Placeholder for unknown breakdown of equipment. |
| Total Capital Estimate | | \$290,246 | \$124,600 | \$109,100 | \$114,600 | \$116,600 | \$114,600 | | | | | | | | |

Legend:
H High priority recommended to be completed in upcoming year
M Medium priority recommended to be completed in 1 to 3 years
L Low priority recommended to be completed in years 4 to 5

2023 Recommended Capital Presented by:
2023 Recommended Capital Approved by:

Mark Harris: Senior Operations Manager
Dale LeBritton : Regional Hub Manager