## **Sewer Utility**



### Our Role

#### Net budget \$33,597,900

The Saanich sewer system includes 570 km of sewer mains, approximately 29,000 service connections, 6,500 manholes and 36 lift stations. Much of the sewer system was constructed between 1953 and the early 1970s and many of those pipes are aging requiring rehabilitation and replacement. The system collects wastewater from Saanich residents and discharges the effluent to the Capital Regional District (CRD) regional system for conveyance and treatment prior to it being discharged to the ocean environment.

Full life cycle asset management services for the sewer system are provided by the Engineering Department through collaboration with the Storm & Wastewater team of the Public Works Division and the Water Resources Division staff. Together they plan, analyse, operate, maintain, design, and construct the infrastructure that conveys wastewater from the community to the regional treatment facility.

### Services We Provide

#### **FIELD OPERATIONS**

#### Net cost \$3,129,300

Overall management and supervision support for Public Works field operations staff in the delivery of maintenance and operations plans, construction programs, and ensuring that staff are receiving the proper training, safety considerations and tools to meet the requirements for the District's Operating Permit for a Level 3 wastewater conveyance system.

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#### **SEWER MAINS CLEANING AND REPAIR**

#### Net cost \$723,600

Sewer mains are susceptible to the accumulation of fats, oils and grease, as well as root infiltration and other blockages. These conditions have adverse effects on the performance of the system and require pipe maintenance using jets of high-pressure water to remove the blockage and restore the optimal flow path. Maintenance target to clean much of the wastewater collection system on a 5-year schedule.

When a wastewater main breaks unexpectedly, staff respond to repair the pipe(s). This work includes excavation, removal of damaged pipe sections, backfilling and restoration of the surface, whether road or boulevard.

#### SEWER LIFT STATIONS MAINTENANCE

#### Net cost \$1,445,800

There are 36 sewer lift stations strategically located throughout the District to move sewage to the Regional system where the flows can not overcome the height of land. Sewer flows accumulate that the lift station in tanks (wet wells) and, at predetermined set points, pumps activate and lift the sewage from a low to a higher elevation into the next gravity conveyance system. System flows are managed by a central, electronic Supervisory Control and Data Acquisition (SCADA) system which communicates system activities to Operator to achieve our service needs. The annual maintenance program includes regular station cleaning through pressure washing, and mechanical and electrical maintenance activities on the pumps, control panels and back-up power systems.

#### MANHOLE REPAIR AND REPLACEMENT

#### Net cost \$114,100

There are over 6500 manholes in the sewer system. Manholes provide inspection portals into the sewer system either using a camera or by human entry. They are concrete structures that require regular maintenance to ensure their integrity. Manholes are inspected, repaired, and when a defect is found, replaced. This work is part of the annual maintenance activities in the overall sewer system.

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#### SERVICE CONNECTIONS REPAIR

Net cost \$515,400

There are approximately 29,000 sewer service connections to the system. This program repairs and replaces sanitary service connections due to age, deterioration, or otherwise improper function.

#### **CUSTOMER SERVICE REQUESTS**

Net cost \$263,200

Operational staff respond to 100's of service calls each year from both internal staff and the public at large. Service calls typically involve a form of inspection (visual or camera) or dye testing to diagnose an issue with a main or a service connection such as a blockage or back-up. Where pipe issues are found, a repair is initiated.

Closed circuit television (CCTV) inspections and resulting pipe assessments are a key component to the system maintenance. These inspections provide an understanding of the condition of the pipes and any needs for action. The annual CCTV program includes efforts for overall system asset management and in preparation for capital project works.

#### **DEBT SERVICING & CONTINGENCY**

Net cost \$1,702,000

This budget is used to service the borrowing costs for capital projects and to allow for a small contingency for emergency expenditure.

#### **REGIONAL SEWER TREATMENT**

Net cost \$17,628,800

Wastewater treatment is provided by the CRD. The CRD recovers costs by charging the District based on a volume of usage at the treatment plant. The rate charged by the CRD includes their operating costs, debt charges, and administrative overheads.

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#### **CAPITAL PROGRAM**

Net cost \$8,075,700

Sewer utility assets include pipes (both gravity and pressurized), service connections, inspection chambers, valves, and lift stations. The capital replacement program sets out the priority infrastructure renewal projects based on an engineering evaluation of information from the Sewer Master Plan, operational feedback, and in reaction to emerging priorities. The District is preparing to embark on formalized Asset Management Plans which will form the basis of future capital programs.