Island Health

Environmental Health Protection Services

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Excellent health and care for everyone, everywhere, every time.

Island Health & Sewerage Information

- Septic systems are an important wastewater treatment option for homeowners where sewers are unavailable .
- Properly working systems provide environmentally friendly and economical solutions to domestic wastewater treatment.
- Non-functioning/failing sewerage systems pose significant environmental and public health hazards.
- Such hazards include the discharge of microbial (bacteria, viruses, and parasites) pathogens into the environment.
- Improperly disposed (or treated) chemical pollutants as well.

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Island Health & Sewerage Information

- The typical lifespan of a septic system is 15 to 40 years
- All systems will eventually fail and will require replacement and repairs
- Proper maintenance can extend the lifespan
- Complexity (Type) of system requires increased maintenance
  - Type 1 (Septic Tank and Gravity Dispersal)
  - Type 2 (Engineered Treatment Systems): 45 ppm BOD & TSS
  - Type 3 (Enhanced Treatment Systems): 10 ppm BOD & TSS
- Complexity of system depends on property constraints including:
  - Setbacks to wells, water bodies, property lines, and other legal boundaries
  - Onsite Soil Conditions
  - Lot Size - Island Health recommends 1 Ha (Well Water) or 0.2 Ha (City Water)

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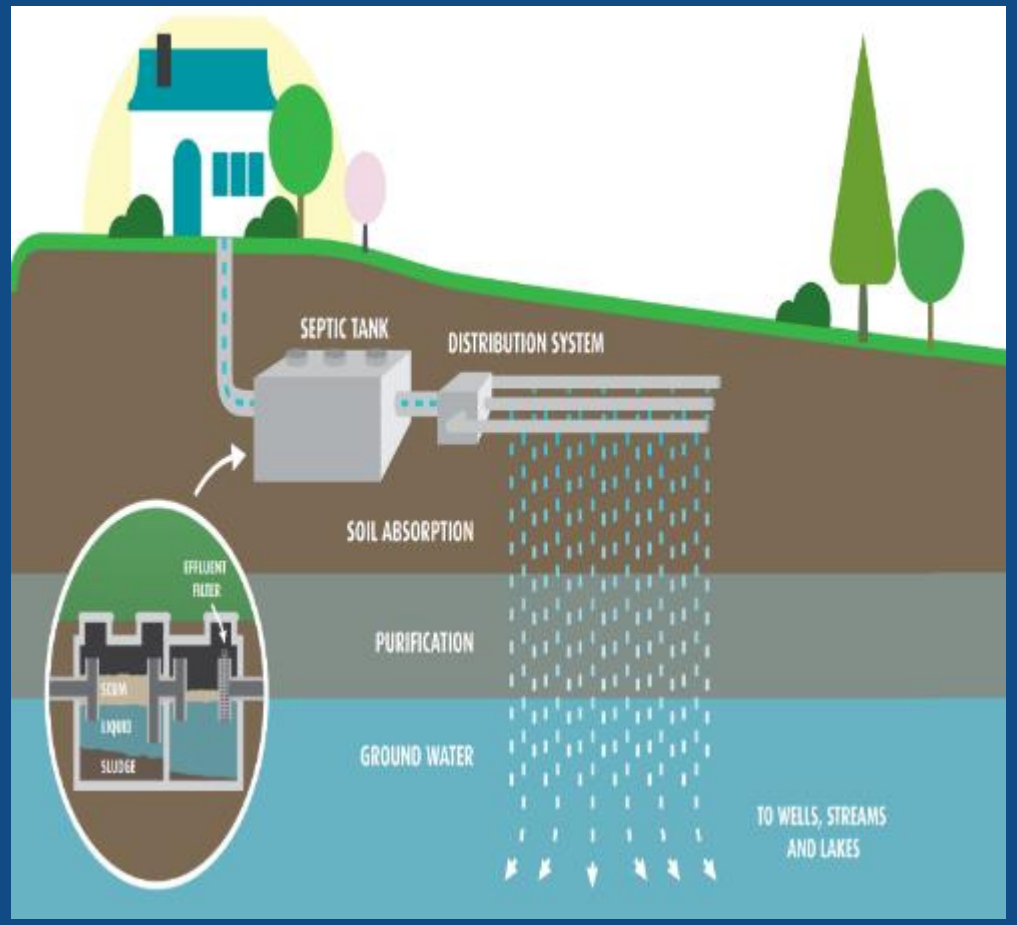

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- Maintenance is critical to the proper functioning of a sewerage system.
- Effective maintenance becomes increasingly critical as system complexity increases: Type 1 < Type 2 < Type 3
- In BC the provincial legislation places the requirement for sewerage system maintenance on the homeowner in accordance with the maintenance plan provided and keep records of maintenance.
- In BC maintenance (and construction) must be done by an AP or supervised by AP (Authorized Person)
- AP's: Registered Onsite Wastewater Practitioners (ROWP's) or P. Engineers
- Only P. Eng can construct or maintain Type 3 (or >9,100 L/Day) Systems
- Some local governments have enacted bylaws (CRD Bylaw 3479) which requires homeowners to maintain their sewerage systems.

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- CRD Bylaw Requires:
  - Type 1 Systems to pump out tank every 5 years
  - Type 2& 3 Systems to have an AP to conduct a maintenance inspection and complete any required maintenance annually

The current (2020) industry costs on Vancouver Island are estimated to be as follows:

Pumping a septic tank:	$400 - $1200 (600 – 1000 gallon tank)
Inspection:	$600 - $1200
Maintenance, cleaning or repairs:	$90-110 per hour

- Estimated Septic System Replacement Costs

» Type I: $10,000 to $20,000
» Type II: $20,000 to $30,000
» Type III: $30,000 to $50,000

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Island Health/CVRD Sewage Statistics

- Town (Properties Onsite Septic){% of Lots smaller than 0.2 Ha}
- **Union Bay** (249){95%}
  - 46% (113)have no records of sewerage systems
  - Lots (136) with records:
    - 20% ~40+ years old
    - 20% ~30 years old
    - 15% ~20 years old
    - 26% ~15 years old
    - 15% <10 years old
  - Type 1 (62%), Type 2 (27%), Type 3 (9%), Holding Tank (1.4%)
  - Repair/Replacement (30%), New Construction (60%), Alterations (10%)

Island Health/CVRD Sewage Statistics

- **Kilmarnock** (231){72%}
  - 10% (21) have no records of sewerage systems
  - Lots (210) with records:
    - 40% ~40+ years old
    - 25% ~30 years old
    - 12% ~20 years old
    - 12% ~15 years old
    - 12% <10 years old
  - Type 1 (81%), Type 2 (14%), Type 3 (5%)
  - Repair/Replacement (13%), New Construction (83%), Alterations (4%)

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Island Health/CVRD Sewage Statistics

- **Royston** (459){71%}
  - 30% (139) have no records of sewerage systems
  - Lots (320) with records:
    - 26% ~40+ years old
    - 20% ~30 years old
    - 15% ~20 years old
    - 18% ~15 years old
    - 21% <10 years old
  - Type 1 (78%), Type 2 (20%), Type 3 (3%), Holding Tank (<1%)
  - Repair/Replacement (54%), New Construction (35%), Alterations (10%)

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Island Health/CVRD Sewage Statistics

Overall Observations of Data:

- 30% of all lots (939 Total) have no records of sewerage systems
- 30% of all lots with records are ~40+ years old
- 22% of all lots with records are ~30 years old
- 14% of all lots with records are ~20 years old
- 18% of all lots with records are ~15 years old
- 18% of all lots with records are <10years old
- 70% Type 1 Systems, 24% Type 2 Systems, 6% Type 3 Systems
- 90-95% of construction is identified as repairs or replacement

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Island Health/CVRD Sewage Statistics

Overall Observations of Data:

- 70-95% of lots are under Island Health recommended size of 0.2 Ha
  - Indicates replacement/repairs will likely require complex and expensive options
- 64% of all lots with records indicate that systems are 20 to 40+ years old
  - Indicates these systems are likely at end of life and require repair/replacement
- 30% of all lots have no records indicating unknown age or standard (if any) to how these systems were constructed
  - No construction standard available would require upgrade to today's standards for repairs
- 30% of all lots with records indicate complex sewerage systems (Type 2/3)
  - Complex systems require maintenance by AP (supervised), which adds costs to lifespan
- There are no sewerage maintenance bylaws in these areas
  - Without regular maintenance Type1 system lifespan is estimated to be ~10-15 years

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Estimated Replacement & Maintenance Costs (25 years)

- Type 1: $15,000 + $10,000 = $25,000
- Type 2: $25,000 + $35,000 = $60,000
- Type 3: $40,000 + $40,000 = $80,000

- When systems fail and need replacement/repair, funds need to be readily available or through approved lending by the homeowner.
- Some parts of connection fees to municipal services can be amortized through property tax payments
- Connection to municipal services can free up septic maintenance and repair costs and increase useable space on property

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Questions for Island Health

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References

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