

Options for Septic System Management

Presentation to
Environment & Sustainability Standing Committee

07 Jun 2012



Onsite Septic Systems in NS

- 150,000 onsite systems in NS
- ~ 2600 applications annually
- Historically, failure rates from 5 to 30%

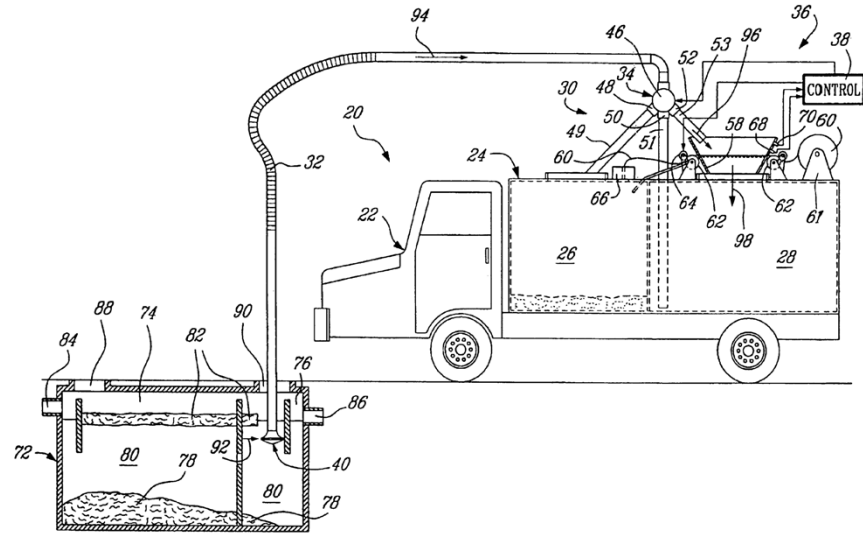


Recent Infrastructure Projects Related to Onsite Septic System Failures					
Community	Status*	Estimated Capital Cost	Number of Households	Estimated Cost Per Household	Provincial and/or Municipal Share
West Arichat	P	\$ 7,500,000	265	\$ 28,302	\$ 2,500,000
D'Escousse	P	\$ 5,750,000	150	\$ 38,333	\$ 1,916,667
Dundee	P	\$ 5,500,000	115	\$ 47,826	\$ 1,833,333
Harbourview *	A	\$ 5,200,000	70	\$ 74,286	\$ 1,700,000
Lyon's Brook **	A	\$ 6,200,000	250	\$ 24,800	\$ 2,100,000
Coalburn	A	\$ 4,368,000	125	\$ 34,944	\$ 1,456,000
Bickerton ***	A	\$ 2,000,001	140	\$ 14,286	\$ 666,667
Total		\$ 36,518,001	1115		\$ 12,172,667
	* P (Proposed)	Average cost per household		\$ 32,752	
	A (Announced)				



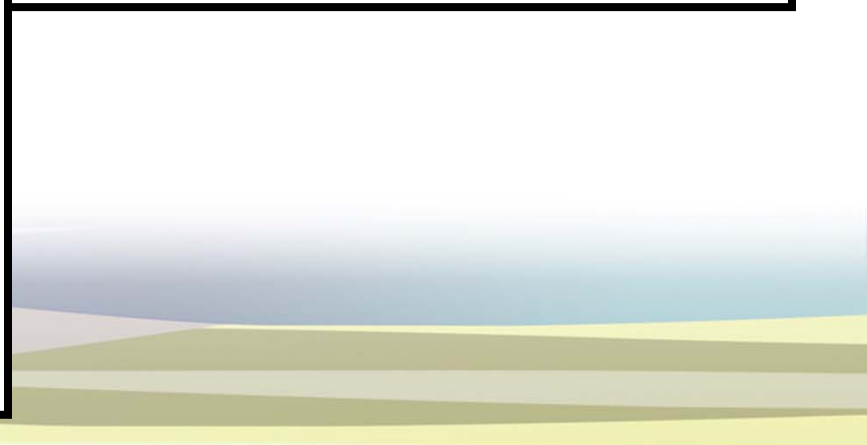
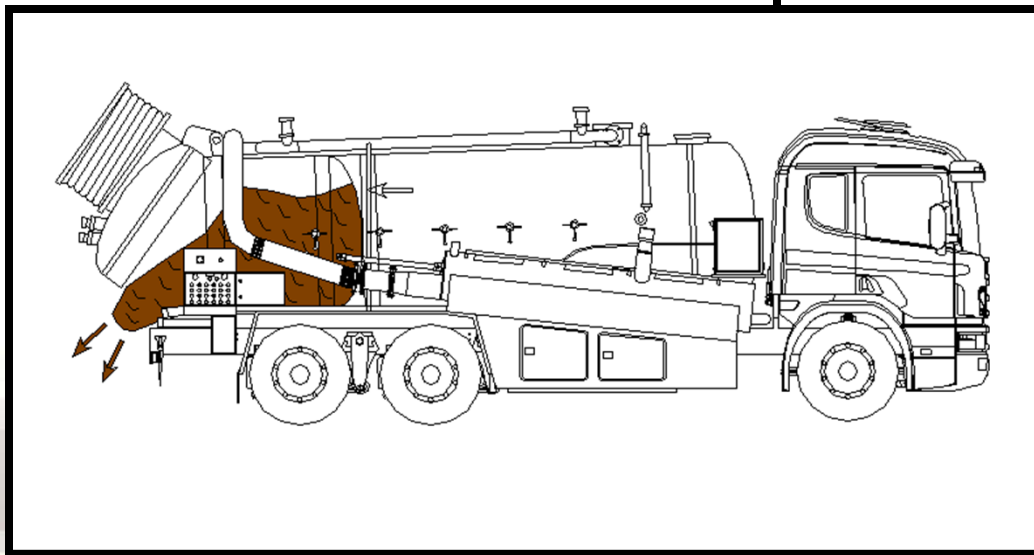
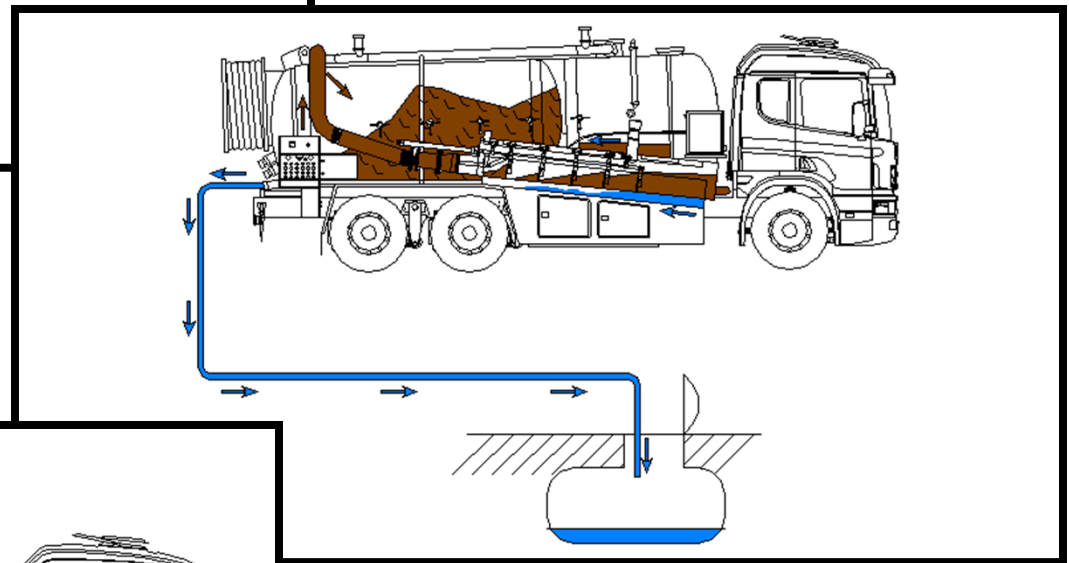
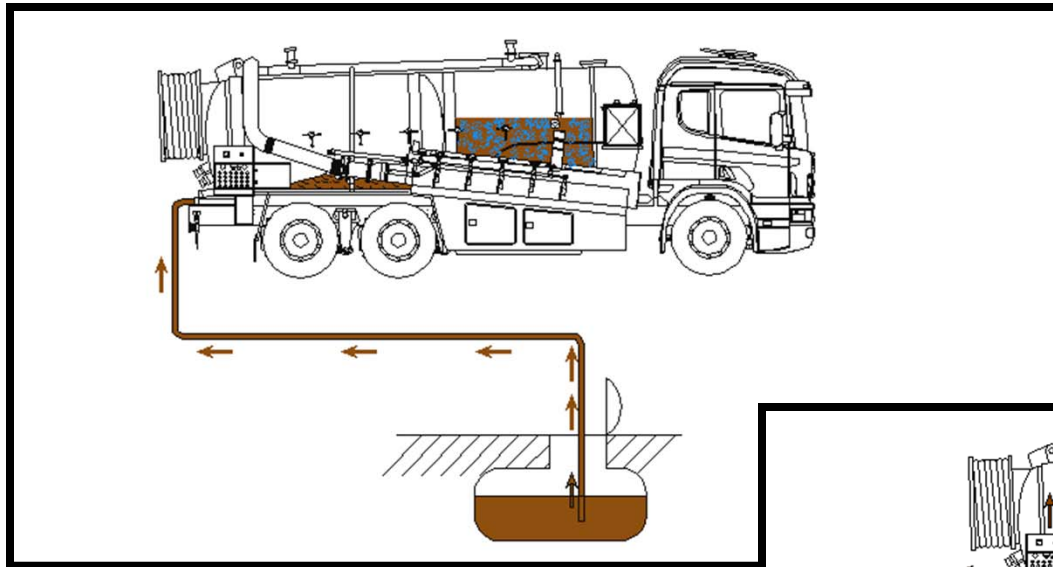
Regulation → Technology

- Mandatory pumping in Quebec (2 years)
- Regulation drives innovation – liquid / solid separation.
- Juggler - technology demonstration and evaluation in NS –
- 5 to 7% solids.



Norwegian Experience

- Municipalities issue long-term contracts to pumpers.
- Pumping frequency - 1 to two year intervals.
- Septage lagoons NOT permitted.
- Some municipal STPs allow emptying of vacuum trucks.
- Regulations led to development of mobile dewatering equipment.



Liquid/Solids Separation

- Mobile septic dewatering
- 80 – 90% returned to septic tank
- Dewatered material to compost facility



Little Dover Dewatering Project

Comparison of Dewatering Truck and Conventional Truck Performance

Based on Servicing 102 Tanks (1000 Gallon)

	Conventional Truck	Dewatering Truck
Litres of fuel used	5,178	874
Approximate fuel cost	\$4,920.00	\$830.00
Kms travelled (approx.)	7,200 Based on 600km/day	640 km
Volume from site	Approx. 509 tonnes	39.01 tonnes
Cost per tank	\$216.00 (quoted)	\$75.00 to \$90.00

Management Option

Prepaid Septic Pumping ??


An **environmental management system** whereby municipal governments provide administration of a county-wide septic tank pumping program.

Homeowners are charged an annual fee and the municipality ensures that the pumping and maintenance schedule is followed.

Municipality of Chelsea

- Program started 1991
- Population 6,600
 - 3000 tanks
- 1000 tanks/year
 - 16 weeks (June-September)
- \$\$ savings for homeowners

Summary of costs:



- ✦ Revenue versus the special tax:
\$55 / year per septic tank = \$165 over 3 years
- ✦ Contractor's rate for 2004:
\$130 / septic tank including taxes
- ✦ Cost of unloading at the processing plant for 2004:
\$10 / cubic meter
- ✦ Other expenditures:
 - Employee's salary
 - Municipal vehicle

Programme Appreciation



- ✦ Courteous service and a quality controlled inspection
- ✦ A better rate than private market
- ✦ Regular schedule
- ✦ Access to pertinent information
- ✦ Protection of the watershed
- ✦ Monitoring on the whole territory

*Our success :
99% participation in 2004*

Prepaid Pumping

Benefits

- Protection of public health & environment
- Protection of property values
- Reduced demands for infrastructure \$
- Septage disposal/treatment



Prepaid Pumping

Barriers:

- Failed systems?
 - Responsibility
 - Cost
- Politics
 - Competing priorities
 - Private property
- Competition
 - Little guy?



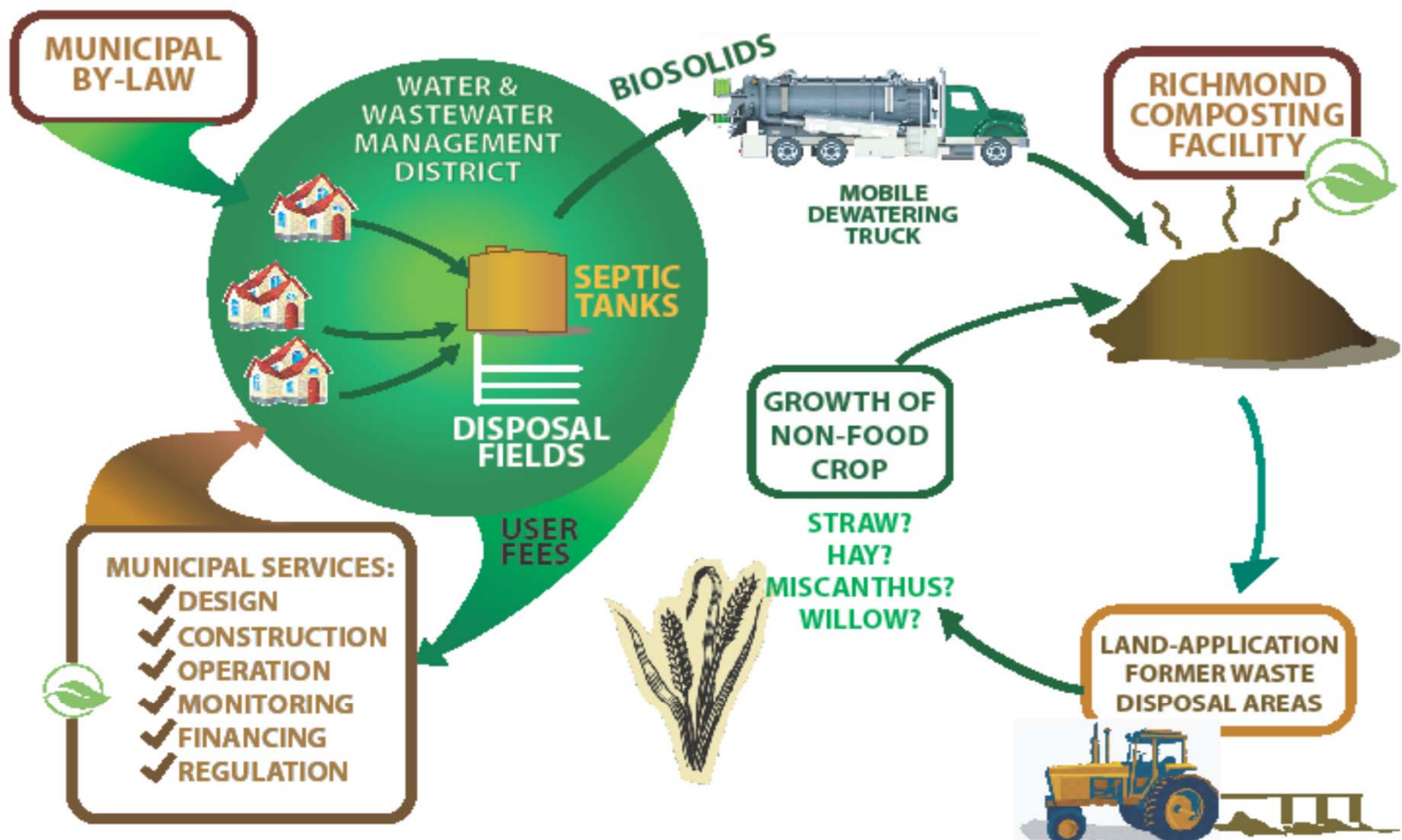


THE MUNICIPALITY
OF THE COUNTY OF

LA MUNICIPALITÉ
DU COMITÉ DE

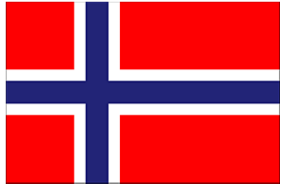
RICHMOND

RICHMOND ENVIRONMENTAL MANAGEMENT PROJECT



Richmond County

- Unanimous Support of Council to explore options
- Council visited Chelsea in November '11
- Phase I – Groundwater Assessment & Vulnerability Study
 - to assess potential human health and safety concerns associated with existing private water and wastewater services
- Phase II – Capital/Financing
- Phase III - Implementation



Norway – Pollution Control Act

- **§ 26. Municipal emptying of sludge from sludge separators (septic tanks), privies, etc.**
 - The municipality shall arrange for the emptying of small waste water treatment plants such as sludge separators and sedimentation tanks for removal of sludge from sanitary waste water and storm water runoff.

Options for Septic System Management

Presentation to
Environment & Sustainability Standing Committee

Questions ?

