

CLEARFORD

Smart Sanitation

The Clearford One



Water Managed.

Applying Canadian innovation to a Worldwide issue

✓ World Bank (UN Development Program)

“The design of Small Bore Sewer systems”
(Interregional Project INT/81/047)

✓ US Environmental Protection Agency

Alternative Wastewater Collection Systems
Manual EPA/625/1-91/024 – October 1991

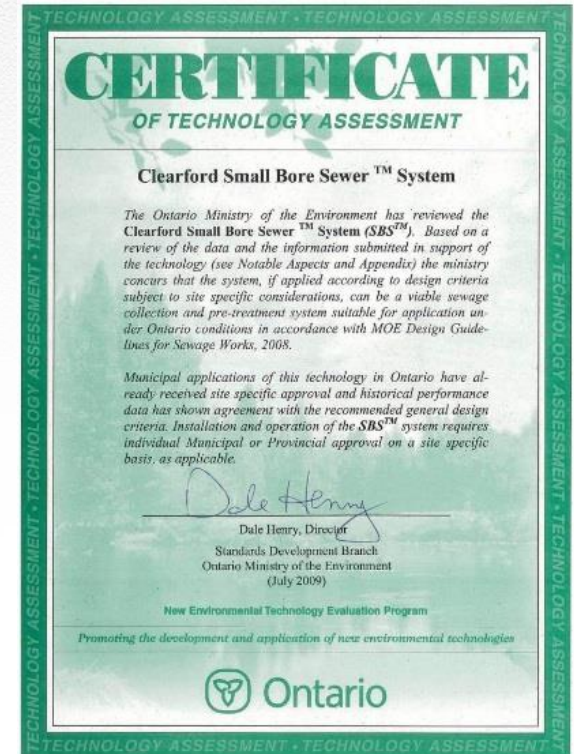
✓ India: CPHEEO Manual Chapter 8

Decentralized Sewerage Systems: SBS

✓ Ministry of the Environment (Ontario)

New Environmental Technology Evaluation
Program (NETE)

SBS™ system : A proven & certified process



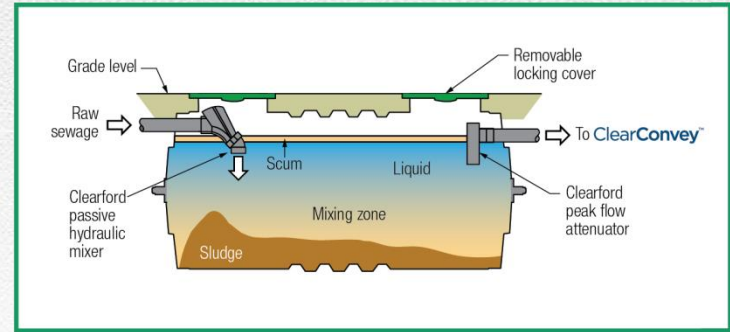
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Sustainability Targets

1. Total Sanitation Solution that collects, transports and treats all the generated grey and black domestic wastewater.
2. CAPEX lower than Conventional Sewers
3. Easy to operate installed system.
4. Annual O&M minimized.
5. 3x faster execution of project.
6. Wastewater can be treated to reuse standards as required locally.

Sustainability Targets

7. Modular system that can easily be expanded.
8. Sewer network can handle upto 8x loads.
9. Works in variable water supply regimes.
10. Tested and Installed in areas with 10 – 350 LPCD water supply.
11. Zero infiltration or exfiltration.
12. No Chemicals used in process.
13. Nature Based Solution



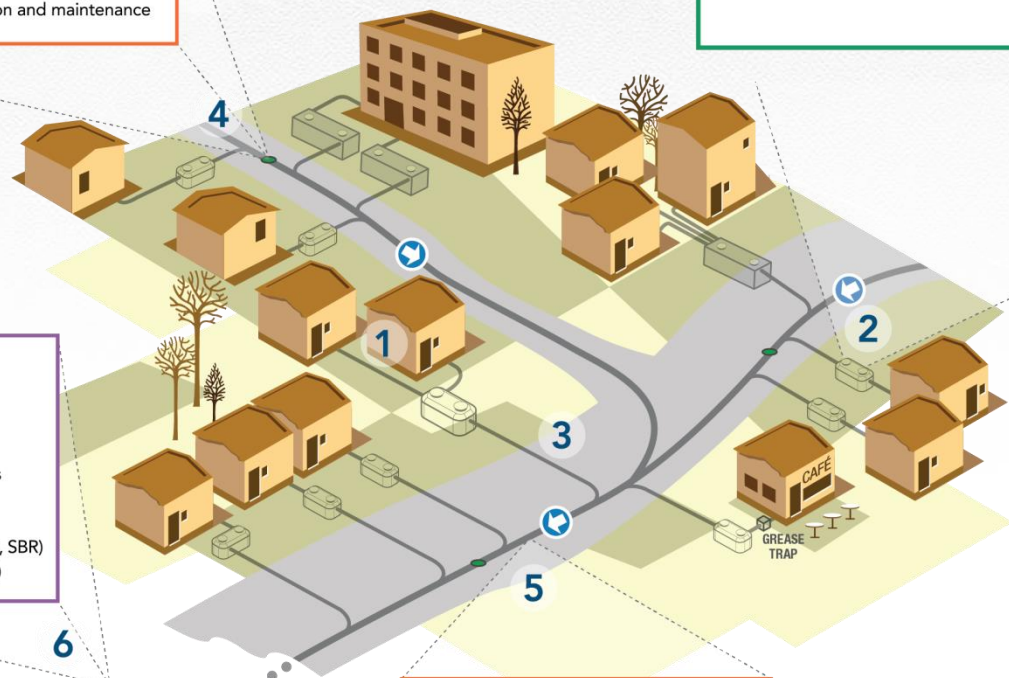
ClearConvey™ System Access Point

- Ground-level access to underground SBS®
- Convenient camera inspection and maintenance

ClearRecover™ Treatment Package

Including:

- Lagoon or stabilization ponds
- Constructed wetlands
- Filtration beds
- Fixed-film bioreactors (MBBR, SBR)
- Membrane bioreactors (MBR)



ClearConvey™ Collector Main

- Small diameter gravity sewer
- Thermally fused joints for watertightness
- Flexible installation in shallow trenches

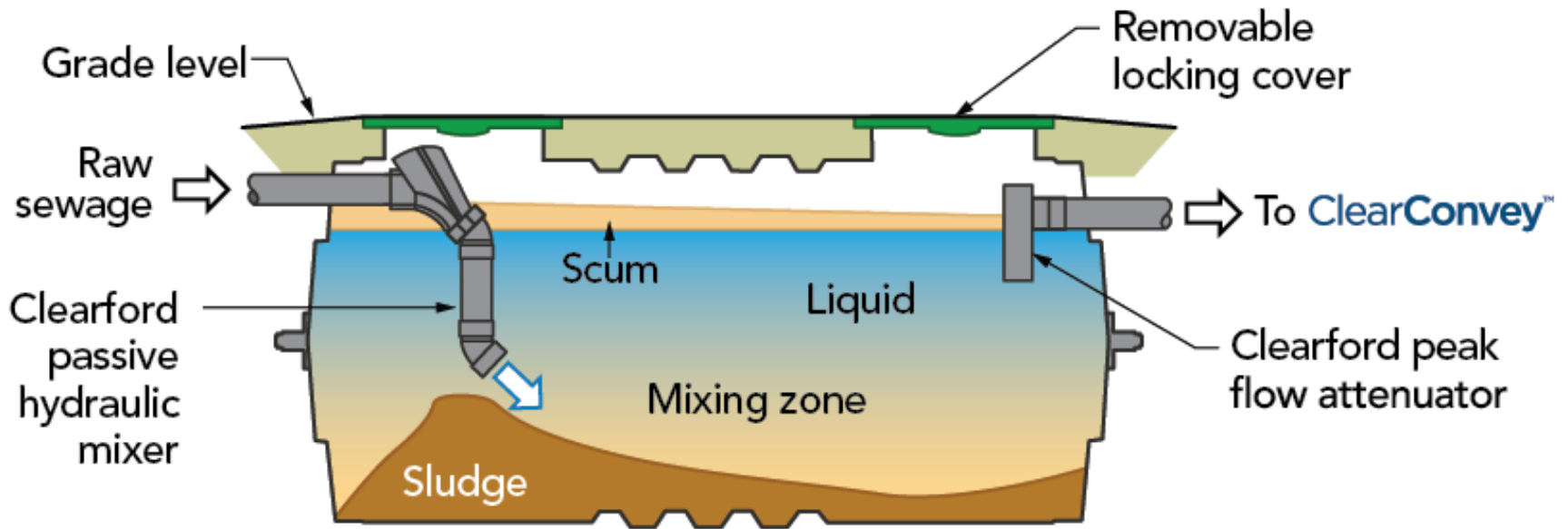
- 1 Raw sewage connection from building
- 2 ClearDigest™ Smart Digester
- 3 ClearConvey™ Lateral
- 4 ClearConvey™ System Access Point
- 5 ClearConvey™ Collector Main
- 6 ClearRecover™ Treatment Package


Treated effluent for discharge or reuse



ClearDigest™ | Smart Digester™

ClearDigest™ Smart Digester



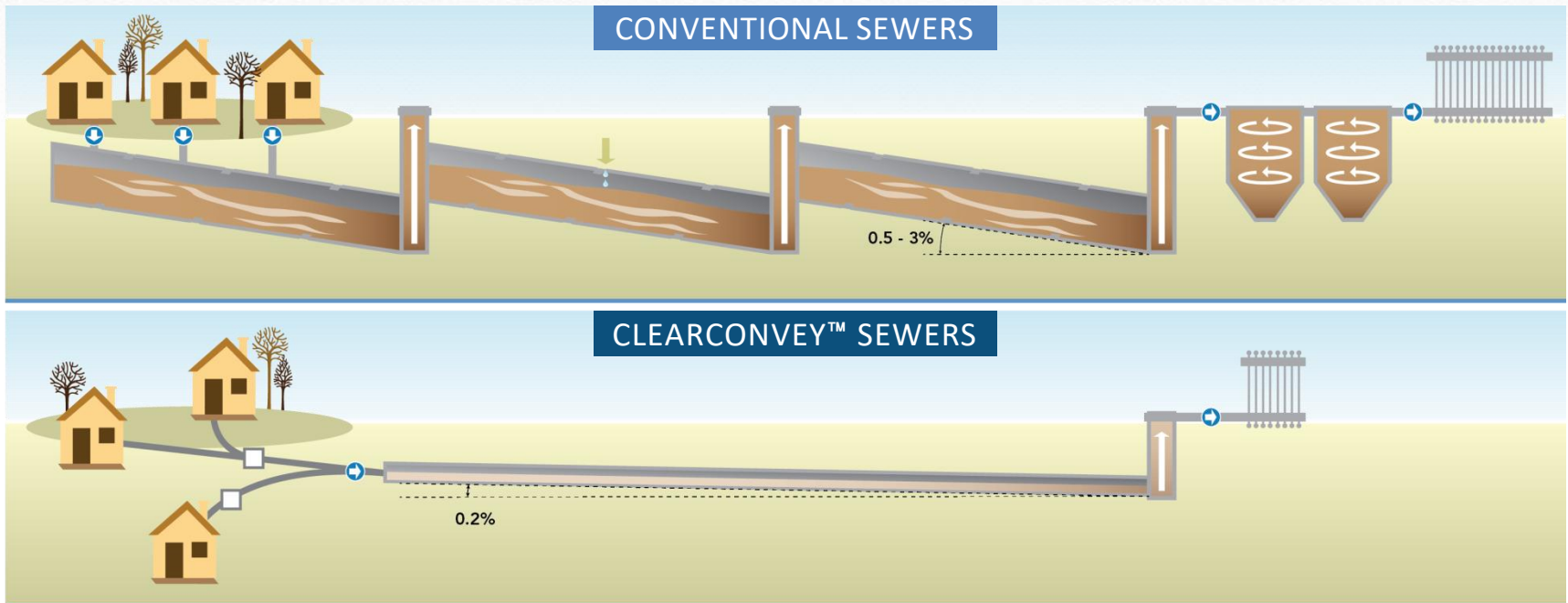
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ClearConvey™

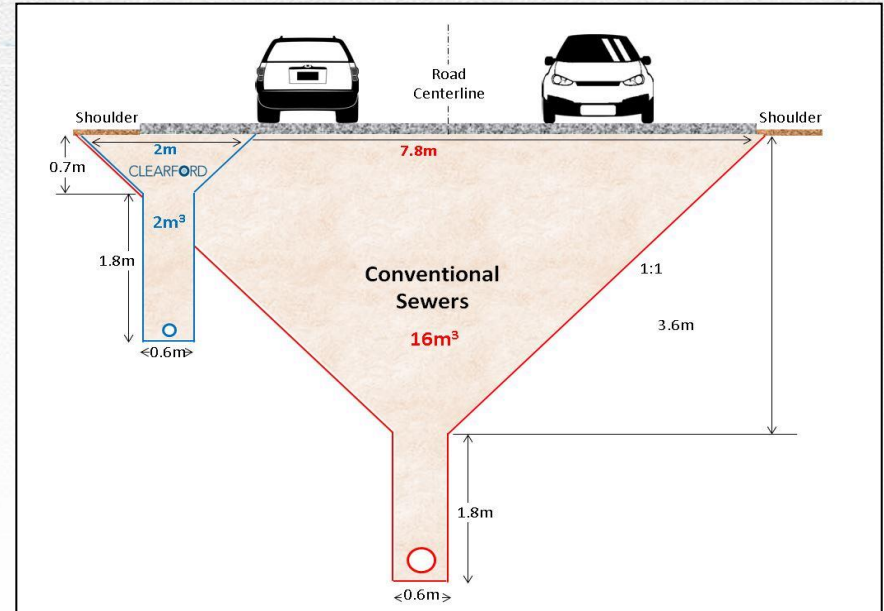
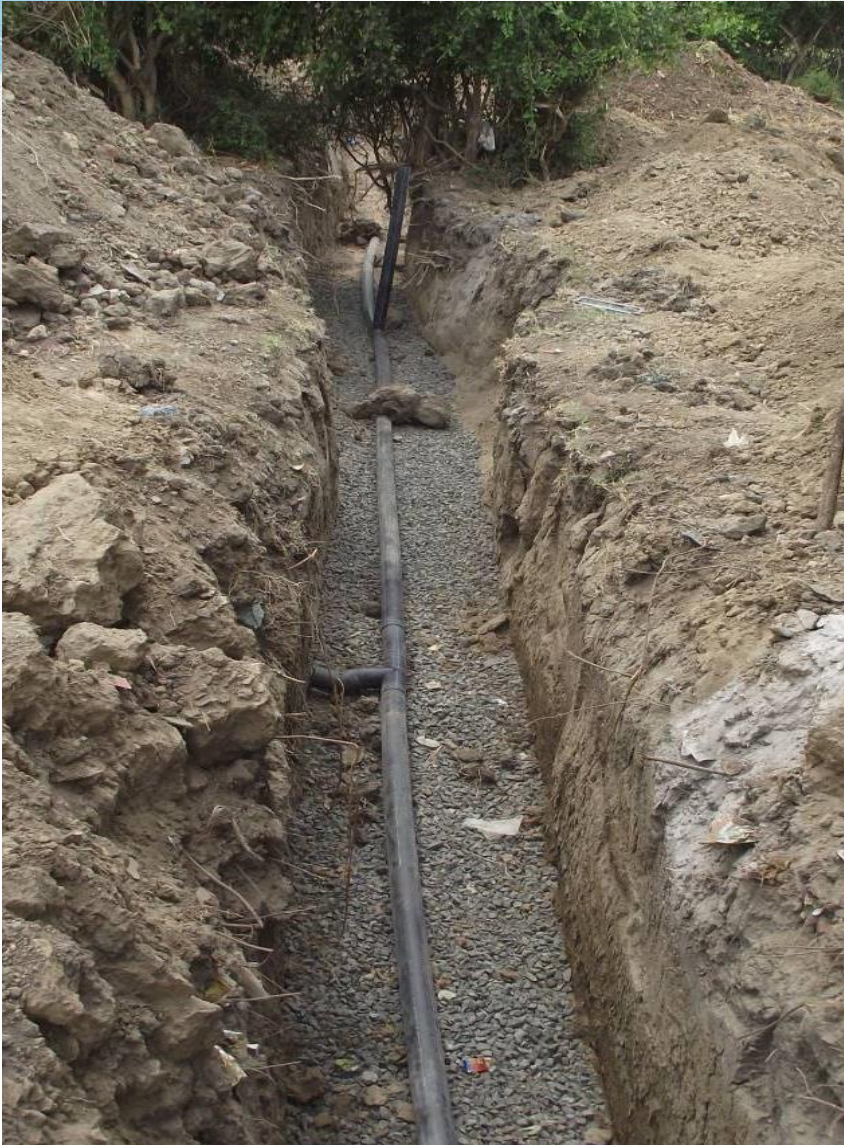
Network Advantages

- ✓ Shallower trenches
- ✓ Faster and easier to install
- ✓ Fewer sewage lift stations
- ✓ Sealed HDPE pipes
- ✓ Manholes replaced by HDPE Cutouts at 80-150m intervals



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ClearConvey™ SAP's & Lift Stations





ClearRecover™ | STP Advantages

Cleaner sewage entering STP means:

- ✓ Lower O&M costs
- ✓ Lower power consumption
- ✓ Reduced or No usage of chemicals
- ✓ Reduced wear and tear of parts
- ✓ Reduced peak flows
- ✓ Reduced or No sludge handling
- ✓ Smaller STP footprint
- ✓ Revenue generation from sale of treated water closer to Actual Treated Water generation Costs



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ClearRecover™ | Treated Water Quality

50 KLD Production Unit with UV system, Gujarat				
PH	TSS	COD	BOD	Faecal Coliform
	Mg/L	Mg/L	Mg/L	MPN/100ml
5.5 to 9.0	20	50	10	230
6.87	10	25.42	3.7	<10
7.2	20	28.81	3.8	<4
7.3	20	32.79	3.85	<1
6.99	10	32	3.8	<7



O&M Requirements:

- 1. ClearDigest Smart Digesters:** Cleaning period on average 3x longer than equivalent septic tank.
- 2. ClearConvey Network:** Flushing in case of rare blockage. No Manholes required.
- 3. STP:**
 - Upto 75% reduction in O&M costs
 - No chemicals
 - Lower Electricity consumption
 - No Bar Screen
 - Parts last longer

Older Urban Areas

Can be used to retrofit urban bodies where septic tanks are already present.

- ✓ Only houses without septic tanks to have Digesters built for them.
- ✓ All greywater to be diverted into existing Septic Tanks or IC's with traps installed to prevent garbage or other discarded items from entering HDPE sewer.
- ✓ Existing Septic Tanks to have Peak Flow Attenuators added to their outlets to minimize solid entrance into sewer. Liquid to be then connected to sewer network.

Our current markets



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Thank You

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