

Smart Villages, Smart Sanitation: The Clearford One SBS™

Clearford Water Systems Inc. is the developer of the patented Small Bore Sewer™ (SBS™), a watertight small diameter wastewater collection system that provides servicing with superior operational and environmental performance at a significantly lower cost when compared to historic gravity sewers. With the SBS™ as the enabling technology, Clearford delivers, on a global basis, turnkey, fixed-price wastewater collection and treatment solutions that are ideally suited for:

- Sustainability oriented projects,
- Water-scarce regions,
- Areas with unreliable water distribution networks,
- Existing communities requiring servicing, whether or not they currently have on-site sanitary disposal systems,
- New developments seeking a greener approach to water and wastewater management.

EXPERTISE

1. **Decentralized Wastewater Collection and Treatment**

APPLICATION AREAS

1. **Residential Townships**
2. **Resorts**
3. **Municipalities & other Urban Bodies**
4. **Villages & Towns**

The Clearford One SBS™ solution works on the principle of decentralized sewage collection and has three major components: our underground ClearDigest™ Smart Digester tanks, a ClearConvey™ network of HDPE piping and a end of the line ClearRecover™ optimized Wastewater Treatment Plant (WWTP) dedicated to recycling as much of the water as possible.

This step-by-step process offers many advantages over traditional sewerage collection and treatment systems including:

1. The Clearford One SBS™ system is designed to operate under a wide range of water supply conditions including low or variable water regimes whereas traditional sewage collection systems require a minimum water supply of 135 LPCD to transport the solid component without causing blockages.

2. The ability of the Clearford One SBS™ system to operate effectively in low water supply regimes means that one can install water saving devices such as low water flushes saving scarce water resources.
3. The Smart Digesters do not use electricity, added bacteria and chemicals but digest the solid organic sewage using naturally present anaerobic bacteria. They also attenuate peak flows.
4. The Smart Digesters not only digest the majority of the solid organics but are designed to trap within them all sewer line clogging inorganics that come down through household drainage lines preventing network blockages. This significantly reduces network maintenance requirements and thus reduces annual O&M expenditures,
5. As we eliminate the solid organic and inorganic components of the sewage, only the material suspended in the liquid component is transported via our ClearConvey™ HDPE pipe network to the STP.
6. The ClearConvey™ HDPE pipe network requires shallower trenching, can often be dug with local manual labour reducing excavation costs and allowing sewerage networks to be installed faster.
7. The ClearConvey™ HDPE network is sealed eliminating the sewage leakages into the surrounding environment common with other pipe types. This significantly reduces the chances of groundwater contamination and sewage entering wells, water supply pipes and natural water bodies.
8. This significantly cleaner liquid requires less treatment at the STP to treat to reuse standards resulting in additional annual expenditure savings.
9. The cleaner and attenuated effluent delivered by the Clearford One SBS system results in Sewage Treatment Plants having smaller footprints, lower electricity and chemical consumption, extended membrane and filter life as well as reduced O&M costs.
10. In terms of OPEX, the Clearford One collection system and STP will offer significant OPEX savings in the O&M of the collection network as well as the STP.