



London
CANADA

Solids Processing Steps

Raw Solids

The City of London's five wastewater treatment plants collectively treat over 200,000 cubic meters of wastewater each day, or 2,800 backyard swimming pools. The treatment process removes solid waste to produce clean, treated water that is discharged to the Thames River. The solids removed from the wastewater are referred to as "raw solids" which are actually a liquid with up to 0.5-4% solids. The raw solids need to be processed further to recover water and reduce the amount of waste produced.

Thickened Solids

Thickening is the first step in solids processing at London's wastewater treatment plants. This process removes liquid from the raw solids to produce a more concentrated product referred to as "thickened solids". Thickened solids contain up to 8% solids. Each of the City's five wastewater treatment plants has the capability for solids thickening. The thickening process reduces the total volume of solids by 80%, which also reduces the total amount of solids that need to be trucked to the Greenway wastewater treatment plant for further processing. Over 400 tonnes of thickened solids are transported to the Greenway wastewater treatment plant every day (or 27 loaded trucks).

Dewatered Solids

Thickened solids produced at all five of the City's wastewater treatment plants are hauled by truck to the Greenway wastewater treatment plant for dewatering. The dewatering process further removes water from the thickened solids to produce a more concentrated product referred to as "dewatered solids." Dewatered solids are a soil-like material with up to 40% solids. The dewatering process reduces the total solids volume by at least an additional 80%.

Ash

Dewatered solids produced at the Greenway wastewater treatment plant are then incinerated. Incineration transforms the dewatered solids into ash, water, and carbon dioxide using thermal energy. This process reduces the solids volume by an additional 90%. Ash is a sand-like material, which is hauled to landfill for final disposal. Approximately 15 tonnes of ash are trucked to landfill daily (or one loaded truck).

Note: Please scroll down to the next page for a comparative table with pictures.

	Raw Wastewater Solids	Thickened Solids	Dewatered Solids	Ash from Incineration
Description	The solids removed from the wastewater are referred to as "raw solids" which are actually a liquid with 0.5-4% solids. The raw solids need to be processed further to recover water and reduce the amount of waste produced.	Thickening is the first step in solids processing. It removes liquid from the raw solids to produce a more concentrated product referred to as "thickened solids". The process reduces the total volume of solids by up to 80%. Thickened solids have a semi-liquid consistency and contain 4 to 8% solids.	The dewatering process removes water from the thickened solids to produce a more concentrated product referred to as "dewatered solids", a soil-like material with up to 40% solids. The dewatering process reduces the total solids volume by at least an additional 80%.	Incineration transforms the dewatered solids into ash, water, and carbon dioxide using thermal energy, reducing the solids volume by an additional 90%.
Picture				
Example:	In 10,000 kg of raw wastewater solids we have: 100 kg solids and 9,900 kg water.	After thickening we would have 2,500 kg of thickened solids (75% reduction of total volume), from which: 100 kg solids and 2,400 kg water.	After dewatering we would have 400 kg of dewatered solids (84% reduction of total volume), from which: 100 kg solids and 300 kg water.	After incineration we would have 40 kg of ash (90% reduction of total volume), which are trucked to the landfill.