

## Modern Landfill Liner

### Have you ever wondered how modern landfills protect the environment?

Here is an example of the double composite engineered landfill liner used at Walker Environmental's South Landfill in Niagara Falls.

#### Geotextile **1**

Geotextiles are permeable fabrics made from polypropylene or polyester and provide separation, filtration, reinforcement, protection and / or drainage.

#### Clear Stone **2**

Clear stone is uniformly sized gravel that has been cleaned to remove fine particles. Clear stone is used with the perforated leachate collection pipes to allow leachate\* to be removed from the landfill so it can be treated.

#### Leachate Collection Pipe **3**

Leachate collection pipes are located in the clear stone layers of the landfill liner. These pipes allow leachate to be removed from the landfill so it can be treated.

#### Geomembrane **4**

The geomembrane is made from high density polyethylene and is used with engineered clay soils to provide a physical barrier between waste in the landfill and the natural environment.

#### Engineered Clay **5**

Engineered clay is natural clay soil that is engineered to ensure uniformity and is compacted to decrease permeability to provide a physical barrier between waste in the landfill and the natural environment.

#### Sand **6**

The sand layer is coarse sand that provides additional protection for underlying geomembrane and clay liners.

#### Attenuation Layer **7**

The attenuation layer is a low permeability soil that provides further protection to the natural environment.

\* Leachate is a term used to describe water that has come in contact with waste in the landfill.



An average person with the height of 1.75 m (5'9") standing next to the landfill liner helps demonstrate the thickness of the liner that is used in modern landfills such as Walker Environmental's South Landfill in Niagara Falls.

