

EAST PRINCE WASTE MANAGEMENT FACILITY



The East Prince Waste Management Facility (EPWMF) consists of a lined landfill (including on-site leachate treatment facility), a windrow composting facility, a tire storage yard, and a Waste Watch Drop-Off Center. Facility staff includes a Site Supervisor, three Inspector/Heavy Equipment Operators, Site Laborer and a Scale House Operator. The facility opened in December of 1994.

ADDRESS:

Mailing: P.O. Box 253, Miscouche, PEI, C0B 1T0
Civic: 29786 Route 2, Wellington Centre, PEI, C0B 2E0

PHONE:

Tel: (902) 854-3636 ● Fax: (902) 854-7235

HOURS:

Summer (*May to mid-September*)

Monday to Friday: 7:00 a.m. - 4:30 p.m.

Saturday: 7:00 a.m. - 12:30 p.m.

Winter (*mid-September to April*)

Monday to Friday: 8:00 a.m. - 4:30 p.m.

Saturday: 8:00 a.m. - 12:30 p.m.

LANDFILL OPERATIONS:

The footprint of the landfill is approximately 9 hectares. The landfill is being developed in six phases (six cells) with each having their own leachate collection system. The life span of the landfill is a minimum of 20 years.



CELL DESIGN

A high-density, polyethylene synthetic liner (80 mil.) is used to prevent leachate migration into the groundwater. Underlying the synthetic liner is a one meter moisture barrier of highly compacted brick clay. Through the middle of the cell, on top of the liner, is a perforated pipe used to collect leachate and direct it to the sump area.

A 450 mm layer of gravel covers the liner and pipe (cells one and two have a 450 mm layer of sand versus the gravel). This layer reduces the possibility of puncturing the liner during the spreading of waste and acts as a drainage medium which aids the flow of leachate to the underlying liner and collection pipe.

LEACHATE COLLECTION

The brick clay layer and synthetic liner are graded to a sump area (lowest portion of the entire cell). All leachate (once on the liner surface) flows through the perforated pipe and into this sump pump area. The leachate in the sump is automatically pumped into underground holding tanks (227,000 Litres).

The leachate is pumped from the tanks by a pumping station and feed through an underground force main into an on-site leachate treatment system.

ON-SITE LEACHATE TREATMENT SYSTEM

The leachate treatment system consists of an aerated lagoon, settling lagoon and a constructed wetland.

The leachate is pumped through the force main into an aerated lagoon. Here air is pumped into the lagoon to assist the treatment process. The material then flows to a settling pond where contaminating elements settle to the bottom. Then the treated water flows through a constructed wetland made up of natural vegetation and channels designed to further remove contaminants. By the time the treated water leaves the wetland it will have safely received treatment levels that meet or exceed provincial standards. A final layer of treatment happens when the treated water flows overland through the natural wetland.

Samples of the leachate and treated water are collected regularly and are analyzed for the parameters outlined in the Environmental Protection Act Waste Resource Management Regulations and the requirements of the Leachate Treatment System permit issued by the Department of Environment, Energy and Forestry.



GROUNDWATER MONITORING WELLS

Located throughout the facility are a series of groundwater monitoring wells sunken at different levels. These wells are monitored semi-annually to ensure the integrity of the groundwater is maintained.

CELL OPERATING PROCEDURES

All waste loads are inspected for content and contamination. Waste is spread and compacted in layers known as lifts using a landfill compactor (Caterpillar 826 G Series). The sides of the lifts are sloped to promote water run-off.

Waste is covered daily with either bottom ash, construction and demolition debris, compost screenings or clay. This layer reduces the amount of litter blowing throughout the facility. An intermediate clay layer is applied to the lifts every couple of weeks. This cover helps prevent odor and water seepage, provides a fire wall, reduces the amount of litter blowing throughout the facility and discourages birds and rodents.



COMPOSTING OPERATIONS:

Composting Technology is *aerobic windrow*.

The composting facility consists of a steel compost building with a receiving/processing floor and an

attached roofed three sided composting barn (south side is open). The receiving/processing floor is concrete and the composting barn has an asphalt floor. There is also an asphalt curing pad south of the composting barn.

The capacity of the composting facility is 10,000 tonnes per year. Equipment utilized for the composting operation includes a Caterpillar Wheel Loader (938H), a Bobcat skidsteer, a Jenz AZ 15 shredder, a SCAT compost turner and a Trommel Power Screen.

TIRE STORAGE YARD:

Island Waste Management Corporation contracts a private hauler to collect tires throughout the province, which are transported to their tire storage yard at the EPWMF. Another local private company collects the tires for processing at their facility, where they are shredded then marketed, mainly for use in road construction and other drainage medium uses.



WASTE WATCH DROP-OFF CENTER (WWDC):

A WWDC is provided for the general public and small businesses to be able to drop-off their source separated waste items. The WWDC consists of a series of 40 or 50 yd³ roll off containers which are situated at a lower level enabling customers to off-load directly into the containers. There are containers for waste, compost, recyclables and corrugated cardboard. There are also bulk drop-off and storage areas for construction and demolition debris, asphalt shingles, yard trimmings (i.e. tree branches) and bulk waste (i.e. mattresses and sofas).

The materials collected at the WWDC are delivered to the appropriate disposal facility for final disposal or recovery.



OTHER WWDC SERVICES:

HOUSEHOLD HAZARDOUS WASTE (HHW):



- HHW is not collected curbside however it may be dropped off by residents, free of charge, at the facility;
- The facility is equipped with a building specifically designed for the safe storage of hazardous materials from households;
- Facility staff is trained to receive, handle & pack hazardous material;
- Hazardous material from businesses is not accepted at the facility. They must contact a hazardous waste carrier directly.

TIRES:



- The facility is equipped with a large bin for the collection of tires from both residents and businesses;
- Rims must be removed from tires;
- There is no disposal fee for residents or businesses.

METAL MATERIAL:



- The facility has a designated drop-off location for metals and white goods; metals and white goods may also be disposed of at metal salvage dealers within the province;
- White goods including metal items such as washer, dryer, fridge, stove, freezer, microwave oven, humidifier, de-humidifier, water tank & air conditioning unit can be dropped off free of charge by residents and businesses;
- Items with Freon are kept upright and in a separate pile until the Freon is removed by a qualified technician;
- Propane tanks 20 lbs or less are kept separate from the metal pile. They are removed regularly by a company that handles propane tanks;
- A disposal fee applies at the facility for metal items which are not considered white goods.

RECYCLABLE MATERIAL:



- The facility accepts recyclable material in blue bags from residents and businesses who self-haul (contracted haulers will deliver directly to the recycling facility);
- The material received at the facility is transported to the recycling facility for processing and shipped off-Island to markets;
- Recyclable material is accepted free of charge from residents only on Saturdays