PORTLAND WASTEWATER TREATMENT PLANT

(Protecting The Public and Our Environment)

PRELIMINARY TREATMENT

BAR SCREEN

GRIT CHANNEL

The bar screen removes the large solids from the raw sewage coming into the wwtp. Smaller solids are removed by gravity in the grit channels.

PRIMARY TREATMENT

PRIMARY SETTLING TANK

Water from the grit channel flows into the Primary Settling Tanks where even smaller and lighter solids settle to the bottom of the tanks by gravity. The settled solids go to the Solids Digester for treatment and the wastewater goes to the Aeration Tanks for secondary treatment.

SECONDARY TREATMENT

AERATION TANKS

SECONDARY SETTLING TANK

DISINFECTING TANK

DECHLORINATION TANK

GRAND RIVER OUTFALL

The primary treated wastewater flows to the aeration tanks where a concentrated culture of microorganisms break down the organic matter. Iron is added to the aeration tanks to remove excess phosphorus. The iron gives the liquid its characteristic reddish color. The microorganisms settle out in the secondary settling tanks leaving a clear final effluent. The final effluent is treated with chlorine in the disinfection tank. After disinfection takes place, the chlorine is removed using sodium bisulfite in the dechlorination tank. The treated wastewater is now ready to be safely discharged into the Grand River.

SOLID HANDLING

SOLIDS DIGESTER

Portland Wastewater Treatment Plant

Operated by:

EARTH TECH

A tyco INTERNATIONAL LTD COMPANY

BIOSOLIDS THICKENING TANK

BIOSOLIDS RECYCLED BACK TO THE EARTH AS FERTILIZER ON FARMLAND.

Solids from the Primary Settling Tanks are pumped to the Solids Digester where the organic matter is broken down. The solids are now called Biosolids. The biosolids are then thickened in the Biosolids Thickening Tank. The Biosolids are now ready to be safely incorporated into farmland as a natural fertilizer.