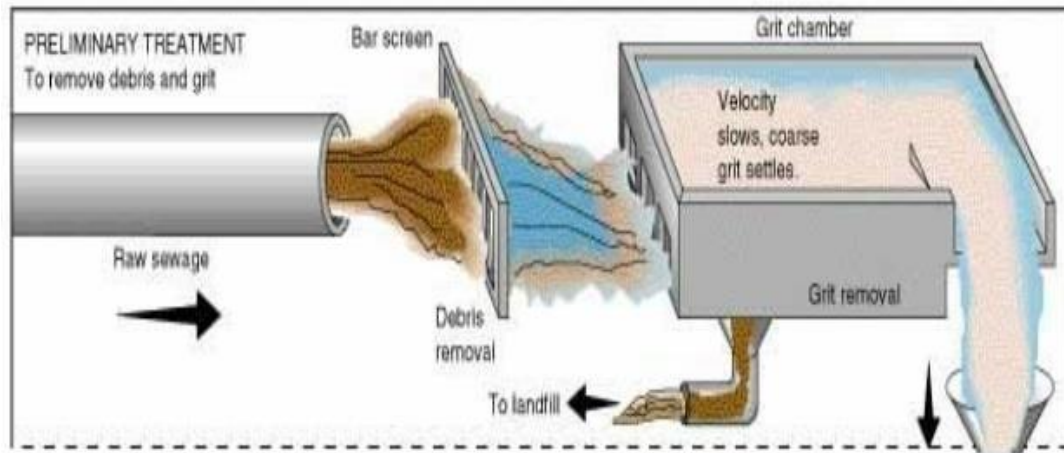


Stage one preliminary treatment

Preliminary Treatment



The purpose of preliminary treatment is to ensure a satisfactory quality of final effluent and final sludge product and to protect the treatment process from malfunction associated with accumulation of screenings, debris, inorganic grit, excessive scum formation or loss of efficiency associated with grease or oil films or fat accumulation

Preliminary treatment of wastewater consists of the following steps:

Screening

Comminution

Grit Removal

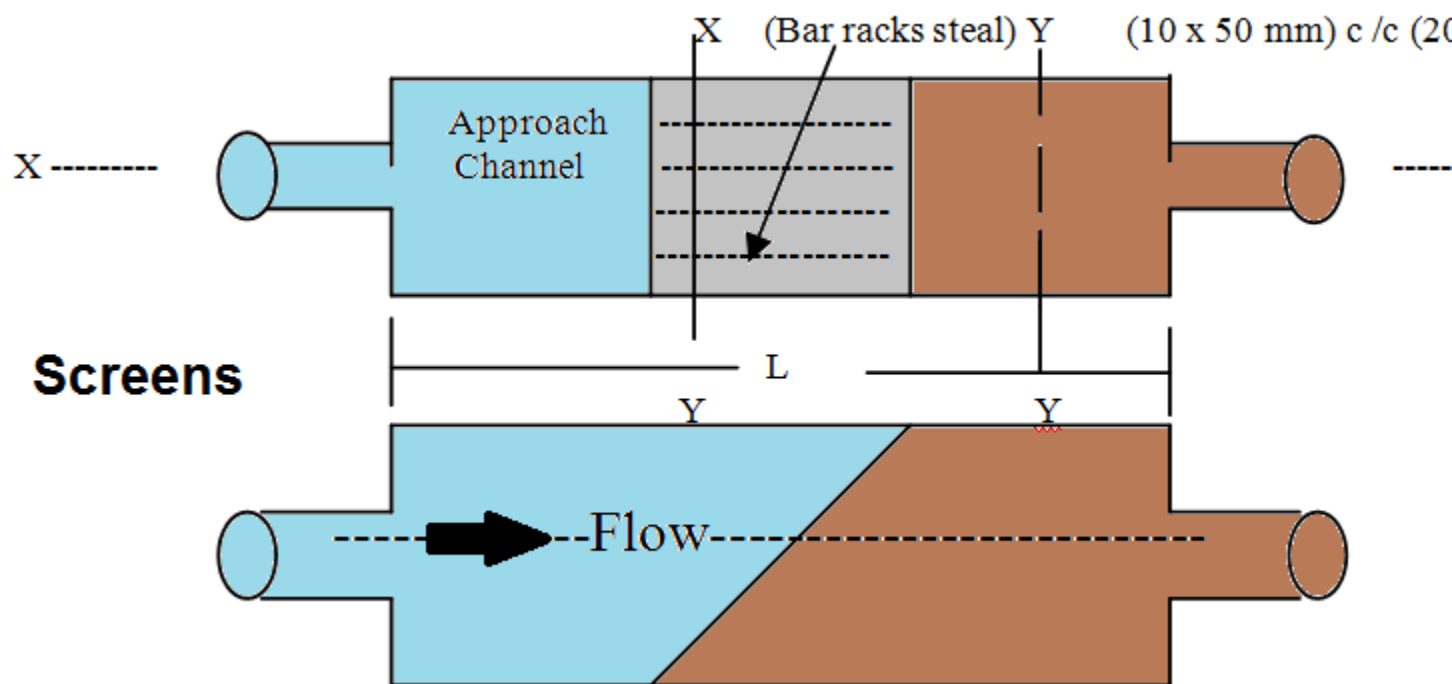
Flow Equalization

Oil and Grease Removal

Pre-Aeration

1. Screening

The first *unit operation* generally encountered in wastewater treatment plants is screening. A screen is a device with openings, generally of uniform size, that is used to retain solids found in the influent wastewater to the treatment plant. The principal role of screening is to remove coarse materials (pieces of wood, plastics, rags, papers, leaves, roots etc.) from the flow stream that could:



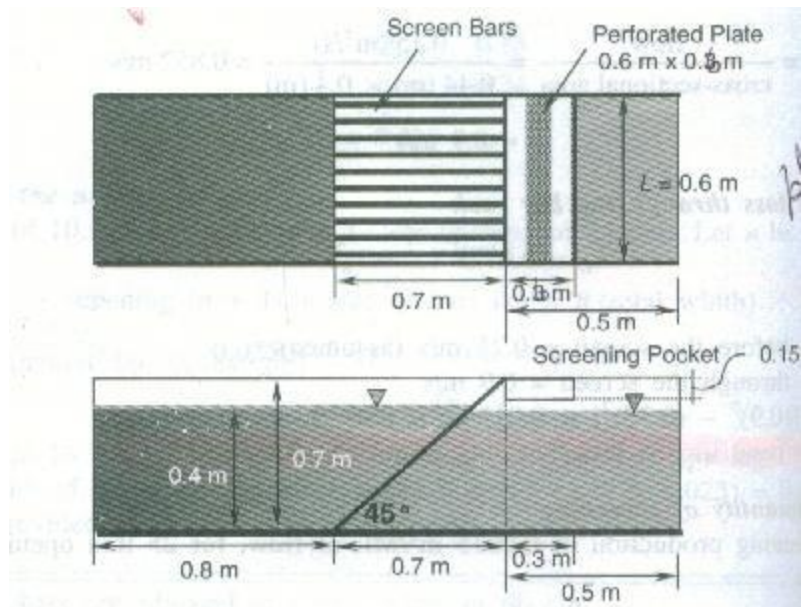
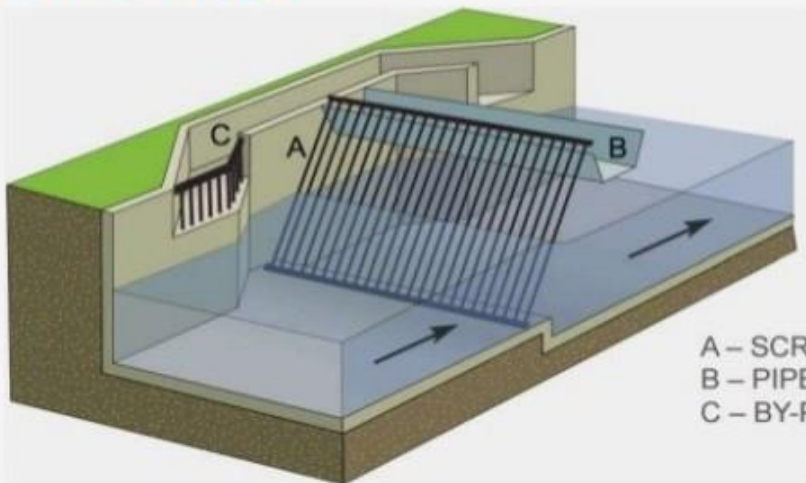


Figure 5.8 Details of a bar screen.

Bar screens



A – SCREEN
B – PIPE
C – BY-PASS PIPE



2. Wastewater treatment through Coarse Solids Reduction: