CROSS DRAINAGE WORKS AND ITS TYPES

Cross drainage works

Cross drainage works is a structure constructed when there is a crossing of canal and natural drain, to prevent the drain water from mixing into canal water. This type of structure is costlier one and needs to be avoided as much as possible.

Cross drainage works can be avoided in two ways:

- By changing the alignment of canal water way
- By mixing two or three streams into one and only one cross drainage work to be constructed, making the structure economical.

Types of Cross Drainage works:

There are three types of cross drainage works structures:

Type 1: Cross drainage work carrying canal over the drain

The structures falling under this type are

- Aqueduct
- Syphon Aqueduct

Type 2: Cross Drainage work carrying Drainage over the canal

The structures falling under this type are

- Super passage
- Canal Syphon

Type 3: Cross drainage works admitting canal water into the canal

The structures falling under this type are

- Level Crossing
- Canal inlets

Type 1: Canal over drainage [HFL < FSL]

Aqueduct:

In an aqueduct, the canal bed level is above the drainage bed level so canal is to be constructed above drainage.

A canal trough is to be constructed in which canal water flows from upstream to downstream.

This canal trough is to be rested on number of piers. The drained water flows through these piers upstream to downstream.

The canal water level is referred as full supply level (FSL) and drainage water level is referred as high flood level (HFL). The HFL is below the canal bed level.

Aqueduct is similar to a bridge, instead of roadway or railway, canal water are carried in the trough and below that the drainage water flows under gravity and possessing atmospheric pressure.