

C I R C U L A R

Sub :- Guidelines in the construction of seawalls- Alignment of seawall with reference to the shore line and end reaction –

1. Alignment of seawall with reference to the shoreline

The erosion of the coast normally takes place during the monsoon period (from May to October) and the M.S.L. of the coast shows progressive recession during this period. Subsequent to this period the beach builds up and the M.S.L. advances seaward. As this newly accreted zone erodes during the succeeding monsoons, the seawall should be constructed entirely landward of the landward limit of the seawall fluctuations so that sufficient beach is left seaward of the seawall for the usual littoral processes.

It might be tempting to try to consolidate the beach in a forward position after a period of advance. This would not be actual coastal defence, but would rather come under land reclamation. Such a temptation should be disregarded because no real advantage can be gained from it and the structure for such purpose will do more harm than good. The harmful effect of such structures will be felt particularly in the leeside of the reaches.

Hence seawalls must be constructed on the backshore, landward of the seasonal fluctuation so that sufficient beach is left seaward of the seawalls for the littoral processes to take place.

The last line of coconut trees can be taken as the boundary upto which the shoreline has receded. Hence the heel of the seawall shall be aligned near the last line of coconut trees (development).

This will require excavation of beach materials in most cases. The excavated material must be dumped in front to act as nourishment.

11. End Reaction of seawalls.

Seawalls as they are constructed, have helped to arrest recession of shoreline. But in several cases they have caused erosion on the downdrift shore and outflanking of terminals. This has led to the extension of seawalls. This is known as End Reaction. This can be tackled by

- (i) Providing proper returns at terminals for prevention of outflanking;
 - (ii) Stockpiling of sand at the down drift extremities of seawalls. For this the sand excavated for the construction of seawalls near the extremities can be used.
- Hence the importance of the alignment of seawalls and provision of returns and stockpiling of beach materials at the extremities is stressed to tackle the problem of end reaction and continuous extension of seawalls.

Sd/- For CHIEF ENGINEER (IRRIGATION)

Copy to the Superintending Engineer, Irrn. Central Circle, Trichur

Endt. On D9.812/83 dated 10.3.83.

Copy to all Executive Engineers and Asst. Exe. Engineer, Irrigation
Sub Dn., Ernakulam. Copy to all sections in DB & HD's and stock file.
Copy to Personal Assistant's and Superintending Engineer's table.

For Superintending Engineer.

Enr/18.5.