

6.4 Sedimentation

Simple sedimentation (i.e. unassisted by coagulation) may be used to reduce turbidity and solids in suspension. Sedimentation tanks are designed to reduce the velocity of flow of water so as to permit suspended solids to settle under gravity. There are many different designs of tanks and selection is based on simple settlement tests or by experience of existing tanks treating similar waters.

Sedimentation tanks are usually rectangular with length to width ratios between 2:1 and 5:1. The depth of the tank is usually between 1.5 and 2.0 m. The inlet and outlet must be at opposite ends of the tank. The inlet should be designed to distribute the incoming flow as evenly as possible across the tank width and to avoid streaming which would otherwise reduce sedimentation efficiency. Baffles may be installed to prevent short-circuiting. The outlet should be designed to collect the clarified water over the entire tank width. The tank should be covered to prevent contamination. Sedimentation tanks require cleaning when performance drops off. This will not normally be more frequent than once per year.

Figure 6.3 Sedimentation tank

