

ASSIGNMENT

Submitted To Engr. Madeem.

Submitted by HAMAD

SECTION "B"

SUBJECT WASTE WATER

S.ID 77217

Date 2/7/2020

DEPT Civil Engr

Hydraulic Retention Time

The hydraulic retention time (HRT) is a measure of the average length of time that a soluble compound remain in a constructed bioreactor. The total volume of the aeration tank divided by the same volume of the aeration tank divided by the influent flow rate is (τ) Tau.

Solid Retention Time (SRT)

Solid retention time is the average time the activated sludge are in the system. The (SRT) is an important design and operating parameter for activated-sludge process and is usually expressed in days.

$$SRT = \frac{V \times \bar{C}_d}{Q_{out} \times C_{out}}$$

Decoupling SRT FROM (HRT)

Decoupling SRT and HRT enhance the organic loading.

rate and enable reactor size reductions.

There are four approaches to decouple SRT from HRT.

Approches

→ Biomass immobilization in attached growth system.

→ Granulation and floc formation.

→ Granulation and floc formation.

→ Biomass recycling.

→ Biomass retention.

ADVANTAGES OF DECOUPLING SRT FROM HRT.

→ Decoupling implies using less resources and generating less work per unit of economic activity.

→ Relative decoupling is a positive sign, the real ~~action~~

aim is to achieve absolute decoupling where the economy can continue to grow and waste generation Reduce.

