

## 11. Assimilative Capacity Results

The nearest recorded flow data relates to the Inagh River which is upstream of the discharge point and relates to Station No. 28001.

On a catchment basis the  $q_{95}$  and ( $q_{\text{median}}$ ) at this station are 0.21m<sup>3</sup>/s and 2.45m<sup>3</sup>/s respectively. The flows relate to a catchment Area of 168km<sup>2</sup>.

On a catchment area porporation basis the  $q_{95}$  and ( $q_{\text{median}}$ ) flows at the existing WWTP discharge point can be estimated as 210l/s and 2450l/s respectively.

### **BOD**

The WAC for BOD required for discharge to the receiving waters is worked out below. The average background concentration in the river is <2mg/l and the maximum is 3mg/l

$$\text{WAC} = (C_{\text{max}} - C_{\text{back}}) \times (F_{95}) \times 86.4 \text{kg/day}$$

Where  $(C_{\text{max}} - C_{\text{back}}) = 1 \text{mg/l}$

$F_{95}$  = estimated 95% flow in river = 0.21m<sup>3</sup>/s

$$\text{WAC} = \mathbf{18.144 \text{kg/day}}$$

Hydraulic Load is 2100PE X 225 = 472m<sup>3</sup>/day

$$\text{Allowable Discharge Concentration} = \text{WAC} / \text{Hydraulic Load} = 18.144 / 472 = \mathbf{38 \text{mg/l}}$$

### **Suspended Solids**

The WAC for SS required for discharge to the receiving waters is worked out below.

$$\text{WAC} = (C_{\text{max}} - C_{\text{back}}) \times (F_{95}) \times 86.4 \text{kg/day}$$

Where  $(C_{\text{max}} - C_{\text{back}}) = 5 \text{mg/l}$

$F_{95}$  = estimated 95% flow in river = 0.21m<sup>3</sup>/s

$$\text{WAC} = 90.72 \text{kg/day}$$

Hydraulic Load is 2100PE X 225 = 472m<sup>3</sup>/day

$$\text{Allowable Discharge Concentration} = \text{WAC} / \text{BOD load} = 90.72 / 472 = \mathbf{192 \text{mg/l}}$$