

4.6 Toxics & Manmade Organic Compounds

Expanded effluent testing data in EPA Form 3510-2A is not required for facilities with a permitted design flow less than 1.0 MGD and without an approved pre-treatment program; therefore, no test results were submitted with the application.

4.7 Calculations for Effluent Limits

4.7.1 Instream Waste Concentration (IWC):

$$\begin{aligned} \text{IWC} &= \frac{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})} \% \\ &= \frac{0.426}{0.426 + 0.006} \\ &= 99 \% \end{aligned}$$

4.7.2 Flow:

Weekly Average Flow:

$$Q_{\text{Weekly}} = Q_{\text{Monthly}} (\text{MGD}) \times 1.25$$

Q = Flow
C = Concentration
M = Mass

Refer to Appendix B for the calculated results.

4.7.3 Five-Day Biochemical Oxygen Demand:

Weekly Average Concentration:

$$[C]_{\text{Weekly}} = [C]_{\text{Monthly}} (\text{mg/L}) \times 1.5$$

Monthly Average Mass Loading:

$$M_{\text{Monthly}} = Q_{\text{Monthly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal})$$

Weekly Average Mass Loading:

$$M_{\text{Weekly}} = Q_{\text{Weekly}} (\text{MGD}) \times [C]_{\text{Monthly}} (\text{mg/L or ppm}) \times 8.34 (\text{lbs/gal})$$

Refer to Appendix B for the calculated results.