

### **Problem One**

**Plant Conditions:**

**Weir length = 250 feet**

**Flow rate = 3,500,000 gpd**

Rectangular Weir overflow rate =  $\frac{\text{flow (gpd)}}{\text{Weir length in ft}}$

Weir overflow rate =  $\frac{3,500,000 \text{ gpd}}{250 \text{ ft}}$

Weir overflow rate =  $\frac{14,000 \text{ gpd/ft}}{1440 \text{ min}}$

**Weir overflow rate = 9.73 gpm/ft**

### **Problem Two**

**Plant Conditions:**

**Weir diameter = 45 feet**

**Flow rate = 2.56 MGD**

**Reminder \*\*Pi ( $\pi$ ) = 3.14**

Circular Weir Overflow rate =  $\frac{\text{flow (gpd)}}{\pi * \text{diameter}}$

Weir overflow rate =  $\frac{2.56 \text{ MGD} * 1,000,000}{3.14 * 45}$

Weir overflow rate =  $\frac{2,560,000}{141.30}$

Weir overflow rate =  $\frac{18,117.48 \text{ gpd/ft}}{1440 \text{ min}}$

**Weir overflow rate = 12.59 gpm/ft**