

Based on the design information above, peak hourly flows to the plant greater than 8.3 hours will more than likely result in an overflow of the existing equalization basin. The new secondary equalization basin will provide more than double the available storage for extended periods of operation at the peak hourly flow.

### **3.0 Flow Pattern During Draining and Filling Operations/Calculations For Secondary Equalization**

#### **Filling:**

Flow to the secondary equalization basin will be conveyed from the existing equalization basin via the emergency 36-inch standpipe overflow located 1.5 feet below the top the tank wall. The capacity of the standpipe is 57.63 cfs. The 36-inch overflow line will transition outside of the existing equalization basin to a 24-inch ductile iron line with capacity of 59 cfs that will discharge into the secondary equalization basin.

The dimensions and storage capacity of the secondary equalization basin are as follows:

Length at top of slope:	815 ft
Width at top of slope:	130 ft
Side slope:	3:1
Maximum Depth:	19.2 ft

A stage-storage table is included in the Appendix.

#### **Draining/Pumping:**

Flow will be conveyed from the secondary equalization basin back to the existing equalization basin via a duplex pump station. The station will include (2) Flygt 20 HP pumps at 900 gpm each.

### **4.0 Plant Flow Diagram**

A plant flow diagram is included in the Appendix.