Birzeit university

Civil engineering department – highway engineering

Quiz 4

Q1 : **Given : 1100 x a400 ft asphaltic parking area is drained using an underground pipe with drainage inlet located at one corner. The runoff flow speed over the parking area is 6 ft/sec. Determine the required concrete pipe size assuming 10-year return period, full pipe flow, 2% pipe slope, and the parking area is sloped so that flow paths follow straight lines towards the drainage inlet .**

Q2 : **verify if 8 x 6 ft concrete culvert is adequate to limit the head water height to 6 ft considering 350 cfs design discharge, full culvert flow, headwall with square-edged, 90 ft culvert length, 1% culvert slope and 4.5 ft tailwater height .**