Example: A manhole with a cover tilted open 2 inched with an estimated velocity of 4 ft/sec at its worst rate of loss for two hours and about 1-inch tilt with a velocity of 2 ft/sec observed at two other occasion over a 7 hour total event.
Worst case: 2 hours, 2 inched tilt, 4 ft/sec
Other times: 1 inch tilt, 2 ft/sec, time unknown
Total overflow time: 7 hours

Divide total of 7 hours into several periods

1st hour: Start to 1-inch tilt, 2 ft/sec

Volume (Gal.) = (Area) (Velocity) (Time) (448) x 50%
= (0.262) (2) (60) (448) (0.50)
= 7,043 gallons

7th hour: 1-inch tilt, 2 ft/ sec down to end
Same as above situation
Volume = 7,043 gallons

5 remaining hours:

2 hours at 2-inch tilt, 4 ft/sec
3 hours at 1-inch tilt, 2 ft. sec

Volume = (0.524) (4 ft/sec) (120 min) (448)
= 112,681 gallons

Volume = (0.262) (2 ft/sec) (180 min) (448)
= 42,255 gallons

Event Total = 7,043 + 7,043 + 112,681 + 42,255 = 169,022 gallons