

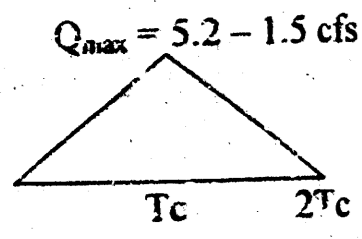
Parcel 1 Drainage

Area Draining West

Existing Condition
 Area = 34,492 sq. ft. = 0.79 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, 1 acre lot residential, $C_{100} = 0.71$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.71 (7.37) (0.79) = 4.1$ cfs

Developed Condition
 Area = 34,492 sq. ft. = 0.79 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, $C_{100} = 0.90$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.90 (7.37) (0.79) = 5.2$ cfs

Volume Required to Store 100 yr. Excess



West Basin will be drained by one 8-inch pipe w/ $Q_{max} = 1.5$ cfs

$$V_{REQ} = 0.5 (Q_{DEV} - 1.5 \text{ cfs}) 2T_c$$

$$= 0.5 (3.7) (1800)$$

$$= 3330 \text{ cu. ft. required}$$

Volume Provided
 Storage area behind southwest building corner
 3,689 cf (max water surface = 119.0)

This basin is designed to detain the difference between the existing and developed 100 year conditions.

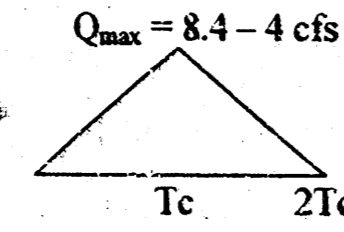
Parcel 1 Drainage Continued

Area Draining North

Existing Condition
 Area = 58,371 sq. ft. = 1.34 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, 1 acre lot residential, $C_{100} = 0.71$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.71 (7.37) (1.34) = 7.0$ cfs

Developed Condition
 Area = 58,371 sq. ft. = 1.34 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, $C_{100} = 0.90$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.90 (7.37) (1.34) = 8.4$ cfs

Volume Required to Store 100 yr. Excess



North Basin will be drained by four 6-inch pipes w/ $Q_{max} = 4$ cfs each.

$$V_{REQ} = 0.5 (Q_{DEV} - 4 \text{ cfs}) 2T_c$$

$$= 0.5 (4.4) (1800)$$

$$= 3951 \text{ cu. ft. required}$$

Volume Provided
 1,260 cf
 1,513 cf
 1,208 cf
 3,981 cf provided

This basin is designed to detain the difference between the existing and developed 100 year conditions.

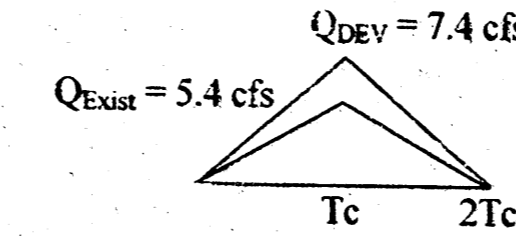
Parcel 2

Area Draining North

Existing Condition
 Area = 44,955 sq. ft. = 1.03 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, 1 acre lot residential, $C_{100} = 0.71$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.71 (7.37) (1.03) = 5.4$ cfs

Developed Condition
 Area = 48,205 sq. ft. = 1.11 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, $C_{100} = 0.90$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.90 (7.37) (1.11) = 7.4$ cfs

Volume Required to Store 100 yr. Excess



$$V_{REQ} = V_{DEV} - V_{EXIST}$$

$$= 0.5 (7.4) (1800) - 0.5 (5.4) (1800)$$

$$= 6660 - 4860 = 1800 \text{ cu. ft. required}$$

Volume Provided

662 cf
 711 cf
 52 cf
 2,121 cf
 2120 cf provided

Basin provides storage volume for runoff difference between existing and developed conditions.

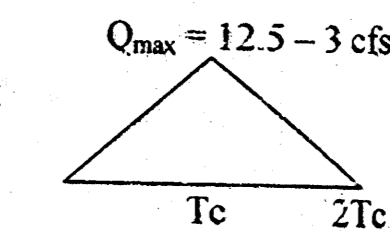
Parcel 2 Drainage Continued

Area Draining South

Existing Condition
 Area = 85,487 sq. ft. = 1.96 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, 1 acre lot residential, $C_{100} = 0.71$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.71 (7.37) (1.96) = 10.3$ cfs

Developed Condition
 Area = 82,237 sq. ft. = 1.89 acres
 $T_c = 15$ minutes
 Hydrologic Group D Soils, $C_{100} = 0.90$
 $I_{100} = 7.37$ in/hr
 $Q_{100} = CIA = 0.90 (7.37) (1.89) = 12.5$ cfs

Volume Required to Store 100 yr. Excess



South Basin will be drained by three 6-inch pipes w/ $Q_{max} = 3$ cfs each.

$$V_{REQ} = 0.5 (Q_{DEV} - 3 \text{ cfs}) 2T_c$$

$$= 0.5 (9.5) (1800)$$

$$= 8550 \text{ cu. ft. required}$$

Volume Provided

1,945 cf
 998 cf
 1,140 cf
 2,209 cf
 2,494 cf
 3,790 cf
 12,576 cf provided

Basin provides excess storage volume beyond requirement to detain volume in excess of existing conditions.

