BALTIMORE COUNTY

TR-55 DESIGN COMPUTATION

BY _____ PROJECT _____ JOB # _____ SHT. ____ OF ____

DATE _____ AREA NO. _____ EXISTING: ☐ PROPOSED: ☐ ULTIMATE: ☐

SOIL GROUP	LAND USE OR ZONING	HYDROLOGIC CONDITION	% IMPERVIOUS	RCN			AREA (ACRE)	RCN x AREA
				TABLE 2-2	FIG. 2-3	FIG. 2-4		

TOTAL SQUARE MILES =_____ , = TOTAL ACRES = [ ] [ ]

TIME OF CONCENTRATION, Tc WEIGHTED RCN = _____ USE RCN =_____

ID	TYPE OF FLOW	L (FT)	n	a (FT^2)	p_w (FT)	s (%) (FT/FT)	V (FPS)	TIME (HRS)
	SHEET FLOW (TABLE 3-1) (1)*							
	SHALL. CONC. FLOW (FIG 3-1) (4)*							
	☐ PAVED ☐ UNPAVED							
	☐ PAVED ☐ UNPAVED							
	☐ PAVED ☐ UNPAVED							
	☐ PAVED ☐ UNPAVED							
	CHANNEL FLOW - MANNING (5,4)*							

TOTAL Tc = [ ]

INITIAL ABSTRACTION, Ia = _____ IN.(TABLE 5-1) USE Tc = _____ , Tt = _____

RAINFALL FREQ. =	1 YR	2 YR	5 YR	10 YR	25 YR	100 YR
RAINFALL-24 HR., P =	2.6 IN.	3.2 IN.	4.2 IN.	5.1 IN.	5.5 IN.	7.1 IN.
Ia/P =						
PEAK CSM/IN. =						
RUNOFF, Q (2)* =	IN.	IN.	IN.	IN.	IN.	IN.
PEAK DISCHARGE (3)*=	CFS	CFS	CFS	CFS	CFS	CFS

*** = Formulas:**

(1) $Tt = \frac{0.007\ (nL)^{0.8}}{P_{2\,YR}^{0.5}\ S^{0.4}}$ = HR.

(2) $Q = \frac{(P - 0.2\,S)^2}{(P + 0.8\,S)}$ = IN., WHERE $S = \frac{1000}{RCN} - 10$

(3) PEAK DISCHARGE = PEAK (CSM/IN.) x Q (IN.) x AREA (SQ. MI.) = CFS

(4) $Tt = \frac{L}{3600\ V}$ = HR.

(5) $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$ = FPS , WHERE $r = \frac{a}{p_w}$