

DRAINAGE AREA DATA

DA= 1.60 ac
Impervious Area= 0.80 ac
C= 0.70
Tc= 5 min
i= 7.07 in/hr
Q= CIA
Q10 = (0.70) (7.07) (1.60) = 8.0 cfs

FLOW SPLITTER COMPUTATIONS

A. Low Flow Orifice

Modular Wetland Systems
WQ Flow Rate = 0.27 cfs

$$Q_o = c A \sqrt{2 g h} \quad c = 0.6 \quad g = 32.2$$

$$h = \left(\frac{Q}{4.81 A} \right)^2$$

Assume 4" Ø Low Flow opening

Area 4" Ø = 0.0872 sq ft

Find for h= ?

$$h = \left(\frac{0.27}{4.81 \times 0.0872} \right)^2 = 0.41 \text{ ft (Minimum)}$$

use h= 0.53 ft

$$\text{Check for } Q_o = (0.6)(0.0872) (2)(32.2)(0.53) \sqrt{ } = 0.30 \text{ cfs} > 0.27 \text{ cfs} \quad \text{OK}$$

B. High Flow By-pass

10-Year Storm

Q10 = 8.0 cfs

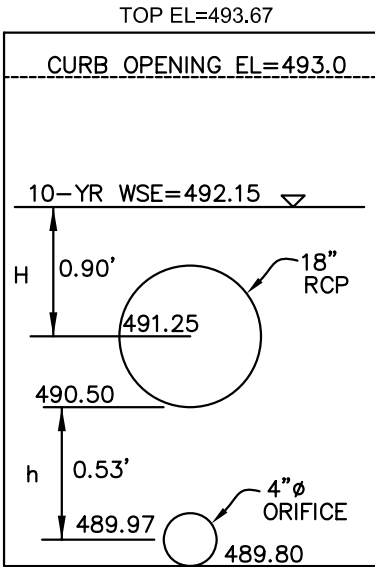
Assume 18" RCP High Flow opening

Area 18" Ø = 1.766 sq ft

Find for H= ?

$$H = \left(\frac{8.0}{4.81 \times 1.766} \right)^2 = 0.90 \text{ ft}$$

Set 10-Year WSE at 492.15 ft within Flow Splitter Structure OK



PROJECT: TAKOMA PARK LINDEN AVE
WATER QUALITY RETROFIT &
RETAINING WALL REMEDIATION

TITLE
DRAINAGE AREA MAP

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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT
THESE DOCUMENTS WERE PREPARED OR APPROVED BY
ME, AND THAT I AM DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND,
LICENSE No. 32602, EXPIRATION DATE: 1-15-2010.

Designed By: TES/WRK	Scale: AS SHOWN	Proj. No. 0901
Drawn By: TAM	Date 6/29/09	
Checked By: TES	Approved	SHEET 11 OF 11