

**STORMWATER CALCULATIONS  
PREPARED FOR  
LOT 55.01 IN BLOCK 348  
1231 HAMILTON STREET  
TOWNSHIP OF FRANKLIN  
SOMERSET COUNTY, NEW JERSEY**



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Prepared by  
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U.S.D.A. Soil Survey of Somerset County

SOIL TYPE: RoyB Royce silt loam ( Hydrological Group C )

PREDEVELOPMENT FLOWS

	SF	AC
LOT AREA	25,648.17	0.5888
IMPERVIOUS AREA	3,950.00	
GRAVEL AREA		
OPEN AREA GRASS	21,698.17	

Wt'd c:

$$\frac{(\text{IMPERV. AREA} \times 0.99) / \text{LOT AREA} + (\text{GRAVEL AREA} \times 0.84) / \text{LOT AREA} + (\text{GRASS AREA} \times 0.51) / \text{LOT AREA}}{\text{LOT AREA}}$$

0.58

Assume  $t_c = 10$  minutes     $i$  from Figure 7.2 (RSIS)

$i$ 2 year	4.3
$i$ 10 year	5.8
$i$ 25 year	6.7
$i$ 100 year	8.0

		CFS
Using the Rational Method where $Q = ciA$	Q2	1.48
	Q10	1.99
	Q25	2.30
	Q100	2.75

**POSTDEVELOPMENT FLOWS**

	SF	AC
DRAINAGE AREA	25,648.17	0.5888
IMPERVIOUS AREA	4,864.30	
GRAVEL AREA	-	
OPEN AREA GRASS	20,783.87	

**Wt'd c:**

$(\text{IMPERV. AREA} \times 0.99) / \text{LOT AREA} + (\text{GRAVEL AREA} \times 0.84) / \text{LOT AREA} +$  **0.60**

$(\text{GRASS AREA} \times 0.51) / \text{LOT AREA}$

Assume  $t_c = 10$  minutes  $i$  from Figure 7.2 (RSIS)

$i$ 2 year	<b>4.3</b>
$i$ 10 year	<b>5.8</b>
$i$ 25 year	<b>6.7</b>
$i$ 100 year	<b>8.0</b>

		CFS
Using the Rational Method where $Q = ciA$	<b>Q2</b>	1.52
	<b>Q10</b>	2.05
	<b>Q25</b>	2.37
	<b>Q100</b>	2.83

Increase in the peak rates of runoff Postdevelopment are as follows:

	Post		Pre	CFS
2 year	1.52	minus	1.48	<b>0.04</b>
10 year	2.05	minus	1.99	<b>0.06</b>
25 year	2.37	minus	2.30	<b>0.07</b>
100 year	2.83	minus	2.75	<b>0.08</b>

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**Conclusions:**

1. The site generates a minor increase in drainage runoff in the post development condition with all impervious surface runoff being directed towards the right of way and to existing storm drainage systems.
2. The increase in the peak rates of post development runoff are as follows:

	<b>Post</b>		<b>Pre</b>	<b>CFS</b>
2 year	1.52	minus	1.48	0.04
10 year	2.05	minus	1.99	0.06
25 year	2.37	minus	2.30	0.07
100 year	2.83	minus	2.75	0.08

3. Since there is such a minor increase in peak runoff rate, it can be concluded that there will be no adverse impact compared to pre-development conditions and that offsite stability has been demonstrated.