

10768 – Sefter Road, Bognor Regis

Pond Basin Half Drain time calculations

Network 1

Basin 1 on PN1.017

1 in 10 year storm:

Peak Storm: 1 in 10 year 600min winter

Storage base level 4.985

Hydrograph tables for pipe 1.017

Peak water level 590min : 5.536m

$$5.536\text{m} - 4.985\text{m} = 0.551\text{m}$$

$$0.551/2 = 0.275\text{m}$$

$$\text{Half drain level} = 5.536 - 0.275 = 5.261\text{m}$$

Hydrograph table 1750min: 5.259m

$$1750\text{min} - 590\text{min} = 1160\text{min}$$

Less than 1440min (24 hours), therefore ok

Basin 2 on PN1.020

1 in 10 year storm:

Peak Storm: 1 in 10 year 600min winter

Storage base level 4.945

Hydrograph tables for pipe 1.020

Peak water level 590min : 5.534m

$5.534\text{m} - 4.945\text{m} = 0.589\text{m}$

$0.589/2 = 0.295\text{m}$

Half drain level = $5.534 - 0.295 = 5.239\text{m}$

Hydrograph table 1820min: 5.239m

$1820\text{min} - 590\text{min} = 1230\text{min}$

Less than 1440min (24 hours), therefore ok

Basin 3 on PN1.023

1 in 10 year storm:

Peak Storm: 1 in 10 year 600min winter

Storage base level 4.870

Hydrograph tables for pipe 1.023

Peak water level 600min : 5.528m

$5.528\text{m} - 4.870\text{m} = 0.658\text{m}$

$0.658/2 = 0.329\text{m}$

Half drain level = $5.528 - 0.329 = 5.199\text{m}$

Hydrograph table 1960min: 5.198m

$1960\text{min} - 600\text{min} = 1360\text{min}$

Less than 1440min (24 hours), therefore ok

Basin 4 on PN1.026

1 in 10 year storm:

Peak Storm: 1 in 10 year 600min winter

Storage base level 4.650

Hydrograph tables for pipe 1.026

Peak water level 590min : 5.254m

$$5.254\text{m} - 4.650\text{m} = 0.604\text{m}$$

$$0.604/2 = 0.302\text{m}$$

$$\text{Half drain level} = 5.254 - 0.302 = 4.952\text{m}$$

Hydrograph table 1940min: 4.951m

$$1940\text{min} - 590\text{min} = 1350\text{min}$$

Less than 1440min (24 hours), therefore ok

Network 2

Basin 6 on PN1.009

1 in 10 year storm:

Peak Storm: 1 in 10 year 360min winter

Storage base level 4.185

Hydrograph tables for pipe 1.009

Peak water level 348min : 4.648m

$$4.648\text{m} - 4.185\text{m} = 0.463\text{m}$$

$$0.463/2 = 0.231\text{m}$$

$$\text{Half drain level} = 4.648 - 0.231 = 4.416\text{m}$$

Hydrograph table 900min: 4.415m

$$900\text{min} - 348\text{min} = 552\text{min}$$

Less than 1440min (24 hours), therefore ok

Basin 7 on PN6.007

1 in 10 year storm:

Peak Storm: 1 in 10 year 600min summer

Storage base level 4.190

Hydrograph tables for pipe 6.007

Peak water level 600min : 4.799m

$$4.799\text{m} - 4.190\text{m} = 0.609\text{m}$$

$$0.609/2 = 0.304\text{m}$$

$$\text{Half drain level} = 4.799 - 0.304 = 4.495\text{m}$$

Hydrograph table 1750min: 4.495m

$1750\text{min} - 600\text{min} = 1150\text{min}$

Less than 1440min (24 hours), therefore ok