



Land Rear of Newcastle Road

Hydraulic Model



Revision	Report Name	Date	Comment	By
P1	1529-HYDM-220808	08.08.22	Issued for Information	S.Kanadia
P2	1529-HYDM-220808	12.01.23	Issued for Information	S.Kanadia

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	15.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	75.0
Additional Flow (%)	40	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	10.00	Enforce best practice design rules	✓

Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	20.0
M5-60 (mm)	17.000	Check Discharge Rate(s)	✓
Ratio-R	0.400	1 year (l/s)	3.5
Summer CV	1.000	30 year (l/s)	8.3
Winter CV	1.000	100 year (l/s)	10.4
Analysis Speed	Detailed	Check Discharge Volume	x
Skip Steady State	x		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	0	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Brownfield	Time of Concentration (mins)	5.00
Brownfield Method	MRM	Betterment (%)	0
Contributing Area (ha)	0.021	Q 1 year (l/s)	3.5
PIMP (%)	100	Q 30 year (l/s)	8.3
CV	1.000	Q 100 year (l/s)	10.4

Storage Estimate

Return Period (years)	100	OK Cancel
Climate Change (%)	40	
Impermeable Area (ha)	0.159	Update
Peak Discharge (l/s)	1.750	
Infiltration Coefficient (m/hr) (leave blank if no infiltration)		Calc
Required Storage (m ³)	Calc	
	from 86	
	to 119	
With infiltration (m ³)		
	from	
	to	