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575- 599 Maxted Road Hemel Hempstead Herts HP2 7ED	Extg SW Flows McD Barnsley	
Date 01/12/2017 14:12 File BARNSLEY EXTG.MDX	Designed by FG Checked by	
Micro Drainage		Network 2017.1.2

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm - EXTG

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.381	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

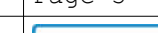
Designed with Level Soffits

Network Design Table for Storm - EXTG

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	7.216	0.200	36.1	0.056	6.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	27.404	0.685	40.0	0.023	0.00	0.0	0.600	o	150	Pipe/Conduit	
S2.000	38.121	0.763	50.0	0.247	6.00	0.0	0.600	o	225	Pipe/Conduit	
S1.002	14.316	0.270	53.0	0.104	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	6.07	108.360	0.056	0.0	0.0	0.0	1.68	29.7	7.5
S1.001	50.00	6.36	108.160	0.078	0.0	0.0	0.0	1.60	28.2	10.6
S2.000	50.00	6.34	108.238	0.247	0.0	0.0	0.0	1.85	73.8	33.5
S1.002	50.00	6.49	107.400	0.429	0.0	0.0	0.0	1.80	71.6	58.1

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm - EXTG

Simulation Criteria

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Rainfall Model	FSR	Ratio R	0.359
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 0

PN	US/MH	Surcharged	Flooded	Pipe		Status	Level Exceeded
	Name	Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)		
S1.000	S1	0.077	0.000	0.58		14.6	SURCHARGED
S1.001	S2	0.214	0.000	0.73		19.7	SURCHARGED
S2.000	S3	0.397	0.000	0.94		66.0	SURCHARGED
S1.002	S4	0.550	0.000	1.74		109.0	SURCHARGED

