


Stevenson Associates		Page 1
PO Box 58 Monk Fryston Leeds LS25 5WZ	Redthorne Murton Way YO19 5UJ	
Date March 2022 File REDTHORN.SIM	Designed By Stevenson Checked By	
Micro Drainage	Simulation W.11.3	

Global Variables

Region	FSR - England & Wales
Return Period (yrs)	100
M5-60 (mm)	19.000
Ratio R	0.400
Volumetric Runoff Coef	0.840
Profile Type	Winter
PIMP (%)	100
Areal Reduction Factor	1.000
Storm Duration (mins)	30
Hot Start (mins)	0
Hot Start Level (mm)	0
Manhole Headloss Coefficient	0.500
MADD Factor * 10m ³ /ha Storage	2.000
Foul Sewage/Hectare (l/s)	0.00
Additional Flow - % of Total Flow	30
Number of Input Hydrographs	0
Number of Time/Area Diagrams	0
Number of Bifurcations	0
Number of Overflows	0
Number of Off-Line Controls	0
Number of On-Line Controls	1

Starting Storm file name

C:\USERS\STEVENSON\DOCUMENTS\WINDES DATA\MURTON DAVE CALUM\REDTHORN.SWS

Freely Discharging Outfalls

Outfall Pipe Number	Outfall MH/No	C.Level (m)	I.Level (m)	D,L (mm)	B (mm)
1.001	Boundary	16.100	14.982	1	0

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On-Line Controls (Hydro-Brake®)

US/PN	Volume (m ³)	Ctrl MH Name	Invert (m)	Type	Dia (m)	D.Head (m)	D.Flow (l/s)	Headloss (m)	Flow (l/s)
1.000	0.421	2	14.992	Md4	0.075	0.420	2.8	0.1	2.2
								0.2	2.9
								0.3	2.5
								0.4	2.8
								0.5	3.1
								0.6	3.4
								0.7	3.7
								0.8	3.9
								0.9	4.2
								1.0	4.4
								1.2	4.8

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Network Details

PN	Length (m)	Fall (m)	Slope (1:x)	Area (ha)	T.E. (mins)	Rain Pro	k (mm)	Hyd Sect	Dia (mm)
1.000	4.00	0.008	500.0	0.012	4.00	1	0.600	o	450
1.001	1.00	0.010	100.0	0.000	0.00	1	0.600	o	150

PN	USMH No.	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl No.	US/MH (mm)
1.000	1	16.100	15.000	0.650	16.100	14.992	0.658		1350
1.001	2	16.100	14.992	0.958	16.100	14.982	0.968	9	1350

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Summary of Results

Return Period (years)	100	Analysis Time Step	Fine
Storm Duration (mins)	30	DTS Status	ON
Profile Type	Winter	DVD Status	OFF
Margin for Flood Risk warning (mm)	200	Inertia Status	OFF

PN	Water Lev. (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/ Capacity	Overflow (1/s)	Pipe Flow (1/s)	Status
1.000	15.324	-0.126	0.000	0.04	0.0	4.3	O K
1.001	15.323	0.181	0.000	0.26	0.0	2.8	SURCH'ED

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Rainfall Hyetograph

Region FSR - England & Wales Profile Type Winter
 Return Period (yrs) 100 Storm Duration (mins) 30
 M5-60 (mm) 19.000
 Ratio R 0.400

Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)
1	8.44	7	31.67	13	122.14	19	101.78	25	28.18
2	20.75	8	38.56	14	139.63	20	82.14	26	27.29
3	25.98	9	49.31	15	152.03	21	64.36	27	27.28
4	27.28	10	64.36	16	152.03	22	49.31	28	25.98
5	27.29	11	82.14	17	139.63	23	38.56	29	20.75
6	28.19	12	101.78	18	122.14	24	31.67	30	8.44