


Innealtóirí Cairte Uí Mhaolalla Teoranta		Page 1
Údarás Business Park, Tourmakeady, Co. Mayo F12 W5X7	John Lydon Carpentry Ltd, Sites 4-5, Station Grove, Station Road, Clondalkin, D22	
Date 05/01/2022 21-073-DWG-P01	Designed by DG Checked by JL	
Innovyze	Network 2018.1	

STORM SEWER DESIGN by the Modified Rational

Method Design Criteria for Storm-West End

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - Scotland and Ireland

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	18.100	Add Flow / Climate Change (%)	0
Ratio R	0.300	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-West End

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	32.112	1.000	32.1	0.036	5.00	0.0	0.600	o	150	Pipe/Conduit		☑
S1.001	28.851	0.950	30.4	0.020	0.00	0.0	0.600	o	150	Pipe/Conduit		☑
S1.002	28.717	0.675	42.5	0.021	0.00	0.0	0.600	o	150	Pipe/Conduit		☑
S2.000	10.090	0.100	100.9	0.016	5.00	0.0	0.600	o	150	Pipe/Conduit		☑
S1.003	12.575	0.210	60.0	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit		☑
S3.000	16.293	0.161	100.9	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit		☑
S3.001	13.912	0.138	100.9	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit		☑

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.30	49.150	0.036	0.0	0.0	0.0	1.78	31.5	4.9
S1.001	50.00	5.56	48.150	0.056	0.0	0.0	0.0	1.83	32.4	7.6
S1.002	50.00	5.87	47.200	0.077	0.0	0.0	0.0	1.55	27.3	10.4
S2.000	50.00	5.17	48.850	0.016	0.0	0.0	0.0	1.00	17.7	2.1
S1.003	50.00	6.03	45.320	0.101	0.0	0.0	0.0	1.30	23.0	13.6
S3.000	50.00	5.27	50.350	0.017	0.0	0.0	0.0	1.00	17.7	2.3
S3.001	50.00	5.50	50.250	0.036	0.0	0.0	0.0	1.00	17.7	4.8

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Network Design Table for Storm-West End

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
S3.002	16.325	0.162	100.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	☑
S3.003	17.651	0.175	100.9	0.035	0.00	0.0	0.600	o	150	Pipe/Conduit	☑
S1.004	34.581	0.206	168.2	0.009	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)
S3.002	50.00	5.78	49.500	0.036	0.0	0.0	0.0	1.00	17.7	4.8
S3.003	50.00	6.07	49.250	0.071	0.0	0.0	0.0	1.00	17.7	9.6
S1.004	50.00	6.64	48.750	0.180	0.0	0.0	0.0	1.01	40.0	24.4

Simulation Criteria for Storm-West End

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m <sup>3</sup> /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Offline Controls	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
		Number of Storage Structures	1
		Number of Real Time Controls	0

Synthetic Rainfall Details

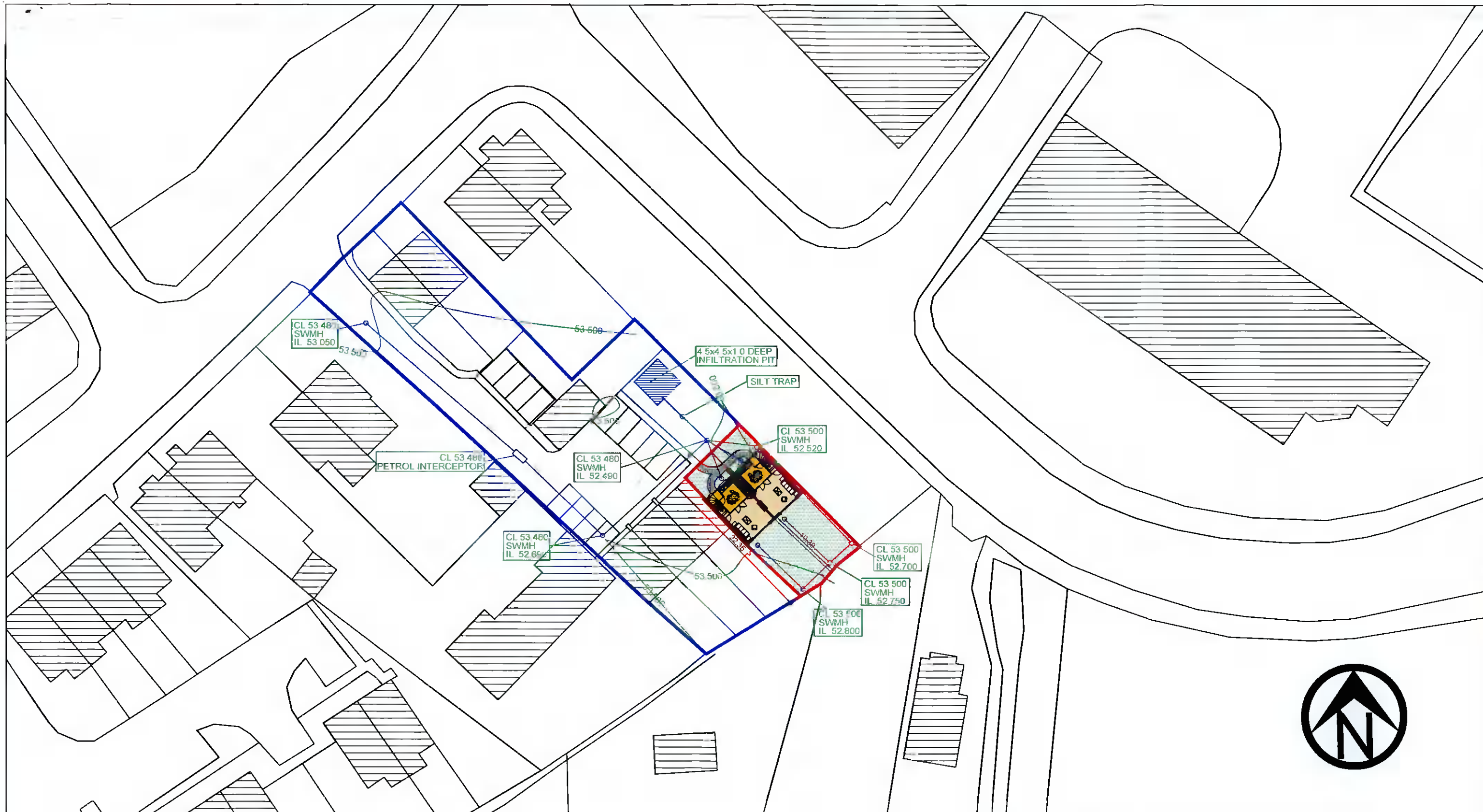
Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	Scotland and Ireland	Cv (Winter)	0.840
M5-60 (mm)	18.100	Storm Duration (mins)	30
Ratio R	0.300		

Innealtóirí Cairte Uí Mhaolalla Teoranta		Page 3
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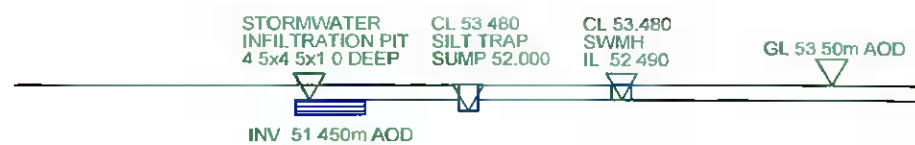
Storage Structures for Storm-West End

Infiltration Trench Manhole: S10, DS/PN: S1.004

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	4.5
Infiltration Coefficient Side (m/hr)	0.00005	Trench Length (m)	4.5
Safety Factor	2.0	Slope (1:X)	500.0
Porosity	0.60	Cap Volume Depth (m)	1.000
Invert Level (m)	48.850	Cap Infiltration Depth (m)	1.000



CROSS SECTION THROUGH SOAKAWAY



SCALE	1:500			
DATE	27/04/21			
		REV	DATE	REVISION
SHEET	1			BY
PLAN NO.	4 & 5 STATION GROVE			
DISK REF NO.	SURFACE WATER LAYOUT			
PREPARED BY:	ROBERT LALLY			
CHKD BY:	DML			
APPD BY:	DML			
	56A THE BAILY, CIRCULAR ROAD GALWAY			
	087 - 2212454			

SHEET NO.

9