APPENDIX A SITE LOCATION

S:\PROJECTS\3350 - 3359\3352 - Westhide Solar\3 GRAPHICS\CAD\PLOT FILES

Inset Map C

Refer to Inset Map C

Thing-hill Court

Tank

Existing trees

Wild bird seed mix grassland

Woodland to be retained under management by Westhide Estate during the life of the solar development for screening and landscaping purposes - full access to these areas to be provided to Westhide Estate.

Spares container

Permissive path

Hibernacula

Pond

Rewilding area

Gate

Existing trees

FIELD F

FIELD G

FIELD H

FIELD I

2.5 m high solar panels

Wild bird seed mix grassland

Refer to Inset Map A

Solar panels

CCTV camera

Inverter/transformer

Permissive path

New hedgerow planting

2.5 m high solar panels

3 m high solar panels

Access track

Construction access

Flood Zone 3

Flood Zone 2

FIELD E

FIELD D

FIELD C

Woodland to be retained under management by Westhide Estate during the life of the solar development for screening and landscaping purposes - full access to these areas to be provided to Westhide Estate.

2.5m high post & wire fencing

Existing trees

New wildflower grassland sown around panels

Substation

Main site access

Overhead lines

Existing woodland to be retained under management by Pryor & Rickett Silviculture during the life of the solar development.

FIELD A

GCN buffer/corridor

Pond

Inset Map B

Refer to Inset Map A

Permissive path to use existing gate

Brick House

The Salt Pot

Permissive path to use existing track and gate

New Cottages

Stoney Croft

Belmont Farm

Refer to Inset Map B

Existing trees

Woodland to be retained under management by Westhide Estate during the life of the solar development for screening and landscaping purposes - full access to these areas to be provided to Westhide Estate.

N

GENERAL NOTES:

1. ALL DIMENSIONS AND LEVELS SHALL BE CHECKED ON SITE PRIOR TO CONSTRUCTION WORK COMMENCING.
2. ALL LANDSCAPE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEER'S AND ARCHITECT'S DRAWINGS AND SPECIFICATIONS.
3. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE LANDSCAPE SPECIFICATION.
4. ANY DISCREPANCY CONCERNING THE DRAWINGS SHOULD BE REFERRED TO THE CA IMMEDIATELY.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
6. ALL LEVELS IN METRES.
7. DO NOT SCALE OFF THIS DRAWING.
8. EXISTING SERVICE ALIGNMENTS SHALL BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION WORK COMMENCING.

Site boundary

Existing

- Existing woodland
- Existing tree (surveyed)
- Existing hedgerow (surveyed) all to be retained and enhanced to 3m high winter cut height
- Existing overhead utility/electricity lines (surveyed)
- Existing water course / pond
- Existing tree planting retained and enhanced
- Buffer zone for ancient and veteran trees
- Flood zone 2
- Flood zone 3

Proposed

- Proposed tree planting *(Indicative - refer to Landscape Mitigation and Enhancement Plans)*
- Poor quality trees to be removed (please refer to arb survey, drwg # 210409-WSS-SP-AM)
- New species-rich hedgerow planting
- Proposed species-rich grassland
- Proposed wild bird seed mix grassland (0.5 ha total)
- Great Crested Newt (GCN) ecological buffer
- Hibernacula
- 2.5 m high post and wire fencing to have mammal gates for mammal access
- 2.4 m high palisade fencing *(around DNO customer substation)*
- 1.2 m high timber post and rail fencing *(to rewilding areas)*
- Access track
- CCTV camera
- Inverter transformer unit
- DNO switch housing
- Customer substation
- Substation hardstanding
- Proposed solar panels 2.5 m high
- Proposed solar panels 3 m high
- Permissive path

DRAWING NOTES:

Fields A, G, H and I to have 2.5 m high solar panels and 3m high for the others.

During the design development process Field B was removed from the proposals and, therefore, it is not shown or referred to on the Masterplan.

Rev:	Date:	Description:	Drawn	Ch'd
A	21/09/2021	Ecology and landscape additions as per comments	GS	JH
B	04/10/2021	Site access and permitted path amended as per comments	GS	JH
C	01/11/2021	Contours added	GS	JH
D	16/11/2021	Substation relocated and redline boundary updated. Minor amendments as per comments	JH	AS
E	18/11/2021	Redline boundary update	JH	AS
F	23/11/2021	Redline boundary update	JH	AS
G	14/06/2022	Updates as per local authority comments	JH	AS
H	20/06/2022	Minor amendments as per comments	JH	AS
I	23/06/2022	Amendments to GCN corridor	JH	AS

The Landmark PRACTICE

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CLIENT
ERSUN (WESTHIDE SPV) LTD

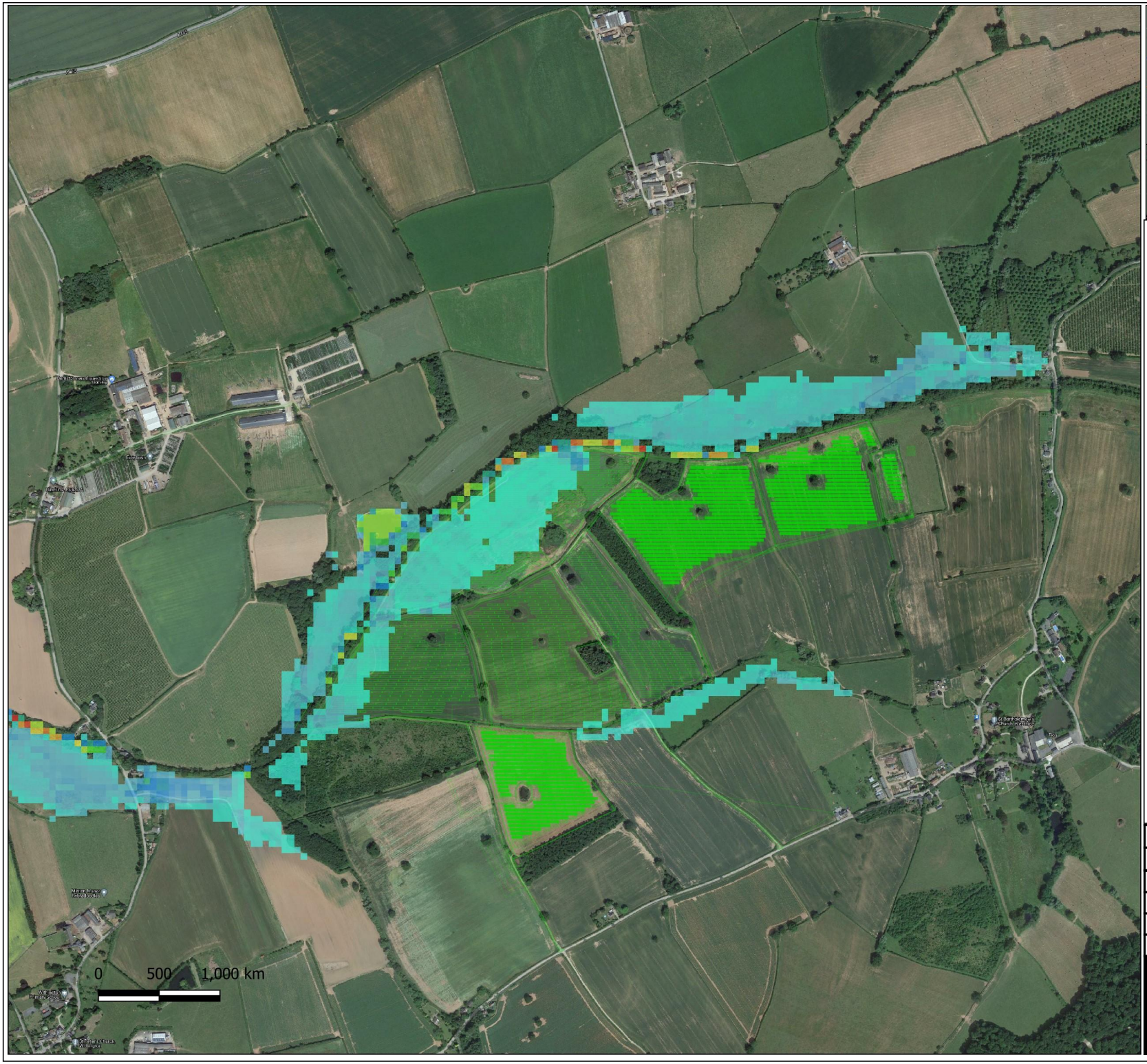
PROJECT
WESTHIDE SOLAR

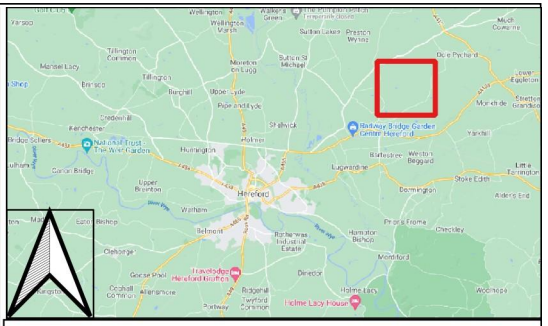
TITLE
MASTERPLAN

Status:	Drawn:	Checked:
PLANNING	GS	JH
Scale:	Date:	Approved:
1:2,000@A1	20.07.21	GM

Drawing Number: 3352_L_GA_0_01 Rev: I

APPENDIX B FLOOD EXTENTS





Legend

Westhide 1 in 100yr +40%

- 0.0010
- 0.2124
- 0.4238
- 0.6351
- 0.8465
- 1.0579
- 1.2693
- 1.4644
- 1.6270
- entities

REV	BY	CHECK	QA	DESCRIPTION	DATE	SHEET
1	AG	-	Y	FIRST ISSUE	13/12/21	1

CLIENT	ERSUN (WESTHIDE SPV LTD)
PROJECT	PROPOSED SOLAR FARM
TITLE	EA FLOOD ZONE EXTENTS
DOCUMENT	J-14440-NUK-XX-XX-X-3000-XX

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SOLID SOLUTIONS IN A FLUID WORLD

APPENDIX C SUDS DESIGN

N

HYDRO-BRAKE
MD-SHE-0213-2290-0800-2290

HYDRO-BRAKE
MD-SHE-0251-3360-0800-3360

HYDRO-BRAKE
MD-SHE-0143-9200-0800-9200

AREA 3 SWALES

AREA 4 SWALE

AREA 2 SWALES

9 M BUFFER

AREA 1 SWALES

Existing trees

Wild bird seed mix grassland

Woodland to be retained under management by Westhide Estate during the life of the solar development for screening and landscaping purposes - full access to these areas to be provided to Westhide Estate.

Wild bird seed mix grassland

2.5 m high solar panels

Spares container

Rewilding area

Gate

Permissive path

Hibernacula

Existing trees

Rewilding area

Gate

FIELD F

FIELD G

FIELD H

FIELD I

Gate

Rewilding area

Existing trees

Gate

Gate

Gate

Gate

Gate

Gate

Overhead lines

Solar panels

CCTV camera

Inverter/transformer

Permissive path

New hedgerow planting

2.5 m high solar panels

3 m high solar panels

Access track

Existing trees

Woodland to be retained under management by Westhide Estate during the life of the solar development for screening and landscaping purposes - full access to these areas to be provided to Westhide Estate.

Construction access

Flood Zone 3

Flood Zone 2

FIELD C

FIELD D

FIELD E

Existing trees

Gate

Gate

2.5m high post & wire fencing

Gate

Gate

Gate

New wildflower grassland sown around panels

Substation

Main site access

Existing woodland to be retained under management by Pryor & Rickett Silviculture during the life of the solar development.

Overhead lines

FIELD A

HYDRO-BRAKE
MD-SHE-0120-6200-0800-6200

Existing trees

SWALE TO BE LINED WITH SHORT GRASSES
CHECK DAMS TO BE LOCATED @ 20m INTERVALS
ON GRADIENTS STEEPER THAN 1 IN 80

1400.0

150.0

1
4

TYPICAL SWALE DETAIL NTS

KEY

- SITE DEVELOPMENT BOUNDARY
- PROPOSED SWALE
- EXISTING DITCH/WATERCOURSE
- 9M BUFFER FROM WATERCOURSE
- OVERLAND FLOW ROUTE
- PROPOSED HYDRO-BRAKE
- PROPOSED INSPECTION CHAMBER P.P.I.C Φ450/475MM

NOTES

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3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, DETAILS AND SPECIFICATIONS PERTAINING TO THE WORK DESCRIBED.
4. MATERIALS AND WORKMANSHIP SHALL COMPLY TO THE APPROPRIATE BRITISH STANDARDS AND CODES OF PRACTICE UNLESS OTHERWISE STATED.
5. THE ACTIVITIES REQUIRED TO CONSTRUCT THE WORK, SHOWN ON DRAWINGS CLEARLY MARKED FOR CONSTRUCTION, MAY BE SUBJECT TO THE PROVISIONS OF THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015 THE CONTRACTOR AND CLIENT MUST ENSURE THAT THEY ARE ADEQUATELY CONVERSANT WITH THESE REGULATIONS AND THAT THE APPROPRIATE PROCEDURES REQUIRED UNDER THE REGULATIONS ARE OBSERVED AT ALL TIMES.

REV	BY	CHECK	QA	DESCRIPTION	DATE
P01	AG	-	-	PRELIMINARY	13.12.21

PRELIMINARY

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South Office | 1b Metro Centre | Tolvley Road | Wokingham | Berkshire | RG41 1QW
North Office | 10F Ergo Centre | Bridgehead Business Park | Boothferry Road | Hessle | HU13 0GD

SHEET:	1 OF 1	SCALE:	1:2500	UNIT:	MM	DATE:	27.07.2022
NI OFFICE:	WEST	DRAWN	LB	CHECKED	-	APPROVED	-
CLIENT:	TEKSS LTD						
PROJECT:	WESTHIDE SOLAR PV SITE						
TITLE:	CONCEPTUAL SURFACE WATER DRAINAGE STRATEGY						
DOCUMENT No:	J14440-NUK-SWD-XX-DR-D-3001-P03					REV:	P03

Table showing what fields are included in each SuDS area

Area 1	**Fields H and I**
Area 2	**Fields G, E and D**
Area 3	**Fields F and C**
Area 4	**Field A**

APPENDIX D CALCULATIONS

UK Design Flood Estimation

Generated on Thursday, July 1, 2021 1:44:07 PM by dhigginson
Printed from the ReFH2 Flood Modelling software package, version 3.2.7650.24314

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site details Checksum: 1C77-8B1B

Site name: FEH_Catchment_Descriptors_357700_244200

Easting: 357700

Northing: 244200

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.72

Using plot scale calculations: No

Model: 2.3

Site description: None

Model run: 100 year 1.4 CC

Summary of results

Rainfall - FEH 2013 model (mm):	80.89	Total runoff (ML):	11.42
Total Rainfall (mm):	77.81	Total flow (ML):	34.84
		Peak flow (m³/s):	1.06
Peak Rainfall (mm):	24.06		

Parameters

Where the user has overriden a system-generated value, this original value is shown in square brackets after the value used.
** Indicates that the user locked the duration/timestep*

Rainfall parameters (Rainfall - FEH 2013 model)

Name	Value	User-defined?
Duration (hh:mm:ss)	02:45:00	No
Timestep (hh:mm:ss)	00:15:00	No
SCF (Seasonal correction factor)	0.99	No
ARF (Areal reduction factor)	0.98	No
Seasonality	Summer [Winter]	Yes
Climate change factor	1.40	Yes

Loss model parameters

Name	Value	User-defined?
Cini (mm)	58.65	No
Cmax (mm)	496.22	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	1.76	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m^3/s)	0.01	No
BL (hr)	34.45	No
BR	2.41	No

Urbanisation parameters

Name	Value	User-defined?
Urban area (km^2)	0.03	No
Urbext 2000	0.02	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No
Exporting drained area (km^2)	0.00	Yes
Sewer capacity (m^3/s)	0.00	Yes

Volume of Runoff Calculations	Site: Westhide Solar Farm
Client: ERSUN (Westhide SPV Ltd)	Date: 14/12/2021
Engineer: Nijhuis Industries	
Location: Westhide Solar Farm	

SITE INFORMATION		
Pre-development total area	617000	m²
Pre-development permeable area	617000	m²
Pre-development impermeable area	0	m²
Post-development total area	617000	m²
Post-development permeable area	616534.976	m²
Post-development impermeable area	465.024	m²

RAINFALL EVENT INFORMATION		
Return period	100	year
ICP-SUDS post-development runoff rate inclusive of 40% increase due to climate change (see attached	652.5	l/s
ICP-SUDS post-development runoff rate inclusive of 40% increase due to climate change (see attached	652.5	l/s
Duration of rainfall event	6	hours
Depth of Rainfall (calculated using Wallingford Procedure including 40% increase for climate change)	114.36	mm

RUNOFF CALCULATION		
Pre-development permeable area runoff	14094000	litres
Pre-development impermeable area runoff	0	litres
Total pre-development runoff	**14094**	**m³**
Post-development permeable area runoff	14094000	litres
Post-development impermeable area runoff	53180.1	litres
Total post-development runoff (without mitigation)	**14147.2**	**m³**
Difference in runoff	**53.2**	**m³**

Area 1

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.284	0.084	0.0	3.9	3.9	0.1	O K
30 min Summer	99.277	0.077	0.0	3.4	3.4	0.0	O K
60 min Summer	99.264	0.064	0.0	2.4	2.4	0.0	O K
120 min Summer	99.250	0.050	0.0	1.6	1.6	0.0	O K
180 min Summer	99.243	0.043	0.0	1.2	1.2	0.0	O K
240 min Summer	99.238	0.038	0.0	0.9	0.9	0.0	O K
360 min Summer	99.233	0.033	0.0	0.7	0.7	0.0	O K
480 min Summer	99.229	0.029	0.0	0.6	0.6	0.0	O K
600 min Summer	99.227	0.027	0.0	0.5	0.5	0.0	O K
720 min Summer	99.225	0.025	0.0	0.4	0.4	0.0	O K
960 min Summer	99.222	0.022	0.0	0.3	0.3	0.0	O K
1440 min Summer	99.219	0.019	0.0	0.3	0.3	0.0	O K
2160 min Summer	99.216	0.016	0.0	0.2	0.2	0.0	O K
2880 min Summer	99.215	0.015	0.0	0.1	0.1	0.0	O K
4320 min Summer	99.212	0.012	0.0	0.1	0.1	0.0	O K
5760 min Summer	99.211	0.011	0.0	0.1	0.1	0.0	O K
7200 min Summer	99.210	0.010	0.0	0.1	0.1	0.0	O K
8640 min Summer	99.209	0.009	0.0	0.1	0.1	0.0	O K
10080 min Summer	99.209	0.009	0.0	0.1	0.1	0.0	O K
15 min Winter	99.284	0.084	0.0	3.9	3.9	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	133.616	0.0	1.5	10
30 min Summer	87.778	0.0	2.0	17
60 min Summer	54.957	0.0	2.5	32
120 min Summer	33.261	0.0	3.0	62
180 min Summer	24.473	0.0	3.3	90
240 min Summer	19.572	0.0	3.5	120
360 min Summer	14.207	0.0	3.8	184
480 min Summer	11.325	0.0	4.1	240
600 min Summer	9.491	0.0	4.3	300
720 min Summer	8.212	0.0	4.4	356
960 min Summer	6.530	0.0	4.7	484
1440 min Summer	4.720	0.0	5.1	720
2160 min Summer	3.406	0.0	5.5	1080
2880 min Summer	2.700	0.0	5.8	1452
4320 min Summer	1.943	0.0	6.3	2172
5760 min Summer	1.537	0.0	6.6	2728
7200 min Summer	1.281	0.0	6.9	3640
8640 min Summer	1.103	0.0	7.1	4256
10080 min Summer	0.972	0.0	7.3	4752
15 min Winter	133.616	0.0	1.7	10

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.400	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.006

Time (mins) From:	To:	Area (ha)
0	4	0.006

Time Area Diagram

Total Area (ha) 0.000

Time (mins) From:	To:	Area (ha)
0	4	0.000

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.271	0.071	0.0	2.9	2.9	0.0	O K
60 min Winter	99.256	0.056	0.0	1.9	1.9	0.0	O K
120 min Winter	99.243	0.043	0.0	1.2	1.2	0.0	O K
180 min Winter	99.237	0.037	0.0	0.9	0.9	0.0	O K
240 min Winter	99.233	0.033	0.0	0.7	0.7	0.0	O K
360 min Winter	99.228	0.028	0.0	0.5	0.5	0.0	O K
480 min Winter	99.225	0.025	0.0	0.4	0.4	0.0	O K
600 min Winter	99.223	0.023	0.0	0.4	0.4	0.0	O K
720 min Winter	99.221	0.021	0.0	0.3	0.3	0.0	O K
960 min Winter	99.219	0.019	0.0	0.2	0.2	0.0	O K
1440 min Winter	99.216	0.016	0.0	0.2	0.2	0.0	O K
2160 min Winter	99.214	0.014	0.0	0.1	0.1	0.0	O K
2880 min Winter	99.213	0.013	0.0	0.1	0.1	0.0	O K
4320 min Winter	99.211	0.011	0.0	0.1	0.1	0.0	O K
5760 min Winter	99.210	0.010	0.0	0.1	0.1	0.0	O K
7200 min Winter	99.209	0.009	0.0	0.1	0.1	0.0	O K
8640 min Winter	99.208	0.008	0.0	0.0	0.0	0.0	O K
10080 min Winter	99.207	0.007	0.0	0.0	0.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	87.778	0.0	2.2	17
60 min Winter	54.957	0.0	2.8	32
120 min Winter	33.261	0.0	3.4	58
180 min Winter	24.473	0.0	3.7	82
240 min Winter	19.572	0.0	3.9	122
360 min Winter	14.207	0.0	4.3	178
480 min Winter	11.325	0.0	4.6	236
600 min Winter	9.491	0.0	4.8	312
720 min Winter	8.212	0.0	5.0	348
960 min Winter	6.530	0.0	5.3	496
1440 min Winter	4.720	0.0	5.7	708
2160 min Winter	3.406	0.0	6.2	1160
2880 min Winter	2.700	0.0	6.5	1276
4320 min Winter	1.943	0.0	7.0	2072
5760 min Winter	1.537	0.0	7.4	2696
7200 min Winter	1.281	0.0	7.7	3824
8640 min Winter	1.103	0.0	8.0	4392
10080 min Winter	0.972	0.0	8.2	5064

Model Details

Storage is Online Cover Level (m) 100.000

Swale Structure

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	388.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	20.0
Porosity	1.00	Cap Volume Depth (m)	0.000
Invert Level (m)	99.200	Cap Infiltration Depth (m)	0.000
Base Width (m)	0.5		

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0143-9200-0800-9200
Design Head (m)	0.800
Design Flow (l/s)	9.2
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	143
Invert Level (m)	99.200
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	9.2	Kick-Flo®	0.565	7.8
Flush-Flo™	0.256	9.2	Mean Flow over Head Range	-	7.8

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.2	1.200	11.1	3.000	17.2	7.000	25.8
0.200	9.1	1.400	12.0	3.500	18.5	7.500	26.7
0.300	9.2	1.600	12.8	4.000	19.7	8.000	27.6
0.400	8.9	1.800	13.5	4.500	20.9	8.500	28.3
0.500	8.5	2.000	14.2	5.000	22.0	9.000	29.1
0.600	8.0	2.200	14.8	5.500	23.0	9.500	29.9
0.800	9.2	2.400	15.5	6.000	24.0		
1.000	10.2	2.600	16.1	6.500	24.9		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.400
Area (ha)	6.553	Urban	0.000
SAAR (mm)	980	Region Number	Region 4

Results l/s

QBAR Rural	33.1
QBAR Urban	33.1
Q100 years	84.9
Q1 year	27.4
Q30 years	64.8
Q100 years	84.9

Area 2

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.306	0.106	0.0	9.0	9.0	0.0	O K
30 min Summer	99.299	0.099	0.0	7.9	7.9	0.0	O K
60 min Summer	99.282	0.082	0.0	5.7	5.7	0.0	O K
120 min Summer	99.266	0.066	0.0	3.7	3.7	0.0	O K
180 min Summer	99.257	0.057	0.0	2.8	2.8	0.0	O K
240 min Summer	99.250	0.050	0.0	2.2	2.2	0.0	O K
360 min Summer	99.243	0.043	0.0	1.6	1.6	0.0	O K
480 min Summer	99.239	0.039	0.0	1.3	1.3	0.0	O K
600 min Summer	99.235	0.035	0.0	1.1	1.1	0.0	O K
720 min Summer	99.233	0.033	0.0	1.0	1.0	0.0	O K
960 min Summer	99.231	0.031	0.0	0.9	0.9	0.0	O K
1440 min Summer	99.225	0.025	0.0	0.6	0.6	0.0	O K
2160 min Summer	99.221	0.021	0.0	0.4	0.4	0.0	O K
2880 min Summer	99.219	0.019	0.0	0.3	0.3	0.0	O K
4320 min Summer	99.216	0.016	0.0	0.2	0.2	0.0	O K
5760 min Summer	99.214	0.014	0.0	0.2	0.2	0.0	O K
7200 min Summer	99.212	0.012	0.0	0.1	0.1	0.0	O K
8640 min Summer	99.211	0.011	0.0	0.1	0.1	0.0	O K
10080 min Summer	99.211	0.011	0.0	0.1	0.1	0.0	O K
15 min Winter	99.306	0.106	0.0	9.0	9.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	133.616	0.0	3.5	10
30 min Summer	87.778	0.0	4.6	17
60 min Summer	54.957	0.0	5.8	32
120 min Summer	33.261	0.0	7.0	62
180 min Summer	24.473	0.0	7.7	90
240 min Summer	19.572	0.0	8.2	118
360 min Summer	14.207	0.0	9.0	180
480 min Summer	11.325	0.0	9.5	240
600 min Summer	9.491	0.0	10.0	304
720 min Summer	8.212	0.0	10.3	370
960 min Summer	6.530	0.0	11.0	480
1440 min Summer	4.720	0.0	11.9	712
2160 min Summer	3.406	0.0	12.8	1116
2880 min Summer	2.700	0.0	13.6	1436
4320 min Summer	1.943	0.0	14.6	2148
5760 min Summer	1.537	0.0	15.4	2896
7200 min Summer	1.281	0.0	16.0	3488
8640 min Summer	1.103	0.0	16.6	4160
10080 min Summer	0.972	0.0	17.1	4848
15 min Winter	133.616	0.0	3.9	10

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.291	0.091	0.0	6.9	6.9	0.0	O K
60 min Winter	99.272	0.072	0.0	4.5	4.5	0.0	O K
120 min Winter	99.256	0.056	0.0	2.7	2.7	0.0	O K
180 min Winter	99.248	0.048	0.0	2.0	2.0	0.0	O K
240 min Winter	99.243	0.043	0.0	1.6	1.6	0.0	O K
360 min Winter	99.237	0.037	0.0	1.2	1.2	0.0	O K
480 min Winter	99.233	0.033	0.0	1.0	1.0	0.0	O K
600 min Winter	99.230	0.030	0.0	0.8	0.8	0.0	O K
720 min Winter	99.228	0.028	0.0	0.7	0.7	0.0	O K
960 min Winter	99.225	0.025	0.0	0.6	0.6	0.0	O K
1440 min Winter	99.222	0.022	0.0	0.4	0.4	0.0	O K
2160 min Winter	99.218	0.018	0.0	0.3	0.3	0.0	O K
2880 min Winter	99.216	0.016	0.0	0.2	0.2	0.0	O K
4320 min Winter	99.213	0.013	0.0	0.2	0.2	0.0	O K
5760 min Winter	99.212	0.012	0.0	0.1	0.1	0.0	O K
7200 min Winter	99.211	0.011	0.0	0.1	0.1	0.0	O K
8640 min Winter	99.210	0.010	0.0	0.1	0.1	0.0	O K
10080 min Winter	99.209	0.009	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	87.778	0.0	5.2	17
60 min Winter	54.957	0.0	6.5	32
120 min Winter	33.261	0.0	7.8	62
180 min Winter	24.473	0.0	8.6	94
240 min Winter	19.572	0.0	9.2	128
360 min Winter	14.207	0.0	10.0	186
480 min Winter	11.325	0.0	10.7	214
600 min Winter	9.491	0.0	11.2	302
720 min Winter	8.212	0.0	11.6	344
960 min Winter	6.530	0.0	12.3	464
1440 min Winter	4.720	0.0	13.3	714
2160 min Winter	3.406	0.0	14.4	1052
2880 min Winter	2.700	0.0	15.2	1424
4320 min Winter	1.943	0.0	16.3	1964
5760 min Winter	1.537	0.0	17.2	2664
7200 min Winter	1.281	0.0	18.0	3816
8640 min Winter	1.103	0.0	18.6	3824
10080 min Winter	0.972	0.0	19.1	4648

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.400	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.014

Time (mins) From:	To:	Area (ha)
0	4	0.014

Time Area Diagram

Total Area (ha) 0.000

Time (mins) From:	To:	Area (ha)
0	4	0.000

Model Details

Storage is Online Cover Level (m) 100.000

Swale Structure

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	830.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	8.0
Porosity	1.00	Cap Volume Depth (m)	0.000
Invert Level (m)	99.200	Cap Infiltration Depth (m)	0.000
Base Width (m)	0.5		

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0251-3360-0800-3360
Design Head (m)	0.800
Design Flow (l/s)	33.6
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	251
Invert Level (m)	99.200
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	33.6	Kick-Flo®	0.640	30.2
Flush-Flo™	0.375	33.6	Mean Flow over Head Range	-	26.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.1	1.200	40.8	3.000	63.5	7.000	95.9
0.200	25.7	1.400	43.9	3.500	68.4	7.500	99.2
0.300	33.2	1.600	46.8	4.000	73.0	8.000	102.4
0.400	33.5	1.800	49.6	4.500	77.3	8.500	104.8
0.500	32.9	2.000	52.2	5.000	81.4	9.000	107.8
0.600	31.3	2.200	54.6	5.500	85.3	9.500	110.8
0.800	33.6	2.400	57.0	6.000	89.0		
1.000	37.4	2.600	59.2	6.500	92.5		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.400
Area (ha)	23.997	Urban	0.000
SAAR (mm)	980	Region Number	Region 4

Results l/s

QBAR Rural	121.0
QBAR Urban	121.0
Q100 years	311.1
Q1 year	100.5
Q30 years	237.1
Q100 years	311.1

Area 3

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.614	0.414	0.0	22.8	22.8	0.9	O K
30 min Summer	99.487	0.287	0.0	22.8	22.8	0.4	O K
60 min Summer	99.375	0.175	0.0	17.7	17.7	0.1	O K
120 min Summer	99.331	0.131	0.0	11.5	11.5	0.1	O K
180 min Summer	99.311	0.111	0.0	8.7	8.7	0.0	O K
240 min Summer	99.299	0.099	0.0	7.1	7.1	0.0	O K
360 min Summer	99.282	0.082	0.0	5.1	5.1	0.0	O K
480 min Summer	99.273	0.073	0.0	4.1	4.1	0.0	O K
600 min Summer	99.267	0.067	0.0	3.5	3.5	0.0	O K
720 min Summer	99.262	0.062	0.0	3.0	3.0	0.0	O K
960 min Summer	99.255	0.055	0.0	2.4	2.4	0.0	O K
1440 min Summer	99.247	0.047	0.0	1.8	1.8	0.0	O K
2160 min Summer	99.240	0.040	0.0	1.3	1.3	0.0	O K
2880 min Summer	99.235	0.035	0.0	1.0	1.0	0.0	O K
4320 min Summer	99.230	0.030	0.0	0.7	0.7	0.0	O K
5760 min Summer	99.226	0.026	0.0	0.6	0.6	0.0	O K
7200 min Summer	99.224	0.024	0.0	0.5	0.5	0.0	O K
8640 min Summer	99.222	0.022	0.0	0.4	0.4	0.0	O K
10080 min Summer	99.221	0.021	0.0	0.4	0.4	0.0	O K
15 min Winter	99.623	0.423	0.0	22.9	22.9	1.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	133.616	0.0	11.1	11
30 min Summer	87.778	0.0	14.5	18
60 min Summer	54.957	0.0	18.1	32
120 min Summer	33.261	0.0	21.9	62
180 min Summer	24.473	0.0	24.2	94
240 min Summer	19.572	0.0	25.8	120
360 min Summer	14.207	0.0	28.1	180
480 min Summer	11.325	0.0	29.9	246
600 min Summer	9.491	0.0	31.3	296
720 min Summer	8.212	0.0	32.5	364
960 min Summer	6.530	0.0	34.5	482
1440 min Summer	4.720	0.0	37.4	728
2160 min Summer	3.406	0.0	40.4	1088
2880 min Summer	2.700	0.0	42.7	1456
4320 min Summer	1.943	0.0	46.1	2224
5760 min Summer	1.537	0.0	48.5	2760
7200 min Summer	1.281	0.0	50.5	3768
8640 min Summer	1.103	0.0	52.2	4248
10080 min Summer	0.972	0.0	53.7	4848
15 min Winter	133.616	0.0	12.3	11

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.405	0.205	0.0	21.3	21.3	0.2	O K
60 min Winter	99.348	0.148	0.0	13.9	13.9	0.1	O K
120 min Winter	99.310	0.110	0.0	8.6	8.6	0.0	O K
180 min Winter	99.293	0.093	0.0	6.4	6.4	0.0	O K
240 min Winter	99.282	0.082	0.0	5.1	5.1	0.0	O K
360 min Winter	99.270	0.070	0.0	3.8	3.8	0.0	O K
480 min Winter	99.262	0.062	0.0	3.0	3.0	0.0	O K
600 min Winter	99.256	0.056	0.0	2.5	2.5	0.0	O K
720 min Winter	99.252	0.052	0.0	2.2	2.2	0.0	O K
960 min Winter	99.247	0.047	0.0	1.8	1.8	0.0	O K
1440 min Winter	99.239	0.039	0.0	1.3	1.3	0.0	O K
2160 min Winter	99.233	0.033	0.0	0.9	0.9	0.0	O K
2880 min Winter	99.230	0.030	0.0	0.7	0.7	0.0	O K
4320 min Winter	99.226	0.026	0.0	0.6	0.6	0.0	O K
5760 min Winter	99.222	0.022	0.0	0.4	0.4	0.0	O K
7200 min Winter	99.220	0.020	0.0	0.3	0.3	0.0	O K
8640 min Winter	99.219	0.019	0.0	0.3	0.3	0.0	O K
10080 min Winter	99.218	0.018	0.0	0.3	0.3	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	87.778	0.0	16.2	17
60 min Winter	54.957	0.0	20.3	32
120 min Winter	33.261	0.0	24.6	64
180 min Winter	24.473	0.0	27.1	94
240 min Winter	19.572	0.0	28.9	128
360 min Winter	14.207	0.0	31.5	180
480 min Winter	11.325	0.0	33.5	244
600 min Winter	9.491	0.0	35.1	296
720 min Winter	8.212	0.0	36.4	358
960 min Winter	6.530	0.0	38.6	498
1440 min Winter	4.720	0.0	41.9	668
2160 min Winter	3.406	0.0	45.3	1056
2880 min Winter	2.700	0.0	47.9	1496
4320 min Winter	1.943	0.0	51.7	2004
5760 min Winter	1.537	0.0	54.3	3120
7200 min Winter	1.281	0.0	56.6	3368
8640 min Winter	1.103	0.0	58.5	4072
10080 min Winter	0.972	0.0	60.1	5272

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.400	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.020

Time (mins) From:	To:	Area (ha)
0	4	0.020

Time Area Diagram

Total Area (ha) 0.024

Time (mins) From:	To:	Area (ha)
0	4	0.024

Model Details

Storage is Online Cover Level (m) 100.000

Swale Structure

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	717.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	2.0
Safety Factor	2.0	Slope (1:X)	10.0
Porosity	1.00	Cap Volume Depth (m)	0.000
Invert Level (m)	99.200	Cap Infiltration Depth (m)	0.000
Base Width (m)	0.5		

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0213-2290-0800-2290
Design Head (m)	0.800
Design Flow (l/s)	22.9
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	213
Invert Level (m)	99.200
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	22.9	Kick-Flo®	0.614	20.2
Flush-Flo™	0.330	22.9	Mean Flow over Head Range	-	18.6

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.2	1.200	27.8	3.000	43.2	7.000	65.1
0.200	20.7	1.400	29.9	3.500	46.5	7.500	67.4
0.300	22.9	1.600	31.9	4.000	49.6	8.000	69.5
0.400	22.7	1.800	33.8	4.500	52.6	8.500	71.2
0.500	22.1	2.000	35.5	5.000	55.3	9.000	73.3
0.600	20.6	2.200	37.2	5.500	57.9	9.500	75.3
0.800	22.9	2.400	38.8	6.000	60.4		
1.000	25.5	2.600	40.3	6.500	62.8		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.400
Area (ha)	16.353	Urban	0.000
SAAR (mm)	980	Region Number	Region 4

Results l/s

QBAR Rural	82.5
QBAR Urban	82.5
Q100 years	212.0
Q1 year	68.5
Q30 years	161.6
Q100 years	212.0

Area 4

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.260	0.060	0.0	1.9	1.9	0.0	O K
30 min Summer	99.256	0.056	0.0	1.7	1.7	0.0	O K
60 min Summer	99.247	0.047	0.0	1.2	1.2	0.0	O K
120 min Summer	99.237	0.037	0.0	0.8	0.8	0.0	O K
180 min Summer	99.232	0.032	0.0	0.6	0.6	0.0	O K
240 min Summer	99.229	0.029	0.0	0.5	0.5	0.0	O K
360 min Summer	99.224	0.024	0.0	0.4	0.4	0.0	O K
480 min Summer	99.221	0.021	0.0	0.3	0.3	0.0	O K
600 min Summer	99.220	0.020	0.0	0.2	0.2	0.0	O K
720 min Summer	99.218	0.018	0.0	0.2	0.2	0.0	O K
960 min Summer	99.216	0.016	0.0	0.2	0.2	0.0	O K
1440 min Summer	99.214	0.014	0.0	0.1	0.1	0.0	O K
2160 min Summer	99.211	0.011	0.0	0.1	0.1	0.0	O K
2880 min Summer	99.210	0.010	0.0	0.1	0.1	0.0	O K
4320 min Summer	99.209	0.009	0.0	0.0	0.0	0.0	O K
5760 min Summer	99.208	0.008	0.0	0.0	0.0	0.0	O K
7200 min Summer	99.207	0.007	0.0	0.0	0.0	0.0	O K
8640 min Summer	99.207	0.007	0.0	0.0	0.0	0.0	O K
10080 min Summer	99.206	0.006	0.0	0.0	0.0	0.0	O K
15 min Winter	99.260	0.060	0.0	1.9	1.9	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	133.616	0.0	0.8	10
30 min Summer	87.778	0.0	1.0	17
60 min Summer	54.957	0.0	1.2	30
120 min Summer	33.261	0.0	1.5	70
180 min Summer	24.473	0.0	1.6	92
240 min Summer	19.572	0.0	1.8	118
360 min Summer	14.207	0.0	1.9	172
480 min Summer	11.325	0.0	2.0	234
600 min Summer	9.491	0.0	2.1	304
720 min Summer	8.212	0.0	2.2	348
960 min Summer	6.530	0.0	2.3	464
1440 min Summer	4.720	0.0	2.5	740
2160 min Summer	3.406	0.0	2.7	1128
2880 min Summer	2.700	0.0	2.9	1436
4320 min Summer	1.943	0.0	3.1	2076
5760 min Summer	1.537	0.0	3.3	3288
7200 min Summer	1.281	0.0	3.4	3776
8640 min Summer	1.103	0.0	3.6	4248
10080 min Summer	0.972	0.0	3.6	5752
15 min Winter	133.616	0.0	0.8	10

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.251	0.051	0.0	1.4	1.4	0.0	O K
60 min Winter	99.241	0.041	0.0	0.9	0.9	0.0	O K
120 min Winter	99.232	0.032	0.0	0.6	0.6	0.0	O K
180 min Winter	99.228	0.028	0.0	0.5	0.5	0.0	O K
240 min Winter	99.224	0.024	0.0	0.4	0.4	0.0	O K
360 min Winter	99.221	0.021	0.0	0.3	0.3	0.0	O K
480 min Winter	99.218	0.018	0.0	0.2	0.2	0.0	O K
600 min Winter	99.217	0.017	0.0	0.2	0.2	0.0	O K
720 min Winter	99.215	0.015	0.0	0.1	0.1	0.0	O K
960 min Winter	99.214	0.014	0.0	0.1	0.1	0.0	O K
1440 min Winter	99.212	0.012	0.0	0.1	0.1	0.0	O K
2160 min Winter	99.210	0.010	0.0	0.1	0.1	0.0	O K
2880 min Winter	99.209	0.009	0.0	0.0	0.0	0.0	O K
4320 min Winter	99.207	0.007	0.0	0.0	0.0	0.0	O K
5760 min Winter	99.207	0.007	0.0	0.0	0.0	0.0	O K
7200 min Winter	99.206	0.006	0.0	0.0	0.0	0.0	O K
8640 min Winter	99.206	0.006	0.0	0.0	0.0	0.0	O K
10080 min Winter	99.205	0.005	0.0	0.0	0.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	87.778	0.0	1.1	17
60 min Winter	54.957	0.0	1.4	32
120 min Winter	33.261	0.0	1.7	62
180 min Winter	24.473	0.0	1.8	106
240 min Winter	19.572	0.0	2.0	140
360 min Winter	14.207	0.0	2.1	182
480 min Winter	11.325	0.0	2.3	242
600 min Winter	9.491	0.0	2.4	324
720 min Winter	8.212	0.0	2.5	380
960 min Winter	6.530	0.0	2.6	530
1440 min Winter	4.720	0.0	2.8	738
2160 min Winter	3.406	0.0	3.1	892
2880 min Winter	2.700	0.0	3.3	1216
4320 min Winter	1.943	0.0	3.5	1868
5760 min Winter	1.537	0.0	3.7	2792
7200 min Winter	1.281	0.0	3.8	3552
8640 min Winter	1.103	0.0	4.0	4240
10080 min Winter	0.972	0.0	4.1	4648

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.400	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.003

Time (mins) From:	To:	Area (ha)
0	4	0.003

Time Area Diagram

Total Area (ha) 0.000

Time (mins) From:	To:	Area (ha)
0	4	0.000

Model Details

Storage is Online Cover Level (m) 100.000

Swale Structure

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	148.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	1.6
Porosity	1.00	Cap Volume Depth (m)	0.000
Invert Level (m)	99.200	Cap Infiltration Depth (m)	0.000
Base Width (m)	0.5		

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0120-6200-0800-6200
Design Head (m)	0.800
Design Flow (l/s)	6.2
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	120
Invert Level (m)	99.200
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	6.2	Kick-Flo®	0.547	5.2
Flush-Flo™	0.245	6.2	Mean Flow over Head Range	-	5.3

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.3	1.200	7.5	3.000	11.5	7.000	17.3
0.200	6.2	1.400	8.0	3.500	12.4	7.500	17.9
0.300	6.2	1.600	8.6	4.000	13.2	8.000	18.4
0.400	6.0	1.800	9.1	4.500	14.0	8.500	18.9
0.500	5.6	2.000	9.5	5.000	14.7	9.000	19.5
0.600	5.4	2.200	10.0	5.500	15.4	9.500	20.0
0.800	6.2	2.400	10.4	6.000	16.1		
1.000	6.9	2.600	10.8	6.500	16.7		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.400
Area (ha)	4.425	Urban	0.000
SAAR (mm)	980	Region Number	Region 4

Results l/s

QBAR Rural	22.3
QBAR Urban	22.3
Q100 years	57.4
Q1 year	18.5
Q30 years	43.7
Q100 years	57.4

Flood Risk | Water | Wastewater | Civil | Structural | M&E | Highways | CDM | H&S

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