

Surface Water Drainage Calculation

**For
Twinham,
34 Hurst Road,
Hassocks,
East Sussex,
BN6 9NL**

**Date: October 2025
Project No: 63770 Rev03**



?Crown Copyright and database rights 2024 OS Licence no. 100019980

Location Plan 1:1250@A1



Block Plan 1:500@A1

B | D

BELMONT DESIGNS
ARCHITECTURAL PRACTICE

james@belmont-designs.co.uk
www.belmont-designs.co.uk
37 Ashenground Road
Haywards Heath
RH16 4PS
Tel: 01444 455161 Mobile 07885 387900

NOTES

DO NOT SCALE OFF THIS DRAWING.

CHECK ALL DIMENSIONS ON SITE BEFORE ANY WORK IS COMMENCED.
ALL GOODS MATERIALS AND WORKMANSHIP MUST CONFORM WITH CURRENT BUILDING REGULATIONS, BRITISH STANDARDS AND CODES OF PRACTICE.

Rev	Date	By	Amendment
-----	------	----	-----------

Client
Mr & Mrs J Bullivant

Site Address
**Land adjacent to Twinham
34 Hurst Road
Hassocks
BN6 9NL**

Project
**Proposed detached dwelling
with parking**

Drawing Title
**Proposed Location and
Block Plans - Planning**

Date	Scale	Drawn By	JM
Dec 2024	1:100@A1	Checked By	JTM
Job No	Dwg No	Rev	
B.043.24	05	✱	

B | D

BELMONT DESIGNS
ARCHITECTURAL PRACTICE

james@belmont-designs.co.uk
www.belmont-designs.co.uk
37 Ashenground Road
Haywards Heath
RH16 1PS
Tel: 01444 455161 Mobile 07885 387900

NOTES

DO NOT SCALE OFF THIS DRAWING.

CHECK ALL DIMENSIONS ON SITE BEFORE ANY WORK IS COMMENCED.
ALL GOODS MATERIALS AND WORKMANSHIP MUST CONFORM WITH CURRENT BUILDING REGULATIONS, BRITISH STANDARDS AND CODES OF PRACTICE.

A	26/02/2025	JM	Drainage
Rev	Date	By	Amendment

Client
Mr & Mrs J Bullivant

Site Address
Land adjacent to Twinham
34 Hurst Road
Hassocks
BN6 9NL

Project
Proposed detached dwelling
with parking

Drawing Title
Site Layout Plan - Planning

Date Dec 2024	Scale 1:100@A1	Drawn By JM
		Checked By JTM
Job No B043.24	Dwg No 01	Rev A

PROPOSED SITE LAYOUT PLAN



EXISTING 0.6m x 2.0m DEEP FOUL
SEWER DRAINING STATION
PIL: 61.20
BSL: 62.00(TBC)
DEPTH: 2.00m

NEW FW CONNECTION INTO
THE EXISTING FW MANHOLE
LEVEL 63.32
DEPTH: 2.00m

ASSUMED ROUTE OF THE EXISTING FW
RISING MAIN TO BE CONFIRMED ON
SITE BY THE CONTRACTOR PRIOR TO
CONSTRUCTION

THE EXISTING FW RISING MAIN TO
BE MAINTAINED AND PROTECTED BY THE
CONTRACTOR DURING CONSTRUCTION

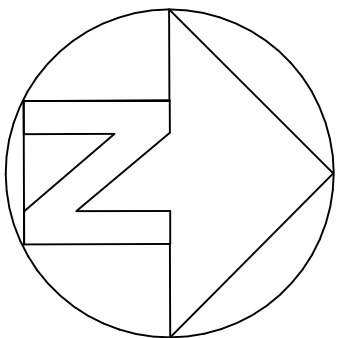
RAIN GARDEN
5m DEEP RAIN GARDEN
FILLED WITH MAXIMUM 300mm LAYER
OF BLENDED COMPOST/SAND AND
NATIVE SOIL ON A SHINGLE BED
INSTALLED IN RESIDENTIAL MEMORANE.

100mm PERFORATED
DISTRIBUTION DRAIN

PERFECT FLOW CONTROL
DISCHARGE ORATE 0.4 L/S

ATTENUATION STORAGE TANK
Eas Versa Void Cellular Structure Modules
(500x500x600mm units)
CL 64.1 (TBC)
BOT: 63.25 (TBC)
TONK SIZE 14.5x2.0x0.40m dp
Storage = 11.02 cum
Note: Greater strength units may be required
depending on the design and site conditions during the
construction period – Contractor to liaise with
manufacturer.

EXISTING FW RISING MAIN TO PRIVATE
DRAINAGE SYSTEM OF THE HAM SITE
PROPERTY TO BE MAINTAINED



KEY

- Soil Vent Pipe with Rodding Access
- RWP Rain Water Pipe with Rodding Access
- SS Stub Stack with Air Admittance Valve
- RE Rodding Eye
- CD Channel Drain
- FW –Existing Private Surface Water Sewer
- SW –Proposed Private Surface Water Sewer
- SW –Proposed Private Perforate Drain
- SW –Existing Public Surface Water Sewer
- FW –Existing Private Foul Water Sewer
- FW –Proposed Private Foul Water Sewer
- FW –Existing Public Foul Water Sewer
- FW –Existing Private Foul Water Pumping Main
- F6 Foul Manhole
- S6 Surface Water Manhole
- EX.FLIC Existing Private Foul Water Manhole
- Existing Private Foul Water Pumping Station
- SW Rain Garden

FOUL WATER MANHOLE SCHEDULE						
M/H REF	APPROX. COVER LEVEL	INVERT LEVEL	DEPTH (M)	M/H TYPE	COVER TYPE	COMMENTS
F1	65.46	64.86	0.60	3	B125	
F2	64.85	64.20	0.65	3	B125	
F3	64.43	63.83	0.60	3	B125	TO EXISTING FW MH IL:63.26
SURFACE WATER MANHOLE SCHEDULE						
M/H REF	APPROX. COVER LEVEL	INVERT LEVEL	DEPTH (M)	M/H TYPE	COVER TYPE	COMMENTS
RE1	66.00	65.40	0.60	RODDING EYE	-	
S1	64.10	63.50	0.60	3	B125	TO ATTENUATION TANK
RE2	66.00	65.40	0.60	RODDING EYE	-	
S2	65.65	65.00	0.65	3	B125	
S3	64.10	63.50	0.60	3A SILT TRAP	B125	TO ATTENUATION TANK
S4	64.00	63.25	0.75	3B 600ø FLOW CONTROL MH	B125	TO RAIN GARDEN

ALL DIMENSIONS AND LEVELS
TO BE CHECKED AND
CONFIRMED BY THE ARCHITECT
PRIOR TO CONSTRUCTION.

C	MENDED SW DRAINAGE LAYOUT	04/08/25JS
B	MENDED SW DRAINAGE LAYOUT	07/08/25JS
A	MENDED DRAINAGE LAYOUT	05/06/25JS
O	ORIGINAL ISSUE	30/04/25JS
REV	DESCRIPTION	DATE

DIXON HURST

CONSULTING CIVIL & STRUCTURAL ENGINEERS

HENSHAM HOUSE, 18-22 BOUNDARY ROAD, HOVE, BN1 4EF
T: (01273) 421444 F: (01273) 420008 E: hove@dih.co.uk
www.dih.co.uk

Registered in England No. 348370 – Registered Office: 4 Franchise, Trowen, Brighton BN1 1AX

CONTRACT
**LAND ADJACENT TO TWINHAM
34 HURST ROAD,
HAS SOCKS, BN6 9NL**

DRAWING		
DRAWING NO.	63770 / 10	REV C
SCALE	1:125@ A1	DATE JULY 25
AutoCAD Ref: 63770-10.dwg	US	APPROVED

In addition to these notes, reference shall be made to the specification of works and the relevant Architect's and Specialist's drawings and specifications. The Contractor is responsible for verifying all site dimensions before commencing works.

All dimensions are in millimetres unless noted otherwise.

This drawing has been produced electronically and may have been photo reduced or enlarged when printed or copied. Dimensions on this drawing shall not be used for construction purposes unless they are specifically stated as such. Errors or omissions are to be reported to the engineer immediately.

Levels are in metres unless noted otherwise to Ordnance Survey datum.

The Contractor is responsible for the stability of the building whilst the works are in progress.

- ### NOTES
- THIS DRAWING IS BASED ON DRAWING NO. B04.3.24 BY BELMONT DESIGNS ARCHITECTURE PRACTICE LIMITED.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING:
63770/11 DRAINAGE DETAILS SHEET 1 OF 2
63770/12 DRAINAGE DETAILS SHEET 2 OF 2
 - CONTRACTOR IS TO TAKE NECESSARY PRECAUTIONS TO ENSURE THAT TRENCHES ARE KEPT CLEAR OF GROUND WATER DURING CONSTRUCTION.
 - ALL DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'SEWERS FOR ADOPTION' 7TH EDITION.
 - ALL ADOPTED PIPEWORK TO BE 100% VITRIFIED CLAY UNLESS NOTED OTHERWISE.
 - ALL PIPEWORK THROUGH WALLS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS.
 - ALL PIPEWORK UNDER ROADS WITH LESS THAN 900MM COVER TO HAVE 150MM CONCRETE SURROUND.
 - MINIMUM GRADIENT TO DRAINS TO BE 1:40 FOR 110Ø OR 110Ø FW AND 1:100 FOR 110Ø SW.
 - ALL ADOPTED PIPEWORK, DRAINAGE LATERALS OR PIPE CONNECTION TO THE PUBLIC SHALL BE VITRIFIED CLAY (VC) PIPE MATERIAL TO SOUTHERN WATER APPROVAL.
 - POSITIONS OF MANHOLES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ACTUAL LOCATIONS TO BE FINALIZED ON SITE.
 - PROVIDE CONCRETE LINTELS OVER OPENINGS WHERE PIPES PASS THROUGH WALLS. ALLOW FOR 150MM CLEARANCE ALL ROUND PIPE.

In addition to these notes, reference shall be made to the specification of works and the relevant Architect's and Specialist's drawings and specifications. The Contractor is responsible for verifying all site dimensions before commencing work.

All dimensions are in millimetres unless noted otherwise.

This drawing has been produced electronically and may have been photo reduced or otherwise reproduced. Dimensions are given to the nearest millimetre. Dimensions are not to be scaled. Work only to be reported to the engineer immediately.

Levels are in metres unless noted otherwise to Ordnance Survey datum. The Contractor is responsible for the stability of the building whilst the works are in progress.

NOTES

1. THIS DRAWING IS BASED ON DRAWING NO. B04.3.24 BY BELMONT DESIGNS ARCHITECTURE PRACTICE LIMITED.

2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING:

63770/10 DRAINAGE LAYOUT

63770/12 DRAINAGE DETAIL SHEET 2 OF 2

3. CONTRACTOR IS TO TAKE NECESSARY PRECAUTIONS TO ENSURE THAT TRENCHES ARE KEPT CLEAR OF GROUND WATER DURING CONSTRUCTION.

4. ALL DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 7TH EDITION.

5. ALL ADOPTED PIPEWORK TO BE 100Ø VITRIFIED CLAY UNLESS NOTED OTHERWISE.

6. ALL PIPEWORK THROUGH WALLS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS.

7. ALL PIPEWORK UNDER ROADS WITH LESS THAN 900MM COVER TO HAVE 150MM CONCRETE SURROUND.

8. MINIMUM GRADIENT TO DRAINS TO BE 1:40 FOR 110Ø OR 110Ø PN AND 1:100 FOR 110Ø SN.

9. ALL ADOPTED PIPEWORK, DRAINAGE LATERALS OR PIPE CONNECTION TO THE PUBLIC SHALL BE VITRIFIED CLAY (VC) PIPE MATERIAL TO SOUTHERN WATER APPROVAL.

10. POSITIONS OF MANHOLES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ACTUAL LOCATIONS TO BE FINALIZED ON SITE.

11. PROVIDE CONCRETE LINTELS OVER OPENINGS WHERE PIPES PASS THROUGH WALLS. ALLOW FOR 150MM CLEARANCE ALL ROUND PIPE.

ALL DIMENSIONS AND LEVELS TO BE CHECKED AND CONFIRMED BY THE ARCHITECT PRIOR TO CONSTRUCTION.

DIXON HURST

CONSULTING CIVIL & STRUCTURAL ENGINEERS

HERESHAM HOUSE, 18-22 BOUNDARY ROAD, HOVE, BN3 4EF
T: (01273) 421444 F: (01273) 420008 E: hove@dih.co.uk
www.dih.co.uk

Registered in England No. 3438720 - Registered Office 4 Frederick Terrace, Brighton BN1 1XK

CONTRACT

LAND ADJACENT TO TWINHAM
34 HURST ROAD,
HASSOCKS, BN6 9NL

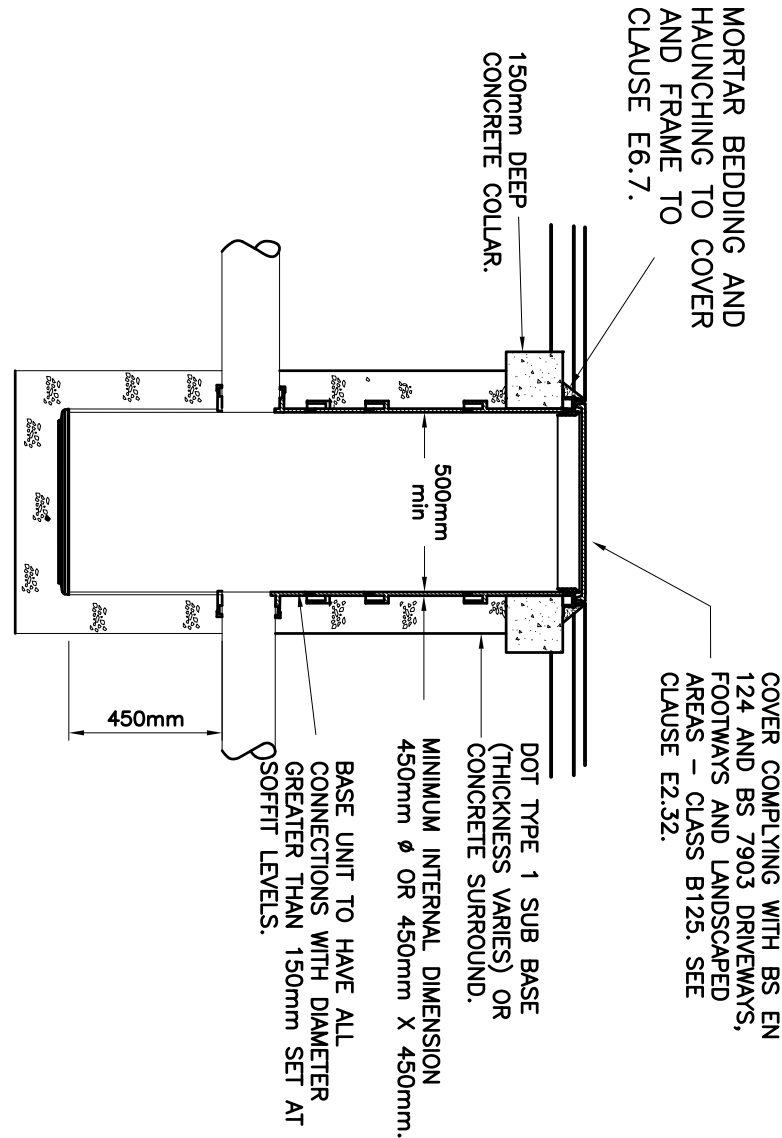
DRAWING

DRAINAGE DETAILS SHEET 1 OF 2

DRAWING No.	REV	CHECKED
63770 / 11	B	
SCALE	DATE	DRAWN
1:20@ A1	JUN 25	
AutoCAD Ref: 63770-10.dwg		JS
APPROVED		

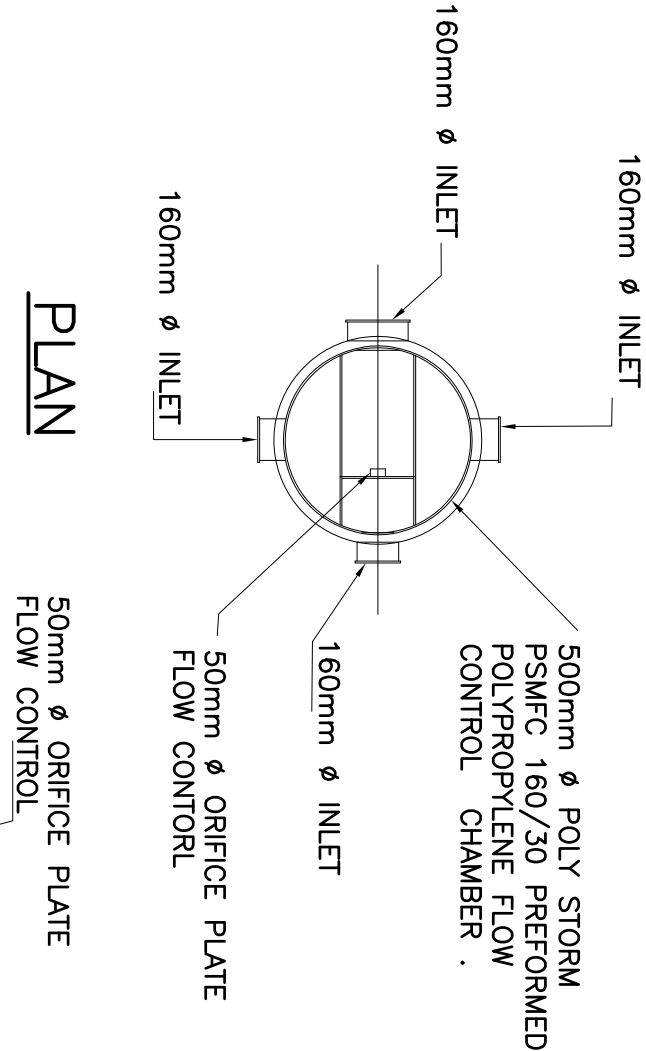
This drawing is produced using AutoCAD. Only written dimensions are to be respected.

This drawing is produced using AutoCAD. Only written dimensions are to be respected.

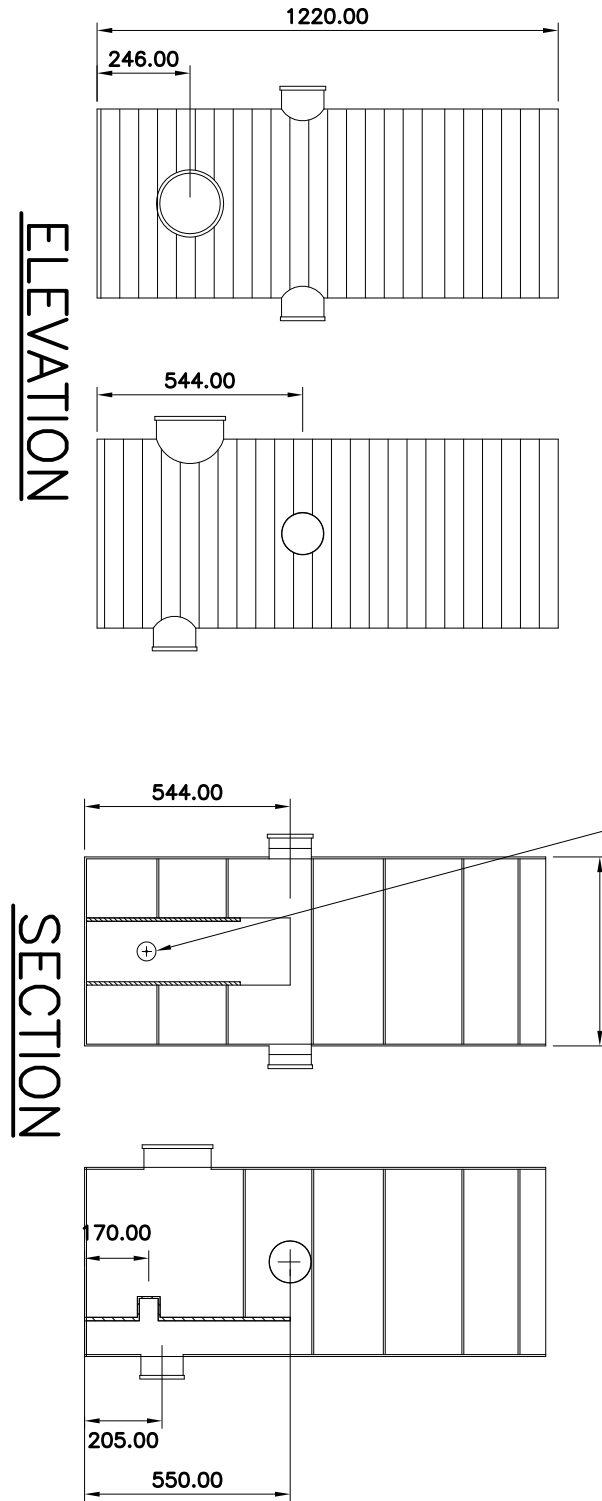


TYPE 3A-500P POLYSTYRENE SILT TRAP INSPECTION CHAMBER.

SCALE 1:20



PLAN



ELEVATION

SECTION

TYPE 3B-600P POLYSTYRENE FLOW CONTROL MANHOLE CHAMBER.

SCALE 1:20

TO PROTECT THE WATERPROOF TULEX GEOMEMBRANE DURING BACKFILLING OPERATION, OVERLAY THE TOP AND SIDES WITH GEOTEX 200 PP NEEDLE PUNCHED NON-WOVEN PROTECTION GEOTEXTILE WITH 300 mm LAPPED JOINTS (AS SUPPLIED BY ALDERBURN LIMITED).

PLANTED LANDSCAPED AREA

BACKFILL ABOVE THE VERSA VOID MODULAR TANK UNIT FOR 100 mm THICKNESS USING EITHER COARSE SAND OR CLASS 6H GRANULAR MATERIAL, REMAINING EXCAVATED MATERIAL TO BE BACKFILLED TO ORIGINAL LEVEL WITH CLASS 6H OR 6P GRANULAR MATERIAL IN ACCORDANCE WITH APPROVED SPECIFICATION (SUPPLIED BY ALDERBURN LIMITED).

BACKFILL AROUND THE SIDES OF VERSA VOID MODULAR TANK UNIT FOR 100 mm THICKNESS USING COARSE SAND OR CLASS 6H SELECTED GRANULAR MATERIAL, REMAINING EXCAVATED MATERIAL TO BE BACKFILLED TO ORIGINAL LEVEL WITH CLASS 6H OR 6P GRANULAR MATERIAL IN ACCORDANCE WITH APPROVED SPECIFICATION (SUPPLIED BY ALDERBURN LIMITED).

INLET PIPE WITH CLASS 5 BEDDING

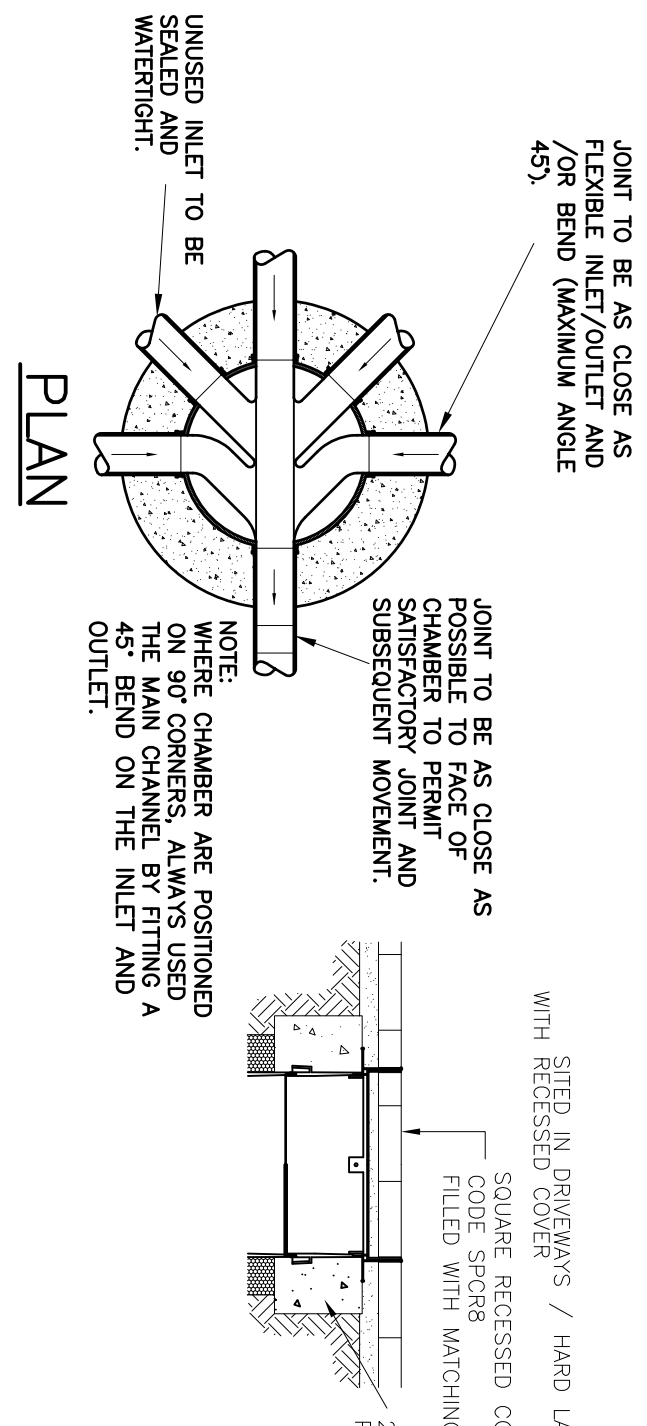
PIPES CONNECTED TO THE ATTENUATION TANK USING HEAVY DUTY PIPE COLLARS (HEAT WELDED TO TULEX IMPERMEABLE GEOMEMBRANE) WITH STAINLESS STEEL COLLARS AND STAINLESS STEEL BOLTS AROUND THE PIPE (AS SUPPLIED BY ALDERBURN LIMITED).

MODULES REQUIRE 400 mm MINIMUM BACKFILL COVER BEFORE DRAINING OVER WITH SMALL EXCAVATIONS OR BOGCAT

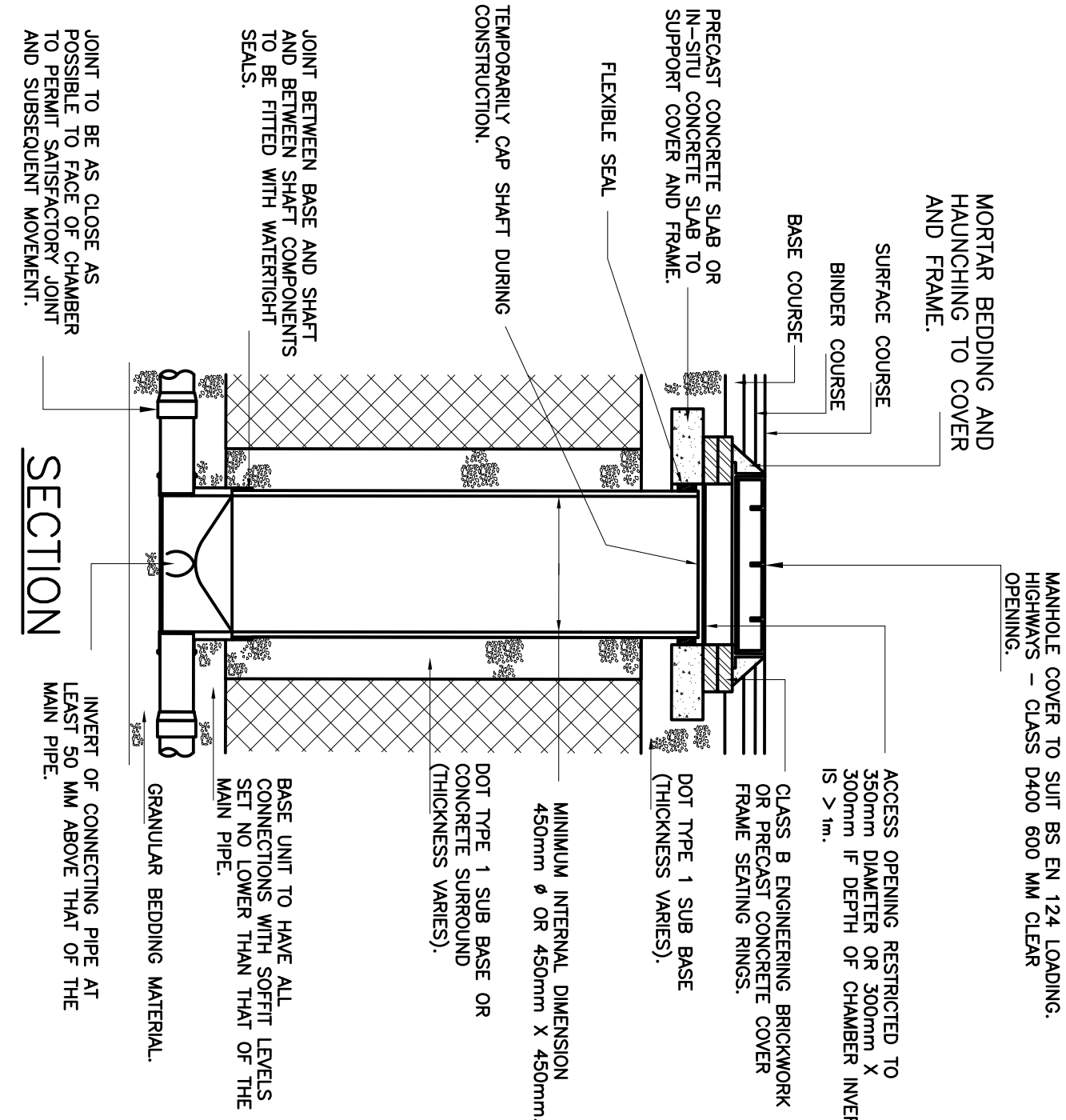
ESS VERSA VOID MODULAR UNIT TO BE WATERPROOFED WITH TULEX IMPERMEABLE GEOMEMBRANE WITH 100 - 120 mm LAP HEAT WELDED JOINTS (AS SUPPLIED BY ALDERBURN LIMITED).

OUTLET PIPE WITH CLASS 5 BEDDING

100 mm CONCRETE BASE - FLAT WITH NO UNDULATIONS.



PLAN



SECTION

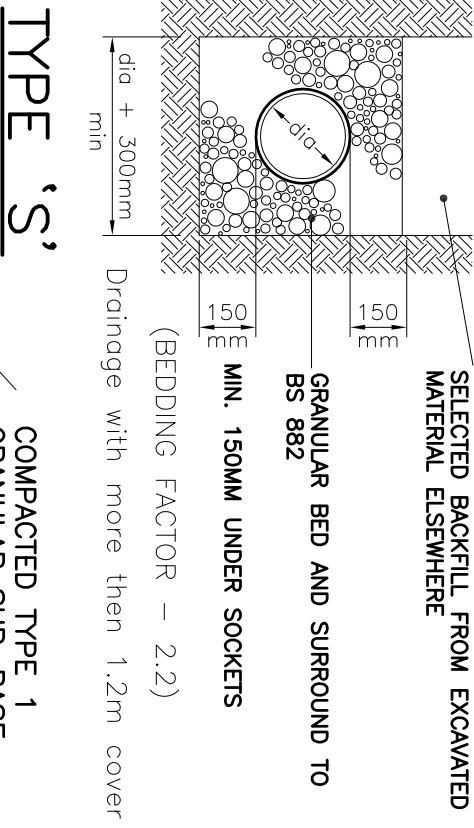
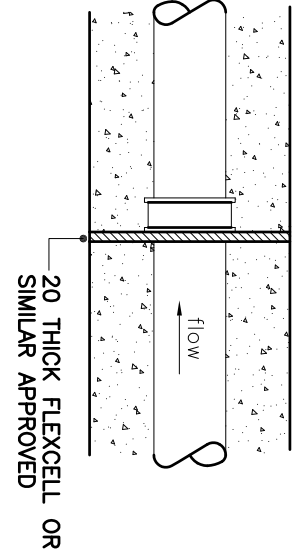
TYPE 3 - 450P POLYPROPYLENE INSPECTION CHAMBER (MAX. DEPTH 3.0M TO PIPE SOFFIT).

SCALE 1:20

NOTE: PLASTIC CHAMBERS AND RING SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL.

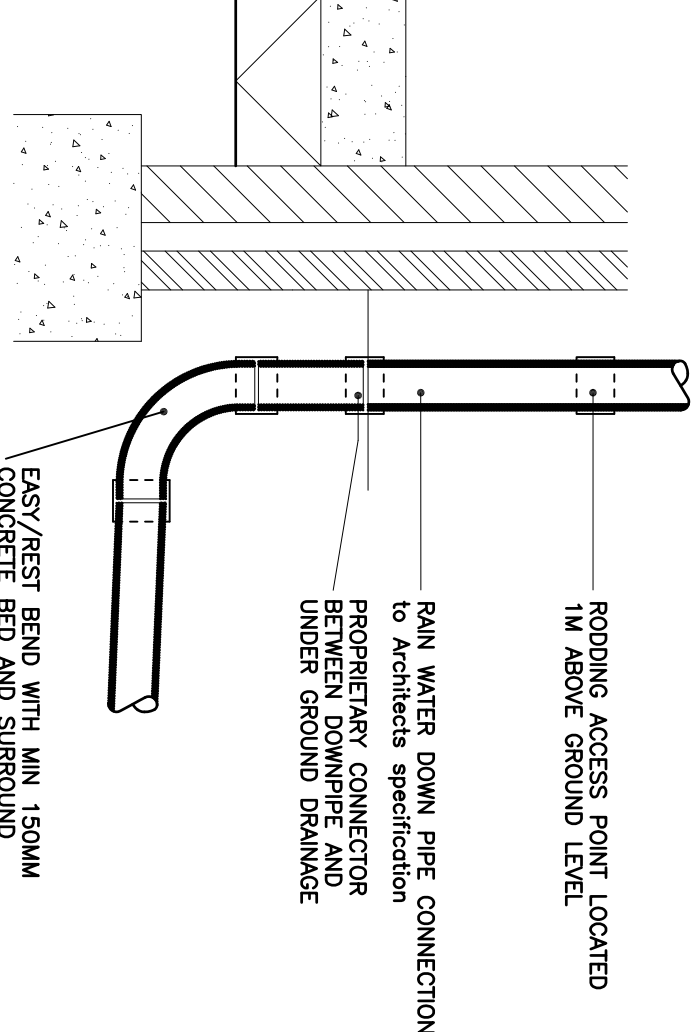
TYPICAL PIPE JOINTING DETAIL

SCALE 1:20



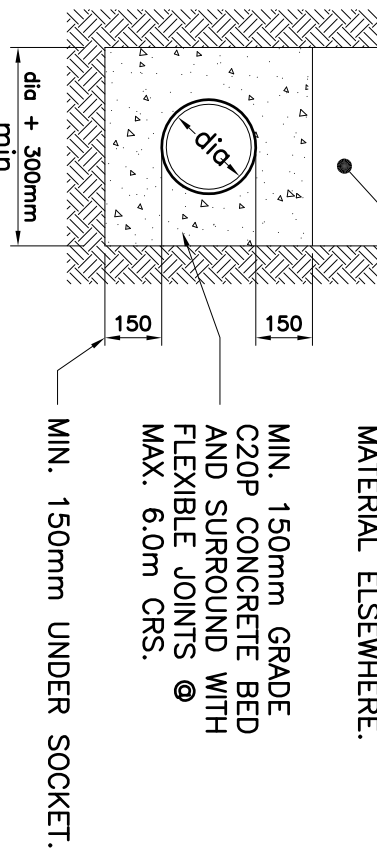
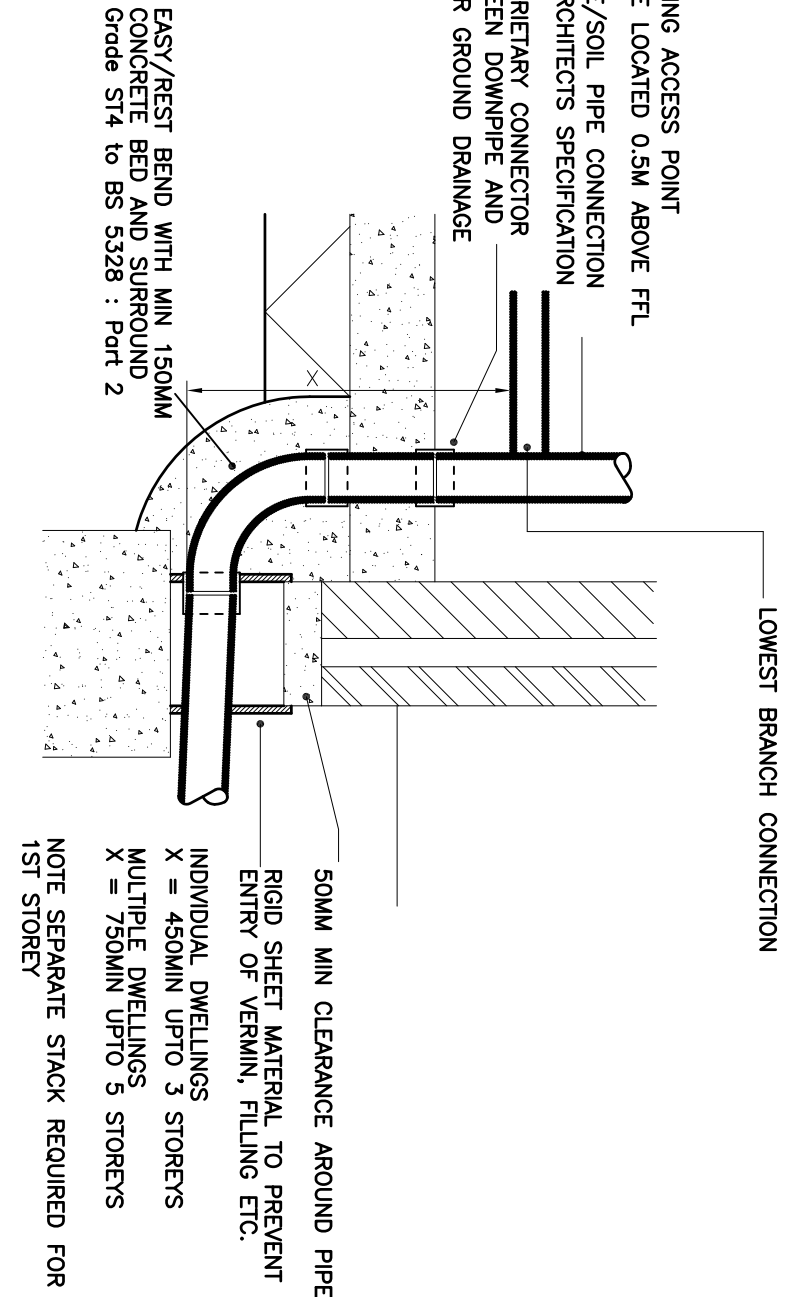
TYPICAL RAIN WATER DOWNPIPE DETAIL

SCALE 1:20



TYPICAL SOIL VENT PIPE DETAILS

SCALE 1:20

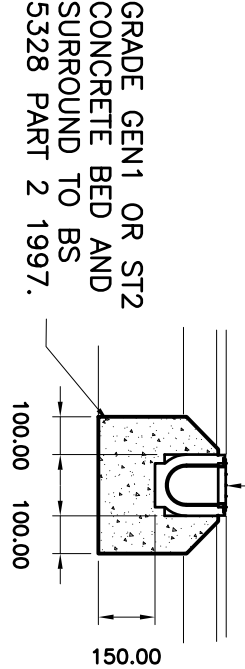


CONCRETE PIPE BEDDING

PIPE BEDDING DETAIL

SCALE 1:20

HAURATON RECYFIX 100 CHANNEL DRAIN WITH GRATING AS SPECIFIED BY ARCHITECT.

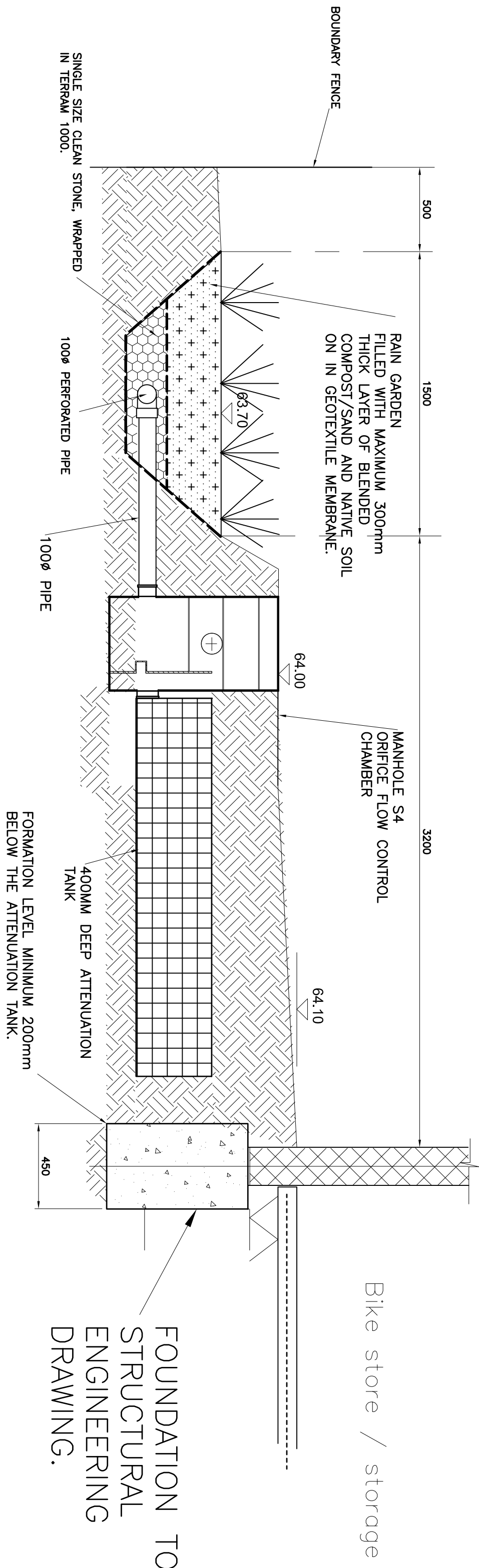


RECYFIX CHANNEL DRAIN

(250KN)
SCALE 1:20

ESS VERSA VOID STORAGE TANK UNDER LANDSCAPED AREA

SCALE 1:20



SECTION THROUGH ATTENUATION TANK,
FLOW CONTROL AND RAIN GARDEN

SCALE 1:20

ALL DIMENSIONS AND LEVELS
TO BE CHECKED AND
CONFIRMED BY THE ARCHITECT
PRIOR TO CONSTRUCTION.

In addition to these notes, reference shall be made to the specification of works and the relevant Architect's and Specialist's drawings and specifications. The Contractor is responsible for verifying all site dimensions before commencing work.

All dimensions are in millimetres unless noted otherwise.

This drawing has been produced electronically and may have been photo reduced. It is the responsibility of the Contractor to ensure that all dimensions are not be scaled. Work only to be reported to the engineer immediately. Levels are in metres unless noted otherwise to Ordnance Survey datum.

The Contractor is responsible for the stability of the building whilst the works are in progress.

NOTES

- THIS DRAWING IS BASED ON DRAWING NO. B04.3.24 BY BELMONT DESIGNS ARCHITECTURE PRACTICE LIMITED.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING:
63770/10 DRAINAGE LAYOUT
63770/11 DRAINAGE DETAIL SHEET 1 OF 2
- CONTRACTOR IS TO TAKE NECESSARY PRECAUTIONS TO ENSURE THAT TRENCHES ARE KEPT CLEAR OF GROUND WATER DURING CONSTRUCTION.
- ALL DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 7TH EDITION.
- ALL ADOPTED PIPEWORK TO BE 1000 VITRIFIED CLAY UNLESS NOTED OTHERWISE.
- ALL PIPEWORK THROUGH WALLS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS.
- ALL PIPEWORK UNDER ROADS WITH LESS THAN 900MM COVER TO HAVE 150MM CONCRETE SURROUND.
- MINIMUM GRADIENT TO DRAINS TO BE 1:40 FOR 1100 OR 1100 FW AND 1:100 FOR 1100 SW.
- ALL ADOPTED PIPEWORK, DRAINAGE LATERALS OR PIPE CONNECTION TO THE PUBLIC SHALL BE VITRIFIED CLAY (VC) PIPE MATERIAL TO SOUTHERN WATER APPROVAL.
- POSITIONS OF MANHOLES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ACTUAL LOCATIONS TO BE FINALIZED ON SITE.
- PROVIDE CONCRETE LINTELS OVER OPENINGS WHERE PIPES PASS THROUGH WALLS. ALLOW FOR 150MM CLEARANCE ALL ROUND PIPE.

0	ORIGINAL ISSUE	04/09/25	JS
REV	DESCRIPTION	DATE	BY

DIXON HURST

CONSULTING CIVIL & STRUCTURAL ENGINEERS

HEGERSHAM HOUSE, 18-22 BOUNDARY ROAD, HOVE, BN3 4EF
T: (01273) 421444 F: (01273) 420008 E: hove@dihk.co.uk
www.dihk.co.uk

Registered in England No. 3438720 - Registered Office 4 Frederick Terrace, Brighton BN1 1XK.

CONTRACT

LAND ADJACENT TO TWINHAM
34 HURST ROAD,
HASSOCKS, BN6 9NL

DRAINAGE DETAILS
SHEET 2 OF 2

DRAWING No.	63770 / 11	REV	0	CHECKED
SCALE	1:20 @ A1	DATE	SEPT 25	
Autocad Ref: 63770--10.dwg		DRAWN	JS	APPROVED

AutoCAD Ref: 63770-10.dwg

This drawing is produced using AutoCAD. Only written dimensions are to be respected.

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2
M5-60 (mm)	20.000
Ratio R	0.343
Maximum Rainfall (mm/hr)	50
Foul Sewage (l/s/ha)	0.00
Volumetric Runoff Coeff.	1.000
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	0.200
Min Design Depth for Optimisation (m)	0.200
Min Vel for Auto Design only (m/s)	0.76
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.014	4-8	0.002

Total Area Contributing (ha) = 0.016

Total Pipe Volume (m³) = 0.455

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	3.600	0.360	10.0	0.004	5.00	0.0	0.600	o	110
1.001	9.200	1.150	8.0	0.004	0.00	0.0	0.600	o	110
1.002	11.200	0.600	18.7	0.000	0.00	0.0	0.600	o	110
2.000	16.200	1.620	10.0	0.004	5.00	0.0	0.600	o	110
2.001	5.000	0.250	20.0	0.004	0.00	0.0	0.600	o	110
1.003	1.700	0.017	100.0	0.000	0.00	0.0	0.600	o	110
1.004	1.000	0.010	100.0	0.000	0.00	0.0	0.600	o	110

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)
1.000	50.00	5.02	65.400	0.004	0.0	0.0	0.0	2.62	24.9	0.7
1.001	50.00	5.08	65.000	0.008	0.0	0.0	0.0	2.93	27.8	1.4
1.002	50.00	5.17	63.850	0.008	0.0	0.0	0.0	1.91	18.2	1.4
2.000	50.00	5.10	65.400	0.004	0.0	0.0	0.0	2.62	24.9	0.7
2.001	50.00	5.15	63.500	0.008	0.0	0.0	0.0	1.85	17.6	1.4
1.003	50.00	5.21	63.250	0.016	0.0	0.0	0.0	0.82	7.8	2.9
1.004	50.00	5.23	63.233	0.016	0.0	0.0	0.0	0.82	7.8	2.9

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)
RE1	66.000	0.600	Open Manhole	110	1.000	65.400	110			
S1	65.650	0.650	Open Manhole	450	1.001	65.000	110	1.000	65.040	110
S2	64.100	0.250	Open Manhole	600	1.002	63.850	110	1.001	63.850	110
RE2	66.000	0.600	Open Manhole	110	2.000	65.400	110			
S3	64.100	0.600	Open Manhole	600	2.001	63.500	110	2.000	63.780	110
S4	64.000	0.750	Open Manhole	600	1.003	63.250	110	1.002	63.250	110
								2.001	63.250	110
Rain Garden	64.000	0.767	Open Manhole	7500 x 1100	1.004	63.233	110	1.003	63.233	110
Dummy	63.700	0.477	Open Manhole	450 x 450		OUTFALL		1.004	63.223	110

Dixon Hurst Kemp		Page 3						
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01							
Date Oct 25	Designed by JS							
File COMBINED ATTENUATION...	Checked by							
Elstree Computing Ltd	Network W.12.6							
PIPELINE SCHEDULES for Storm								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	110	RE1	66.000	65.400	0.490	Open Manhole	110
1.001	o	110	S1	65.650	65.000	0.540	Open Manhole	450
1.002	o	110	S2	64.100	63.850	0.140	Open Manhole	600
2.000	o	110	RE2	66.000	65.400	0.490	Open Manhole	110
2.001	o	110	S3	64.100	63.500	0.490	Open Manhole	600
1.003	o	110	S4	64.000	63.250	0.640	Open Manhole	600
1.004	o	110	Rain Garden	64.000	63.233	0.657	Open Manhole	7500 x 1100
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	3.600	10.0	S1	65.650	65.040	0.500	Open Manhole	450
1.001	9.200	8.0	S2	64.100	63.850	0.140	Open Manhole	600
1.002	11.200	18.7	S4	64.000	63.250	0.640	Open Manhole	600
2.000	16.200	10.0	S3	64.100	63.780	0.210	Open Manhole	600
2.001	5.000	20.0	S4	64.000	63.250	0.640	Open Manhole	600
1.003	1.700	100.0	Rain Garden	64.000	63.233	0.657	Open Manhole	7500 x 1100
1.004	1.000	100.0	Dummy	63.700	63.223	0.367	Open Manhole	450 x 450
Free Flowing Outfall Details for Storm								
Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)		
1.004	Dummy	63.700	63.223	63.230	450	450		
Simulation Criteria for Storm								
Volumetric Runoff Coeff	0.840	Foul Sewage per hectare (l/s)	0.000					
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	45.000					
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000					
Hot Start Level (mm)	0	Run Time (mins)	240					
Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)	4					
Number of Input Hydrographs	0	Number of Storage Structures	1					
Number of Online Controls	2	Number of Time/Area Diagrams	0					
Number of Offline Controls	0							
Synthetic Rainfall Details								
Rainfall Model	FSR	Profile Type	Winter					
Return Period (years)	100	Cv (Summer)	1.000					
Region	England and Wales	Cv (Winter)	0.840					
M5-60 (mm)	20.000	Storm Duration (mins)	120					
Ratio R	0.343							
©1982-2011 Micro Drainage Ltd								

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Online Controls for Storm

Orifice Manhole: S4, DS/PN: 1.003, Volume (m³): 0.4

Diameter (m) 0.017 Discharge Coefficient 0.600 Invert Level (m) 63.250

Depth/Flow Relationship Manhole: Rain Garden, DS/PN: 1.004, Volume (m³): 6.3

Invert Level (m) 63.233

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	0.0000	0.400	0.0000

Dixon Hurst Kemp		Page 5
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Storage Structures for Storm

Cellular Storage Manhole: S4, DS/PN: 1.003

Invert Level (m) 63.150
Infiltration Coefficient Base (m/hr) 0.00000
Infiltration Coefficient Side (m/hr) 0.00000
Safety Factor 2.0
Porosity 0.95

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	21.8	21.8	0.500	0.0	34.6
0.400	21.8	34.6			

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
1.000	RE1	0.500
1.001	S1	0.500
1.002	S2	0.500
2.000	RE2	0.500
2.001	S3	0.500
1.003	S4	0.500
1.004	Rain Garden	0.500

Dixon Hurst Kemp		Page 6
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

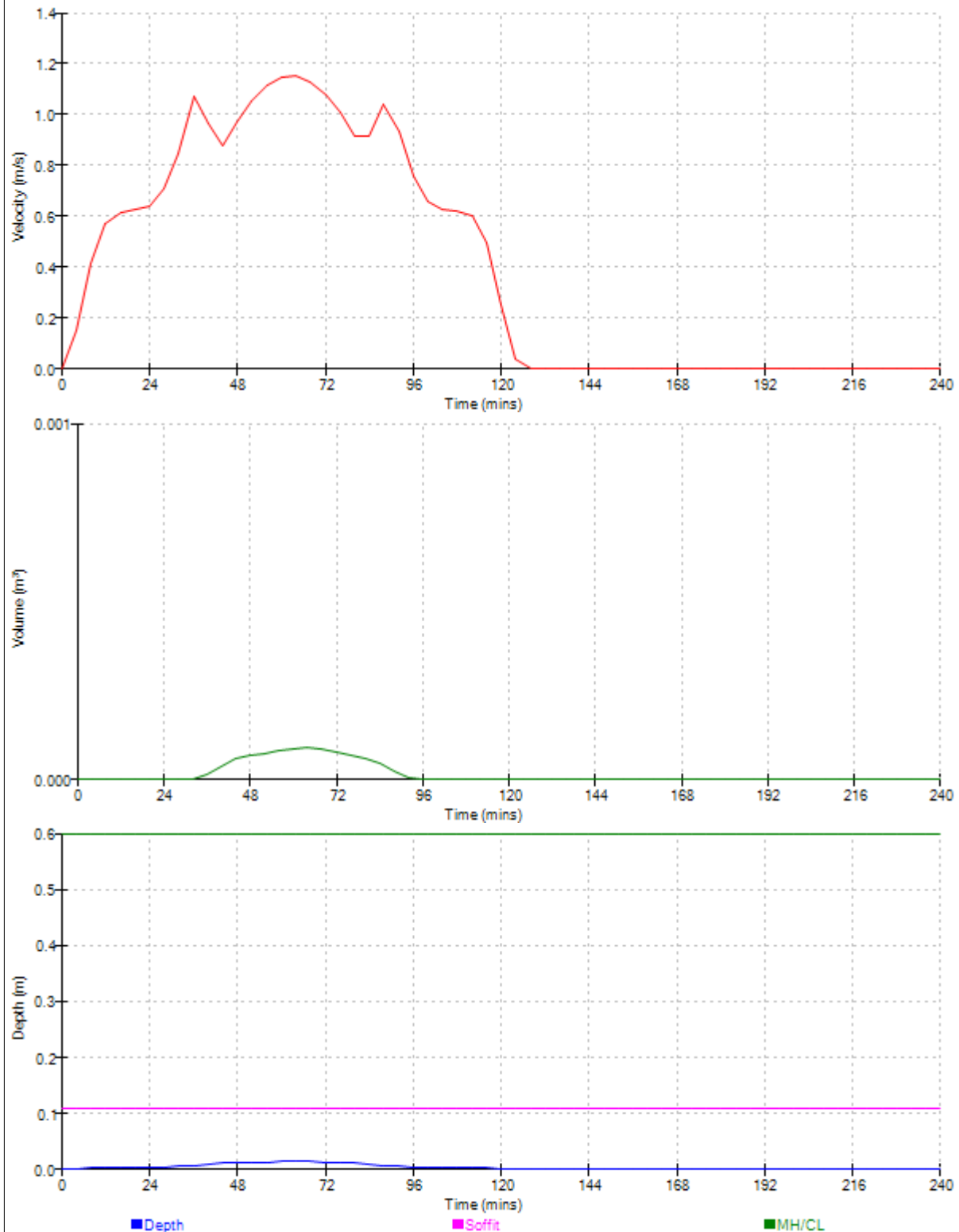
Summary of Results for 120 minute 100 year Winter (Storm)

Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	RE1	65.414	-0.096	0.000	0.04	0.0	0.8	OK
1.001	S1	65.018	-0.092	0.000	0.07	0.0	1.7	OK
1.002	S2	63.873	-0.087	0.000	0.10	0.0	1.7	OK
2.000	RE2	65.413	-0.097	0.000	0.04	0.0	0.8	OK
2.001	S3	63.567	-0.043	0.000	0.11	0.0	1.7	OK
1.003	S4	63.566	0.206	0.000	0.06	0.0	0.3	SURCHARGED
1.004	Rain Garden	63.481	0.138	0.000	0.00	0.0	0.0	SURCHARGED

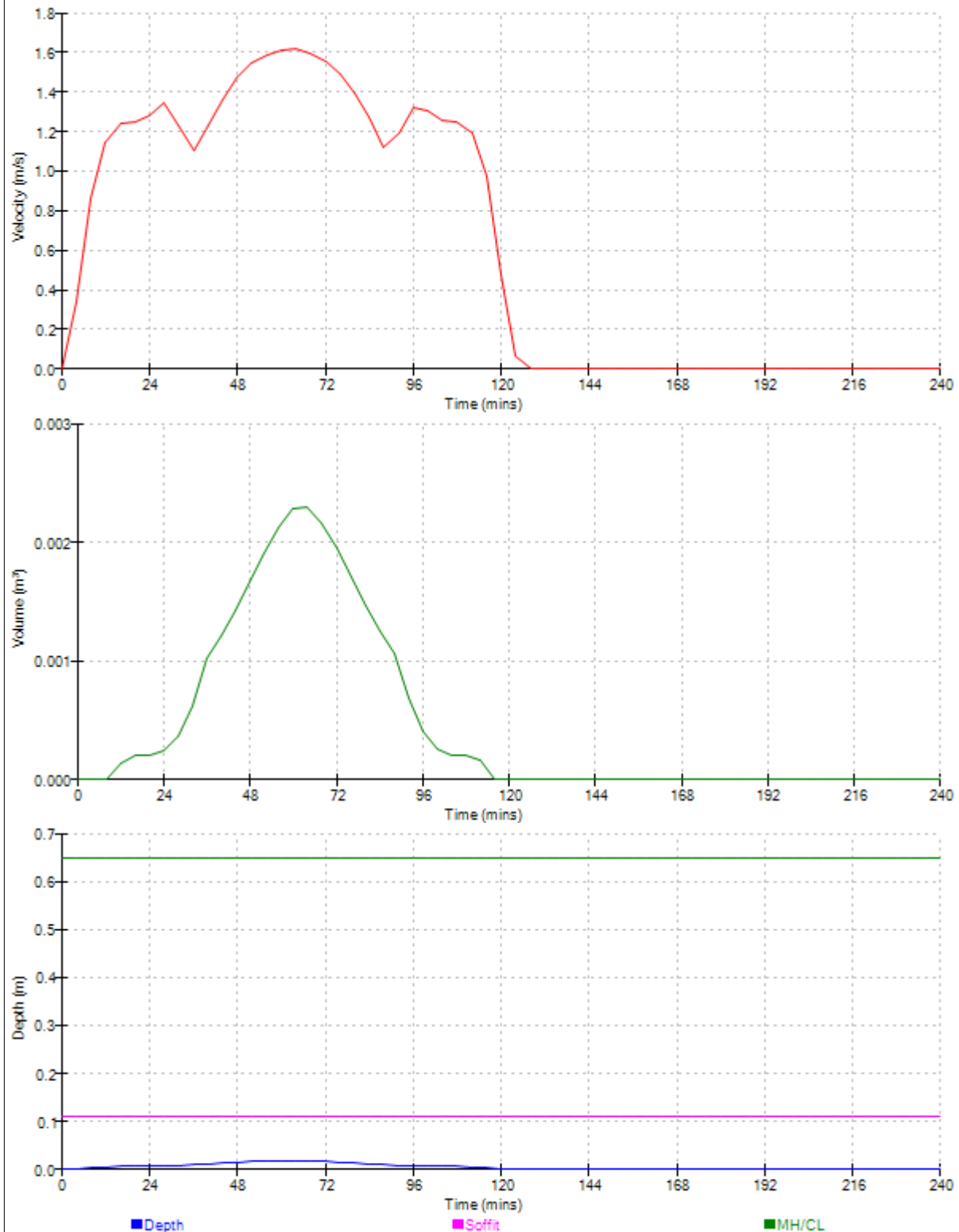
Dixon Hurst Kemp		Page 7
Victoria Court 22 St Pancras West Sussex PO19 7GD Date Oct 25 File COMBINED ATTENUATION... Elstree Computing Ltd	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
	Designed by JS Checked by Network W.12.6	

Graphs for Pipe 1.000 US/MH RE1 (Storm)
120 minute 100 year winter
Status: OK



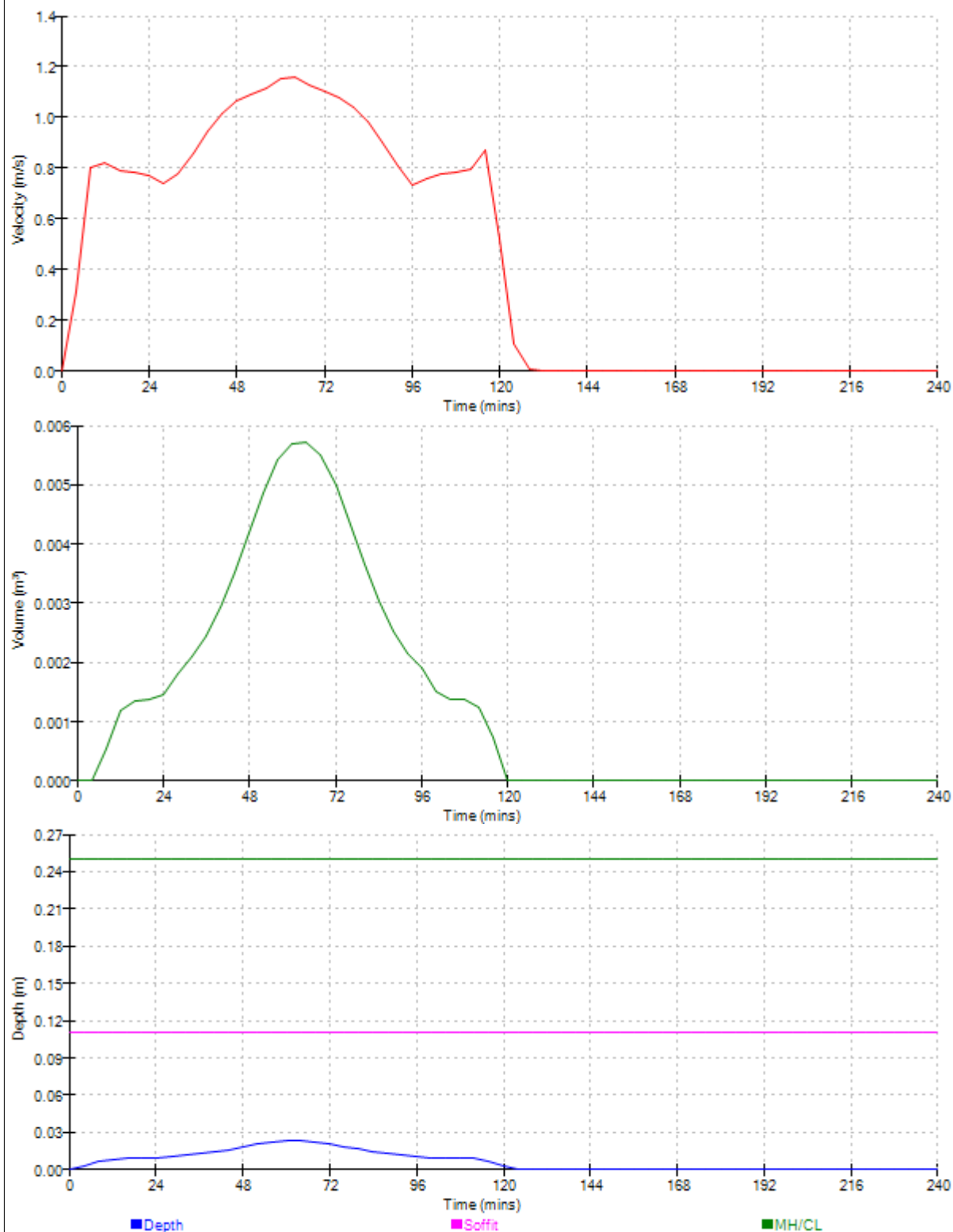
Dixon Hurst Kemp		Page 8
Victoria Court	34 Hurst Road. Hassocks	
22 St Pancras	Surface Water Drainage	
West Sussex PO19 7GD	Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

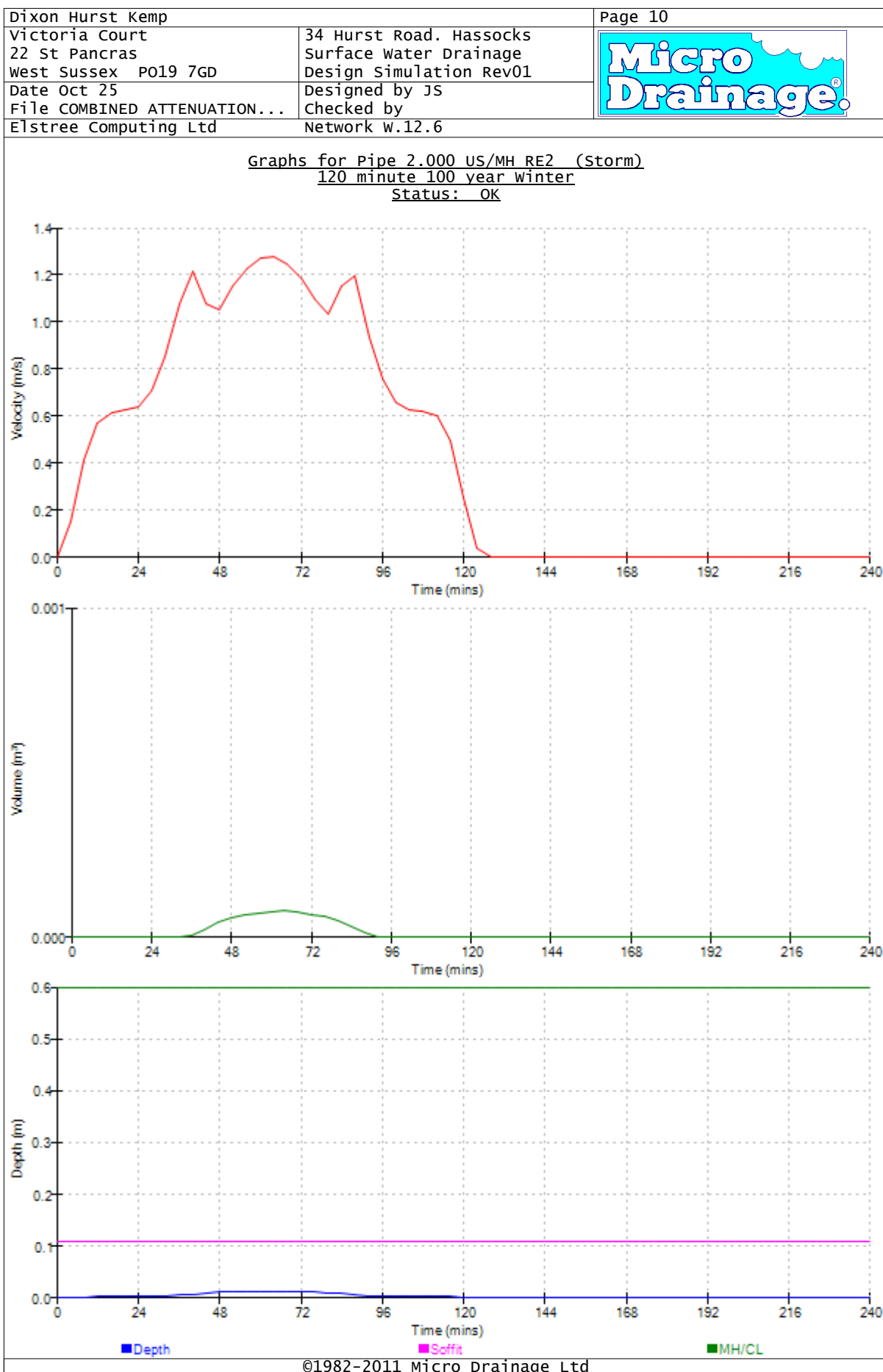
Graphs for Pipe 1.001 US/MH S1 (Storm)
120 minute 100 year winter
Status: OK



Dixon Hurst Kemp		Page 9
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks	
	Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

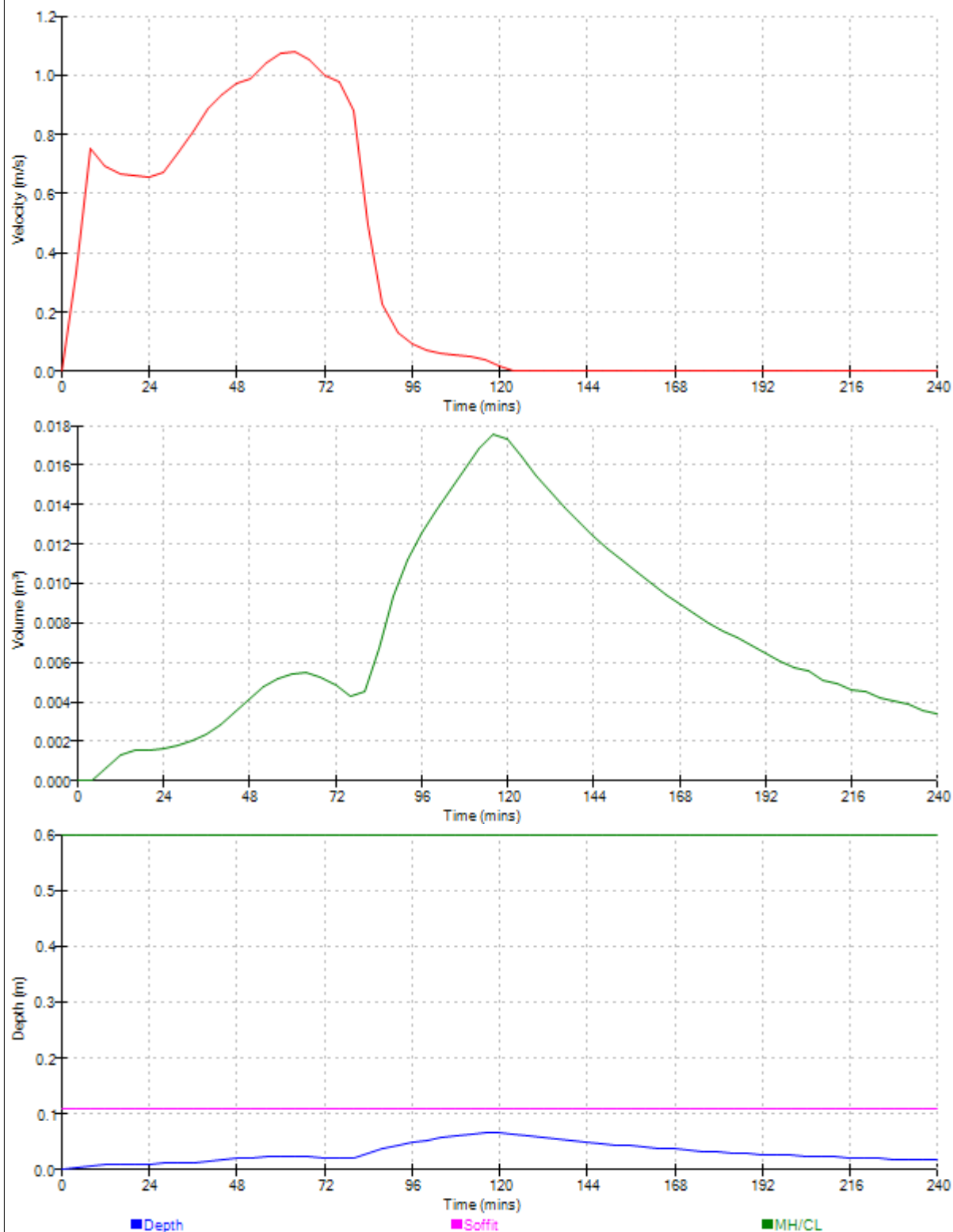
Graphs for Pipe 1.002 US/MH S2 (Storm)
120 minute 100 year winter
Status: OK



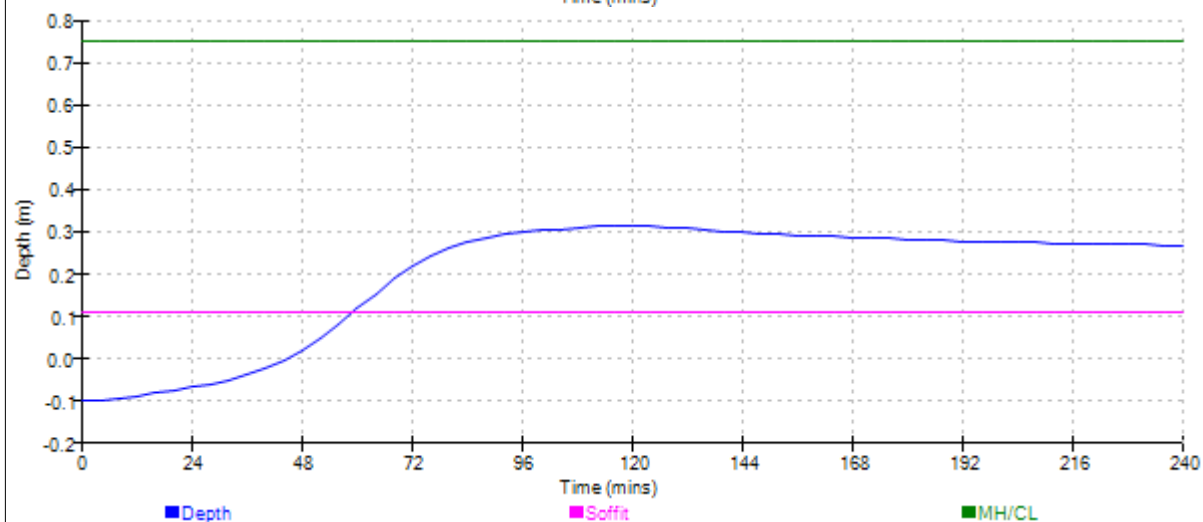
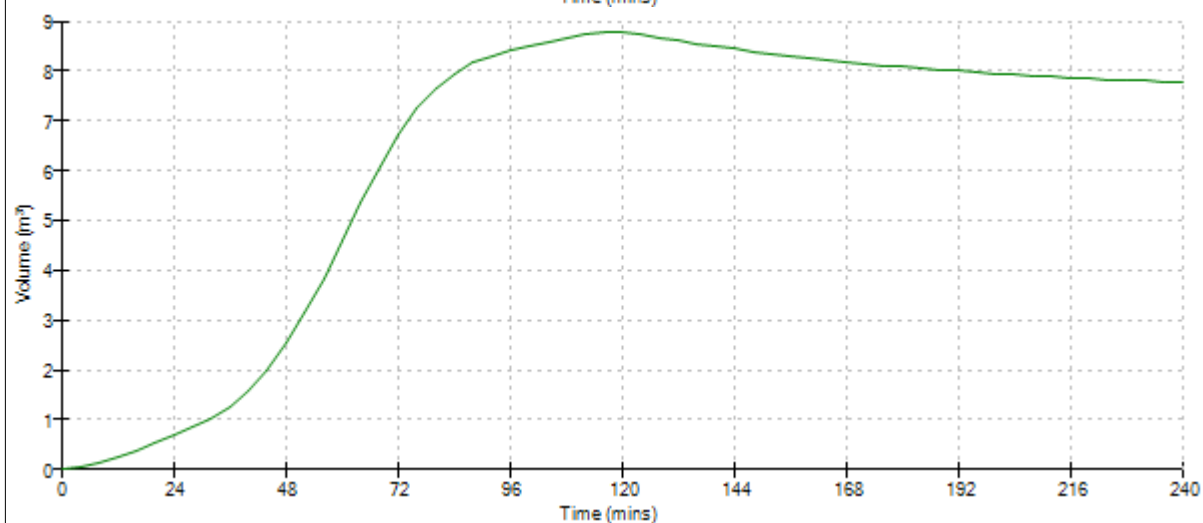
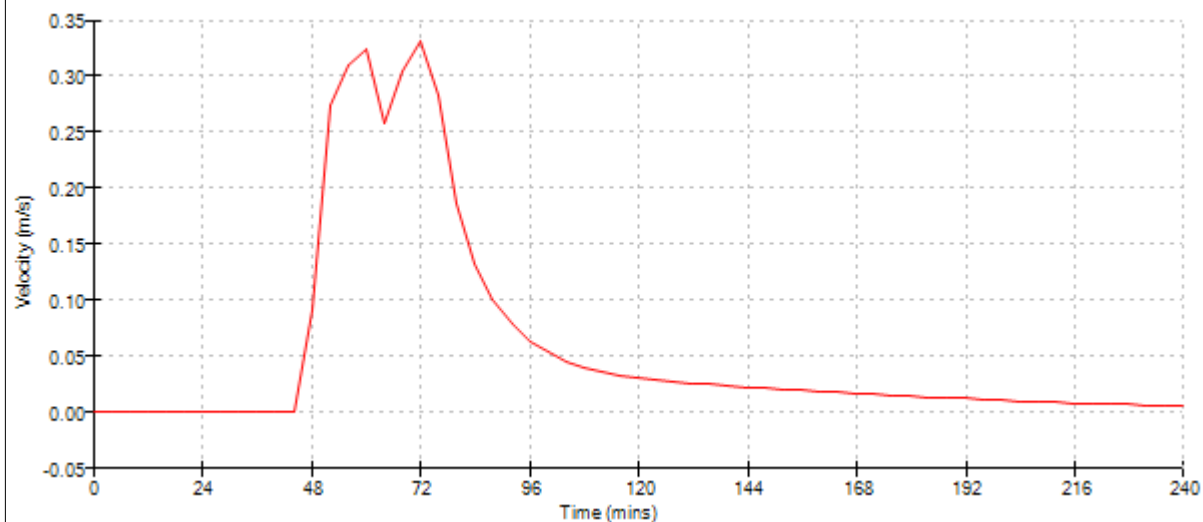


Dixon Hurst Kemp		Page 11
Victoria Court 22 St Pancras West Sussex PO19 7GD Date Oct 25 File COMBINED ATTENUATION... Elstree Computing Ltd	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
	Designed by JS Checked by Network W.12.6	

Graphs for Pipe 2.001 US/MH S3 (Storm)
120 minute 100 year winter
Status: OK

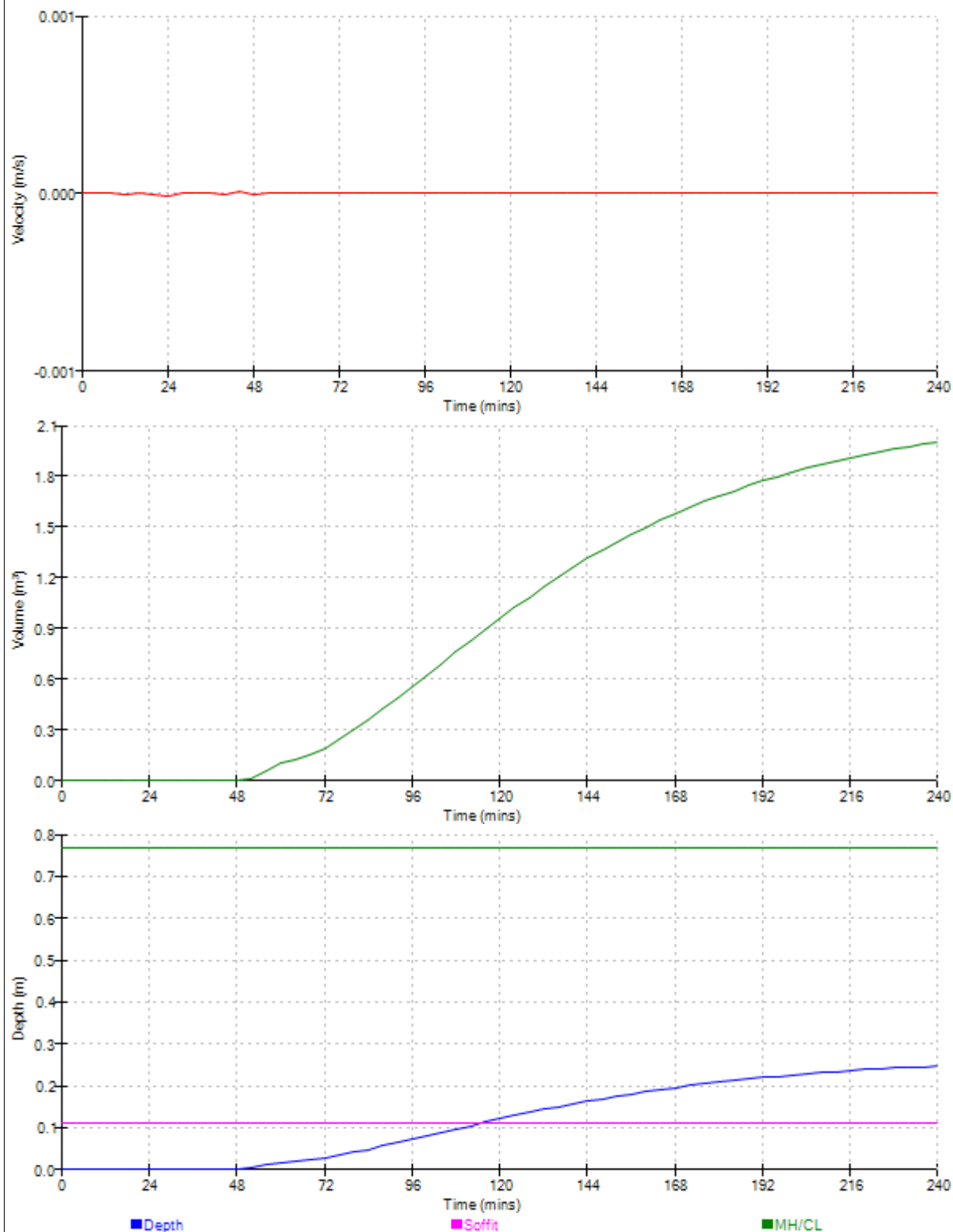


Graphs for Pipe 1.003 US/MH S4 (Storm)
120 minute 100 year winter
Status: SURCHARGED



Dixon Hurst Kemp		Page 13
Victoria Court	34 Hurst Road. Hassocks	
22 St Pancras	Surface Water Drainage	
West Sussex PO19 7GD	Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Graphs for Pipe 1.004 US/MH Rain Garden (Storm)
120 minute 100 year winter
Status: SURCHARGED



Dixon Hurst Kemp		Page 15
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.000 US/MH RE1 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	65.400	65.000	-0.110	0.0	0.0	0.0
228	65.400	65.000	-0.110	0.0	0.0	0.0
232	65.400	65.000	-0.110	0.0	0.0	0.0
236	65.400	65.000	-0.110	0.0	0.0	0.0
240	65.400	65.000	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 17
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.001 US/MH S1 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	65.000	63.850	-0.110	0.0	0.0	0.0
228	65.000	63.850	-0.110	0.0	0.0	0.0
232	65.000	63.850	-0.110	0.0	0.0	0.0
236	65.000	63.850	-0.110	0.0	0.0	0.0
240	65.000	63.850	-0.110	0.0	0.0	0.0

Flows and Levels for Pipe 1.002 US/MH S2 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
4	63.853	63.152	-0.107	0.0	0.3	0.1
8	63.857	63.156	-0.103	0.0	0.8	0.2
12	63.859	63.162	-0.101	0.0	0.8	0.3
16	63.859	63.169	-0.101	0.0	0.8	0.3
20	63.859	63.176	-0.101	0.0	0.8	0.3
24	63.860	63.183	-0.100	0.0	0.8	0.3
28	63.861	63.190	-0.099	0.0	0.7	0.3
32	63.862	63.200	-0.098	0.0	0.8	0.4
36	63.863	63.211	-0.097	0.0	0.9	0.5
40	63.864	63.226	-0.096	0.0	0.9	0.7
44	63.866	63.246	-0.094	0.0	1.0	0.9
48	63.868	63.271	-0.092	0.0	1.1	1.1
52	63.870	63.300	-0.090	0.0	1.1	1.3
56	63.872	63.332	-0.088	0.0	1.1	1.5
60	63.873	63.368	-0.087	0.0	1.2	1.7
64	63.873	63.405	-0.087	0.0	1.2	1.7
68	63.872	63.439	-0.088	0.0	1.1	1.6
72	63.871	63.468	-0.089	0.0	1.1	1.4
76	63.869	63.492	-0.091	0.0	1.1	1.2
80	63.867	63.512	-0.093	0.0	1.0	0.9
84	63.865	63.526	-0.095	0.0	1.0	0.7
88	63.863	63.536	-0.097	0.0	0.9	0.6
92	63.862	63.543	-0.098	0.0	0.8	0.5
96	63.861	63.548	-0.099	0.0	0.7	0.4
100	63.860	63.552	-0.100	0.0	0.8	0.3
104	63.859	63.556	-0.101	0.0	0.8	0.3
108	63.859	63.560	-0.101	0.0	0.8	0.3
112	63.859	63.563	-0.101	0.0	0.8	0.3
116	63.857	63.566	-0.103	0.0	0.9	0.2
120	63.853	63.566	-0.107	0.0	0.5	0.1
124	63.850	63.563	-0.110	0.0	0.1	0.0
128	63.850	63.560	-0.110	0.0	0.0	0.0
132	63.850	63.557	-0.110	0.0	0.0	0.0
136	63.850	63.554	-0.110	0.0	0.0	0.0
140	63.850	63.551	-0.110	0.0	0.0	0.0
144	63.850	63.549	-0.110	0.0	0.0	0.0
148	63.850	63.547	-0.110	0.0	0.0	0.0
152	63.850	63.545	-0.110	0.0	0.0	0.0
156	63.850	63.542	-0.110	0.0	0.0	0.0
160	63.850	63.540	-0.110	0.0	0.0	0.0
164	63.850	63.539	-0.110	0.0	0.0	0.0
168	63.850	63.537	-0.110	0.0	0.0	0.0
172	63.850	63.535	-0.110	0.0	0.0	0.0
176	63.850	63.533	-0.110	0.0	0.0	0.0
180	63.850	63.532	-0.110	0.0	0.0	0.0
184	63.850	63.531	-0.110	0.0	0.0	0.0
188	63.850	63.529	-0.110	0.0	0.0	0.0
192	63.850	63.528	-0.110	0.0	0.0	0.0
196	63.850	63.527	-0.110	0.0	0.0	0.0
200	63.850	63.526	-0.110	0.0	0.0	0.0
204	63.850	63.525	-0.110	0.0	0.0	0.0
208	63.850	63.524	-0.110	0.0	0.0	0.0
212	63.850	63.523	-0.110	0.0	0.0	0.0
216	63.850	63.522	-0.110	0.0	0.0	0.0
220	63.850	63.521	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 19
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.002 US/MH S2 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	63.850	63.520	-0.110	0.0	0.0	0.0
228	63.850	63.519	-0.110	0.0	0.0	0.0
232	63.850	63.519	-0.110	0.0	0.0	0.0
236	63.850	63.518	-0.110	0.0	0.0	0.0
240	63.850	63.517	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 21
Victoria Court	34 Hurst Road. Hassocks	
22 St Pancras	Surface Water Drainage	
West Sussex PO19 7GD	Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.000 US/MH RE2 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	65.400	63.520	-0.110	0.0	0.0	0.0
228	65.400	63.519	-0.110	0.0	0.0	0.0
232	65.400	63.519	-0.110	0.0	0.0	0.0
236	65.400	63.518	-0.110	0.0	0.0	0.0
240	65.400	63.517	-0.110	0.0	0.0	0.0

Flows and Levels for Pipe 2.001 US/MH S3 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
4	63.503	63.152	-0.107	0.0	0.3	0.1
8	63.507	63.156	-0.103	0.0	0.8	0.2
12	63.510	63.162	-0.100	0.0	0.7	0.3
16	63.510	63.169	-0.100	0.0	0.7	0.3
20	63.510	63.176	-0.100	0.0	0.7	0.3
24	63.511	63.183	-0.099	0.0	0.7	0.3
28	63.511	63.190	-0.099	0.0	0.7	0.3
32	63.512	63.200	-0.098	0.0	0.7	0.4
36	63.513	63.211	-0.097	0.0	0.8	0.5
40	63.515	63.226	-0.095	0.0	0.9	0.7
44	63.517	63.246	-0.093	0.0	0.9	0.9
48	63.520	63.271	-0.090	0.0	1.0	1.1
52	63.522	63.300	-0.088	0.0	1.0	1.3
56	63.523	63.332	-0.087	0.0	1.0	1.5
60	63.524	63.368	-0.086	0.0	1.1	1.7
64	63.524	63.405	-0.086	0.0	1.1	1.7
68	63.524	63.439	-0.086	0.0	1.0	1.6
72	63.522	63.468	-0.088	0.0	1.0	1.4
76	63.520	63.492	-0.090	0.0	1.0	1.2
80	63.521	63.512	-0.089	0.0	0.9	0.9
84	63.529	63.526	-0.081	0.0	0.5	0.7
88	63.538	63.536	-0.072	0.0	0.2	0.5
92	63.545	63.543	-0.065	0.0	0.1	0.4
96	63.549	63.548	-0.061	0.0	0.1	0.4
100	63.553	63.552	-0.057	0.0	0.1	0.3
104	63.557	63.556	-0.053	0.0	0.1	0.3
108	63.561	63.560	-0.049	0.0	0.1	0.3
112	63.565	63.563	-0.045	0.0	0.1	0.3
116	63.567	63.566	-0.043	0.0	0.0	0.2
120	63.566	63.566	-0.044	0.0	0.0	0.1
124	63.563	63.563	-0.047	0.0	0.0	0.0
128	63.560	63.560	-0.050	0.0	0.0	0.0
132	63.557	63.557	-0.053	0.0	0.0	0.0
136	63.554	63.554	-0.056	0.0	0.0	0.0
140	63.551	63.551	-0.059	0.0	0.0	0.0
144	63.549	63.549	-0.061	0.0	0.0	0.0
148	63.547	63.547	-0.063	0.0	0.0	0.0
152	63.545	63.545	-0.065	0.0	0.0	0.0
156	63.542	63.542	-0.068	0.0	0.0	0.0
160	63.540	63.540	-0.070	0.0	0.0	0.0
164	63.538	63.539	-0.072	0.0	0.0	0.0
168	63.537	63.537	-0.073	0.0	0.0	0.0
172	63.535	63.535	-0.075	0.0	0.0	0.0
176	63.533	63.533	-0.077	0.0	0.0	0.0
180	63.532	63.532	-0.078	0.0	0.0	0.0
184	63.531	63.531	-0.079	0.0	0.0	0.0
188	63.529	63.529	-0.081	0.0	0.0	0.0
192	63.528	63.528	-0.082	0.0	0.0	0.0
196	63.526	63.527	-0.084	0.0	0.0	0.0
200	63.525	63.526	-0.085	0.0	0.0	0.0
204	63.525	63.525	-0.085	0.0	0.0	0.0
208	63.523	63.524	-0.087	0.0	0.0	0.0
212	63.522	63.523	-0.088	0.0	0.0	0.0
216	63.521	63.522	-0.089	0.0	0.0	0.0
220	63.521	63.521	-0.089	0.0	0.0	0.0

Dixon Hurst Kemp		Page 23
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.001 US/MH S3 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	63.520	63.520	-0.090	0.0	0.0	0.0
228	63.519	63.519	-0.091	0.0	0.0	0.0
232	63.519	63.519	-0.091	0.0	0.0	0.0
236	63.518	63.518	-0.092	0.0	0.0	0.0
240	63.517	63.517	-0.093	0.0	0.0	0.0

Dixon Hurst Kemp		Page 25
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.003 US/MH S4 (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	63.520	63.474	0.160	0.0	0.0	0.1
228	63.519	63.476	0.159	0.0	0.0	0.1
232	63.519	63.477	0.159	0.0	0.0	0.1
236	63.518	63.479	0.158	0.0	0.0	0.1
240	63.517	63.481	0.157	0.0	0.0	0.1

Dixon Hurst Kemp		Page 27
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.004 US/MH Rain Garden (Storm)
120 minute 100 year winter
Average Rainfall Intensity 25.085 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
224	63.474	63.234	0.131	0.0	0.0	0.0
228	63.476	63.234	0.133	0.0	0.0	0.0
232	63.477	63.234	0.134	0.0	0.0	0.0
236	63.479	63.234	0.136	0.0	0.0	0.0
240	63.481	63.234	0.138	0.0	0.0	0.0

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2
M5-60 (mm)	20.000
Ratio R	0.343
Maximum Rainfall (mm/hr)	50
Foul Sewage (l/s/ha)	0.00
Volumetric Runoff Coeff.	1.000
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	0.200
Min Design Depth for Optimisation (m)	0.200
Min Vel for Auto Design only (m/s)	0.76
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.014	4-8	0.002

Total Area Contributing (ha) = 0.016

Total Pipe Volume (m³) = 0.455

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	3.600	0.360	10.0	0.004	5.00	0.0	0.600	o	110
1.001	9.200	1.150	8.0	0.004	0.00	0.0	0.600	o	110
1.002	11.200	0.600	18.7	0.000	0.00	0.0	0.600	o	110
2.000	16.200	1.620	10.0	0.004	5.00	0.0	0.600	o	110
2.001	5.000	0.250	20.0	0.004	0.00	0.0	0.600	o	110
1.003	1.700	0.017	100.0	0.000	0.00	0.0	0.600	o	110
1.004	1.000	0.010	100.0	0.000	0.00	0.0	0.600	o	110

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)
1.000	50.00	5.02	65.400	0.004	0.0	0.0	0.0	2.62	24.9	0.7
1.001	50.00	5.08	65.000	0.008	0.0	0.0	0.0	2.93	27.8	1.4
1.002	50.00	5.17	63.850	0.008	0.0	0.0	0.0	1.91	18.2	1.4
2.000	50.00	5.10	65.400	0.004	0.0	0.0	0.0	2.62	24.9	0.7
2.001	50.00	5.15	63.500	0.008	0.0	0.0	0.0	1.85	17.6	1.4
1.003	50.00	5.21	63.250	0.016	0.0	0.0	0.0	0.82	7.8	2.9
1.004	50.00	5.23	63.233	0.016	0.0	0.0	0.0	0.82	7.8	2.9

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)
RE1	66.000	0.600	Open Manhole	110	1.000	65.400	110			
S1	65.650	0.650	Open Manhole	450	1.001	65.000	110	1.000	65.040	110
S2	64.100	0.250	Open Manhole	600	1.002	63.850	110	1.001	63.850	110
RE2	66.000	0.600	Open Manhole	110	2.000	65.400	110			
S3	64.100	0.600	Open Manhole	600	2.001	63.500	110	2.000	63.780	110
S4	64.000	0.750	Open Manhole	600	1.003	63.250	110	1.002	63.250	110
								2.001	63.250	110
Rain Garden	64.000	0.767	Open Manhole	7500 x 1100	1.004	63.233	110	1.003	63.233	110
Dummy	63.700	0.477	Open Manhole	450 x 450		OUTFALL		1.004	63.223	110

Dixon Hurst Kemp				Page 3				
Victoria Court 22 St Pancras West Sussex PO19 7GD				34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01				
Date Oct 25				Designed by JS				
File COMBINED ATTENUATION...				Checked by				
Elstree Computing Ltd				Network W.12.6				
PIPELINE SCHEDULES for Storm								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	110	RE1	66.000	65.400	0.490	Open Manhole	110
1.001	o	110	S1	65.650	65.000	0.540	Open Manhole	450
1.002	o	110	S2	64.100	63.850	0.140	Open Manhole	600
2.000	o	110	RE2	66.000	65.400	0.490	Open Manhole	110
2.001	o	110	S3	64.100	63.500	0.490	Open Manhole	600
1.003	o	110	S4	64.000	63.250	0.640	Open Manhole	600
1.004	o	110	Rain Garden	64.000	63.233	0.657	Open Manhole	7500 x 1100
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	3.600	10.0	S1	65.650	65.040	0.500	Open Manhole	450
1.001	9.200	8.0	S2	64.100	63.850	0.140	Open Manhole	600
1.002	11.200	18.7	S4	64.000	63.250	0.640	Open Manhole	600
2.000	16.200	10.0	S3	64.100	63.780	0.210	Open Manhole	600
2.001	5.000	20.0	S4	64.000	63.250	0.640	Open Manhole	600
1.003	1.700	100.0	Rain Garden	64.000	63.233	0.657	Open Manhole	7500 x 1100
1.004	1.000	100.0	Dummy	63.700	63.223	0.367	Open Manhole	450 x 450
Free Flowing Outfall Details for Storm								
Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)		
1.004	Dummy	63.700	63.223	63.230	450	450		
Simulation Criteria for Storm								
Volumetric Runoff Coeff		1.000	Foul Sewage per hectare (l/s)		0.000			
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		45.000			
Hot Start (mins)		0	MADD Factor * 10m³/ha Storage		2.000			
Hot Start Level (mm)		0	Run Time (mins)		60			
Manhole Headloss Coeff (Global)		0.500	Output Interval (mins)		1			
Number of Input Hydrographs		0	Number of Storage Structures		1			
Number of Online Controls		2	Number of Time/Area Diagrams		0			
Number of Offline Controls		0						
Synthetic Rainfall Details								
Rainfall Model		FSR	Profile Type		Summer			
Return Period (years)		100	Cv (Summer)		1.000			
Region		England and Wales	Cv (Winter)		0.840			
M5-60 (mm)		20.000	Storm Duration (mins)		30			
Ratio R		0.343						
©1982-2011 Micro Drainage Ltd								

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Online Controls for Storm

Orifice Manhole: S4, DS/PN: 1.003, Volume (m³): 0.4

Diameter (m) 0.017 Discharge Coefficient 0.600 Invert Level (m) 63.250

Depth/Flow Relationship Manhole: Rain Garden, DS/PN: 1.004, Volume (m³): 6.3

Invert Level (m) 63.233

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	0.0000	0.400	0.0000

Dixon Hurst Kemp		Page 5
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Storage Structures for Storm

Cellular Storage Manhole: S4, DS/PN: 1.003

Invert Level (m) 63.150
Infiltration Coefficient Base (m/hr) 0.00000
Infiltration Coefficient Side (m/hr) 0.00000
Safety Factor 2.0
Porosity 0.95

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	21.8	21.8	0.500	0.0	34.6
0.400	21.8	34.6			

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
1.000	RE1	0.500
1.001	S1	0.500
1.002	S2	0.500
2.000	RE2	0.500
2.001	S3	0.500
1.003	S4	0.500
1.004	Rain Garden	0.500

Dixon Hurst Kemp		Page 6
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Summary of Results for 30 minute 100 year Summer (Storm)

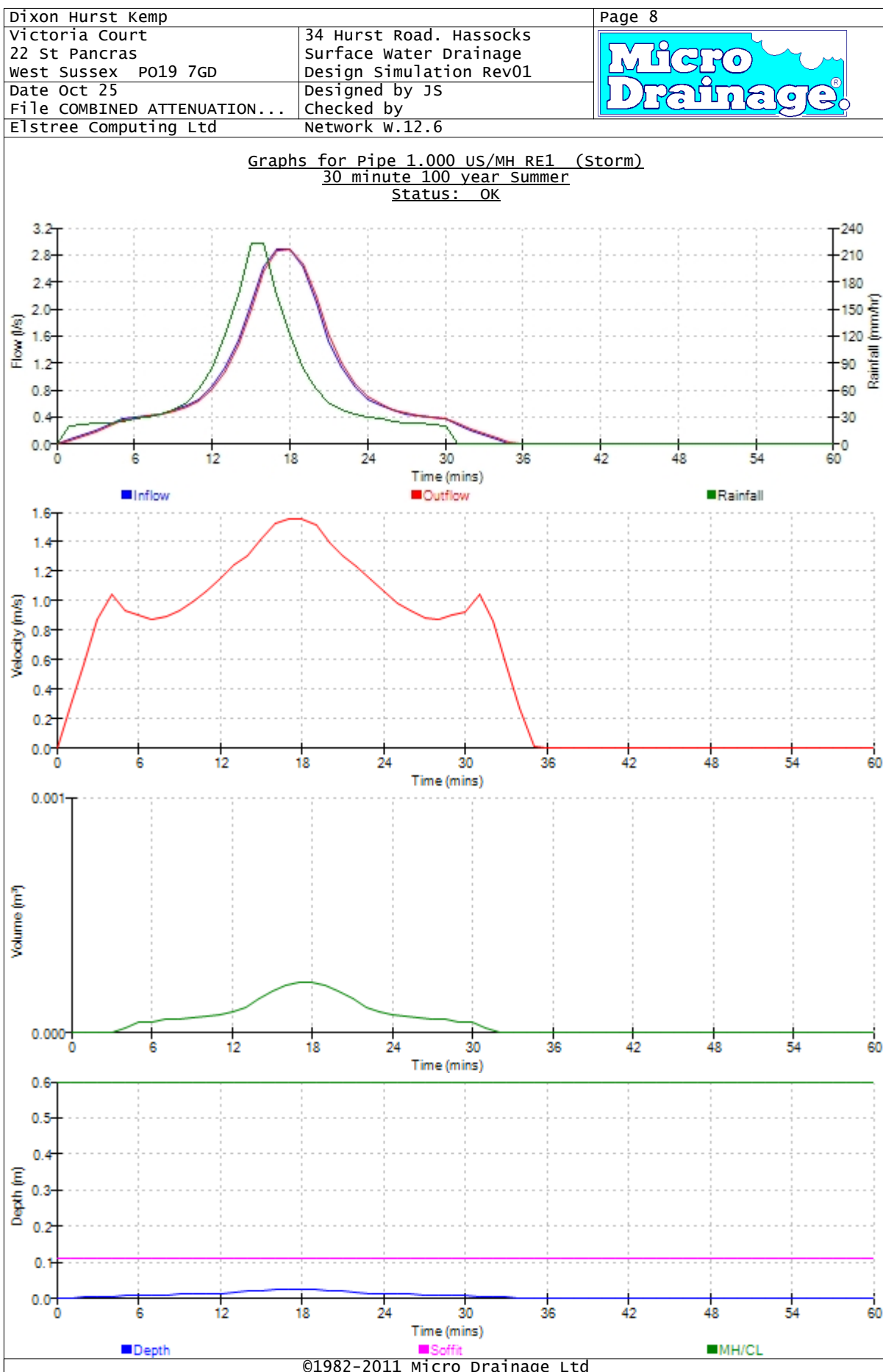
Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

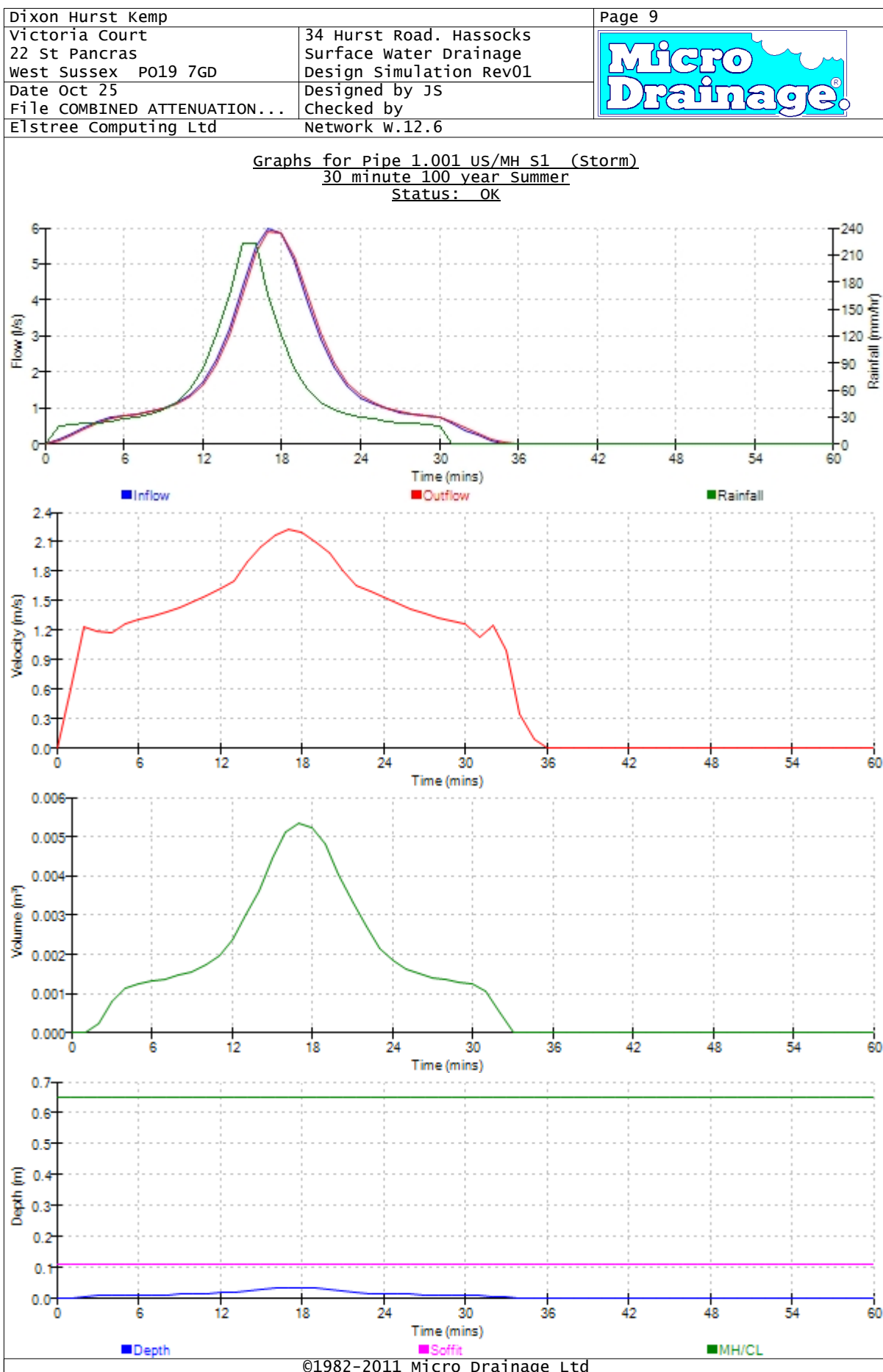
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	RE1	65.428	-0.082	0.000	0.14	0.0	2.9	OK
1.001	S1	65.036	-0.074	0.000	0.23	0.0	5.9	OK
1.002	S2	63.895	-0.065	0.000	0.35	0.0	5.9	OK
2.000	RE2	65.425	-0.085	0.000	0.12	0.0	2.9	OK
2.001	S3	63.548	-0.062	0.000	0.39	0.0	5.9	OK
1.003	S4	63.486	0.126	0.000	0.05	0.0	0.3	SURCHARGED
1.004	Rain Garden	63.303	-0.040	0.000	0.00	0.0	0.0	OK

Dixon Hurst Kemp		Page 7
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

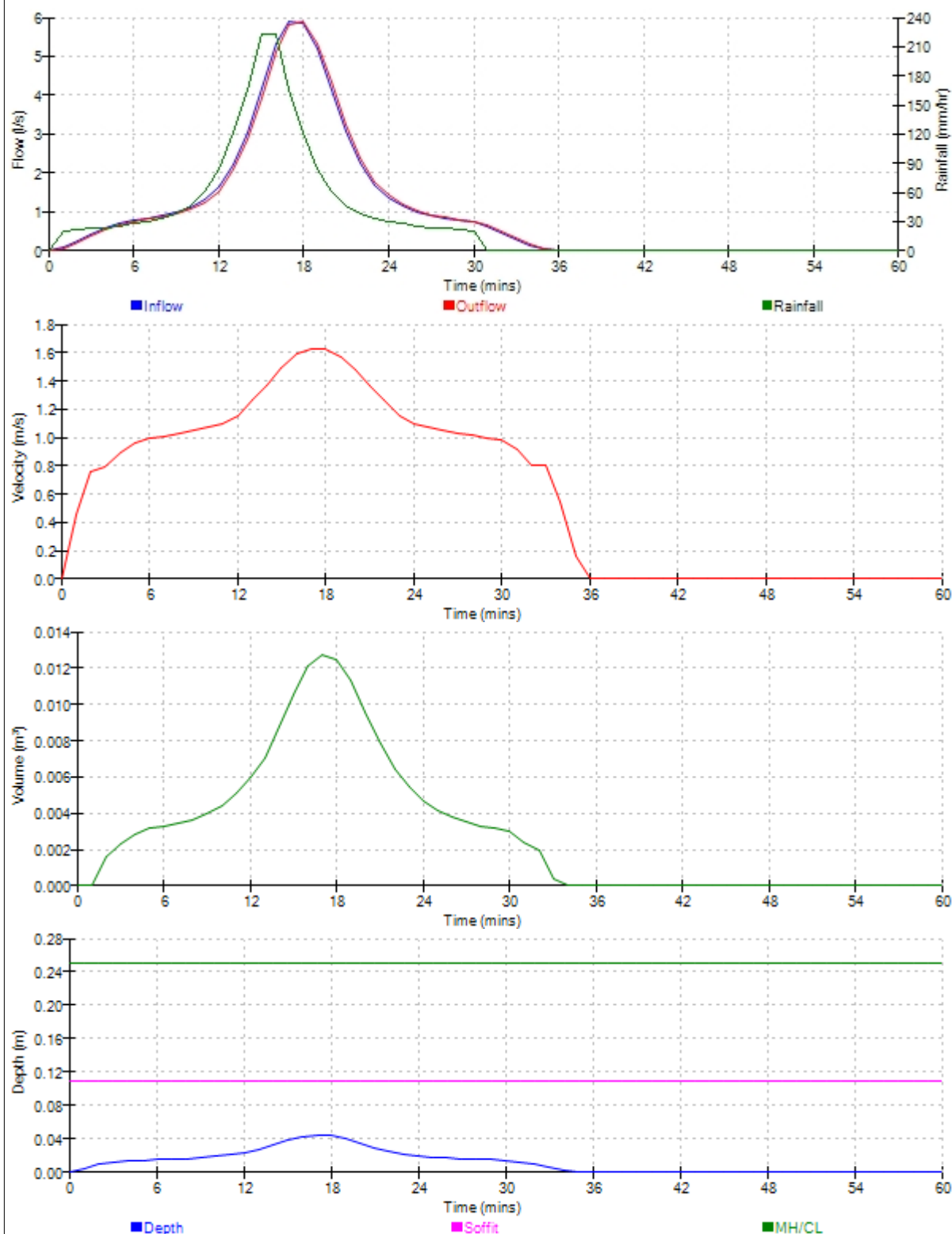
Rainfall Hyetograph for 30 minute 100 year Summer (Storm)

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	20.675	7	30.256	13	121.401	19	84.653	25	27.608
2	21.746	8	33.533	14	165.650	20	60.385	26	25.528
3	22.818	9	38.135	15	222.758	21	46.518	27	23.826
4	23.826	10	46.518	16	222.758	22	38.135	28	22.818
5	25.528	11	60.385	17	165.650	23	33.533	29	21.746
6	27.608	12	84.653	18	121.401	24	30.256	30	20.675

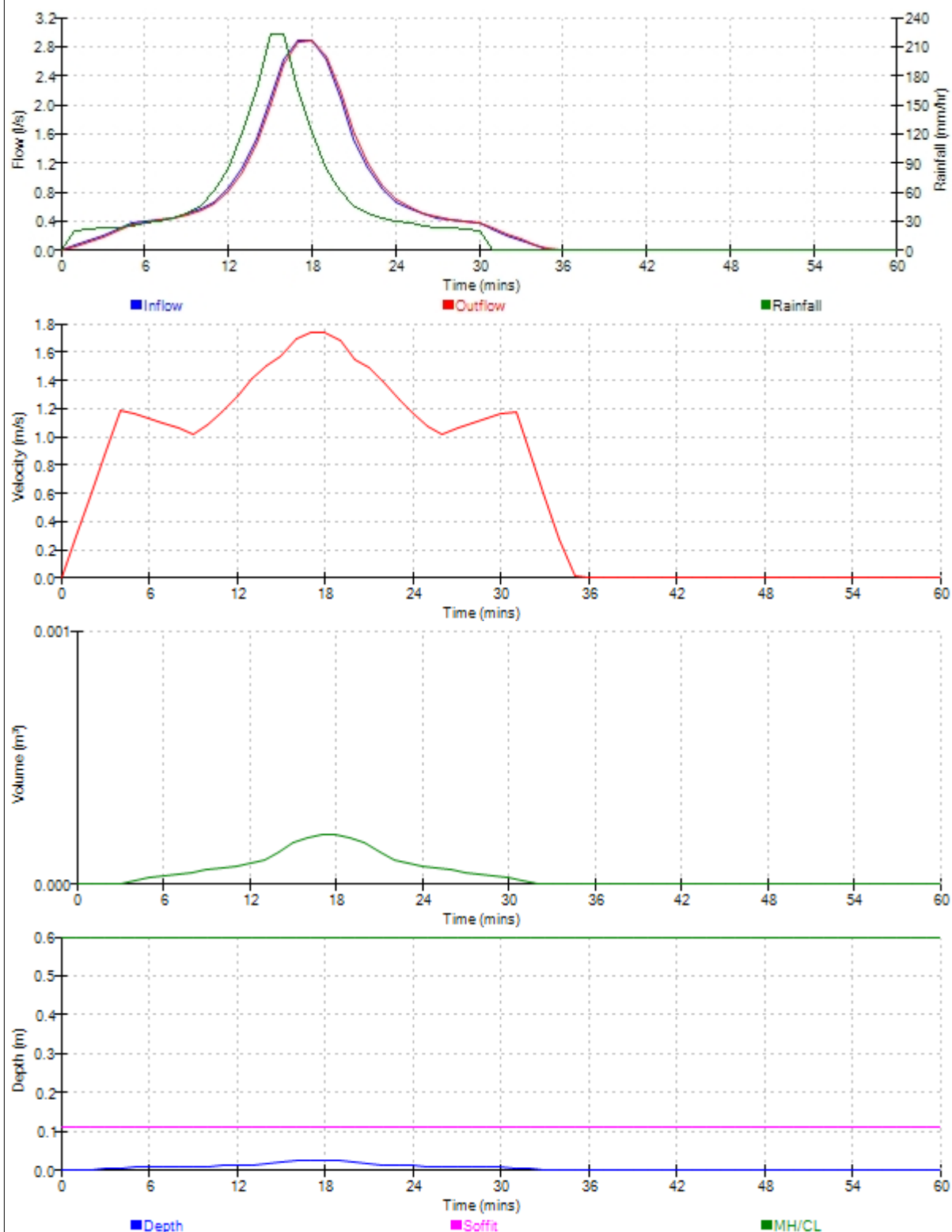


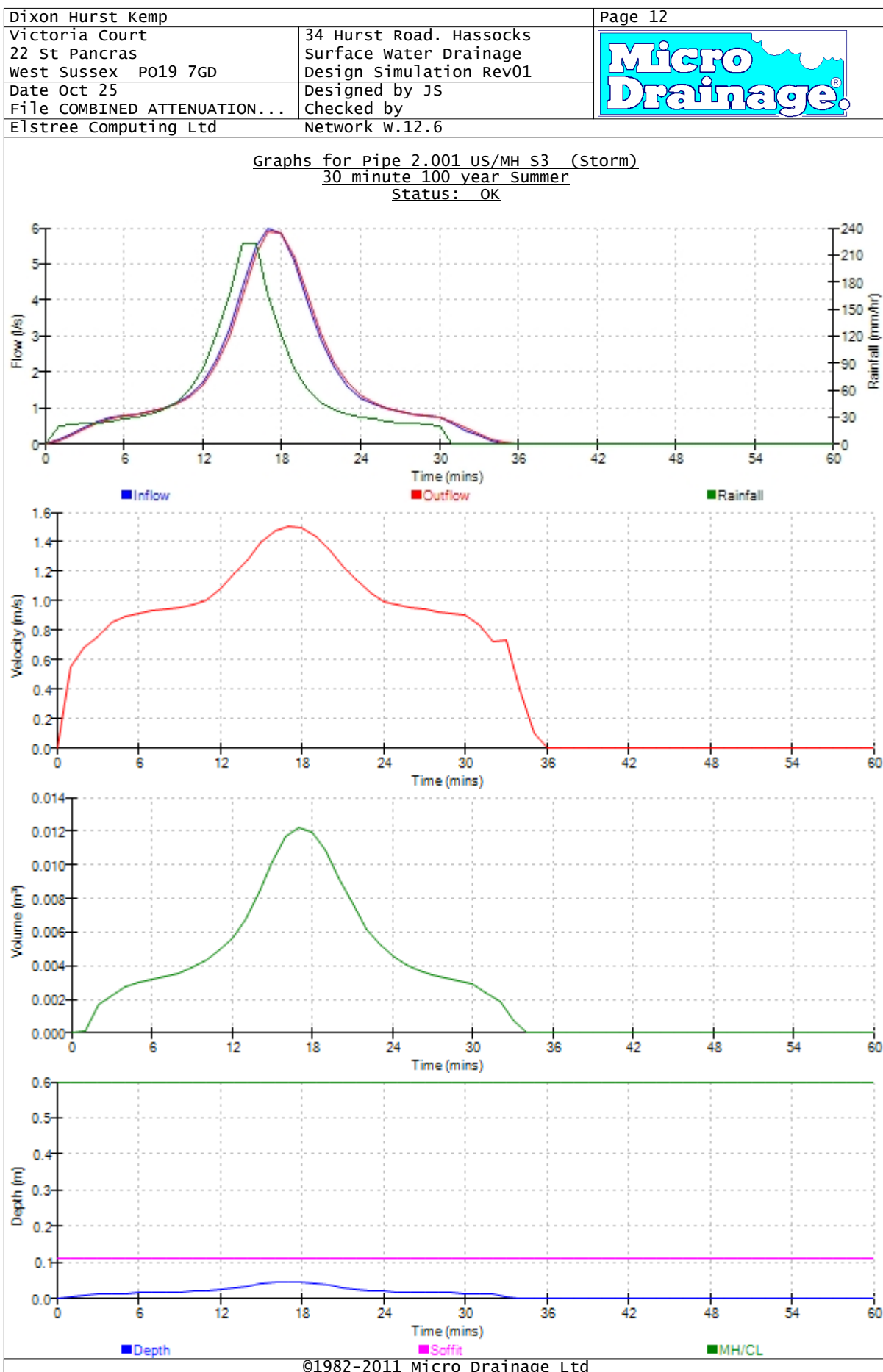


Graphs for Pipe 1.002 US/MH S2 (Storm)
 30 minute 100 year Summer
 Status: OK



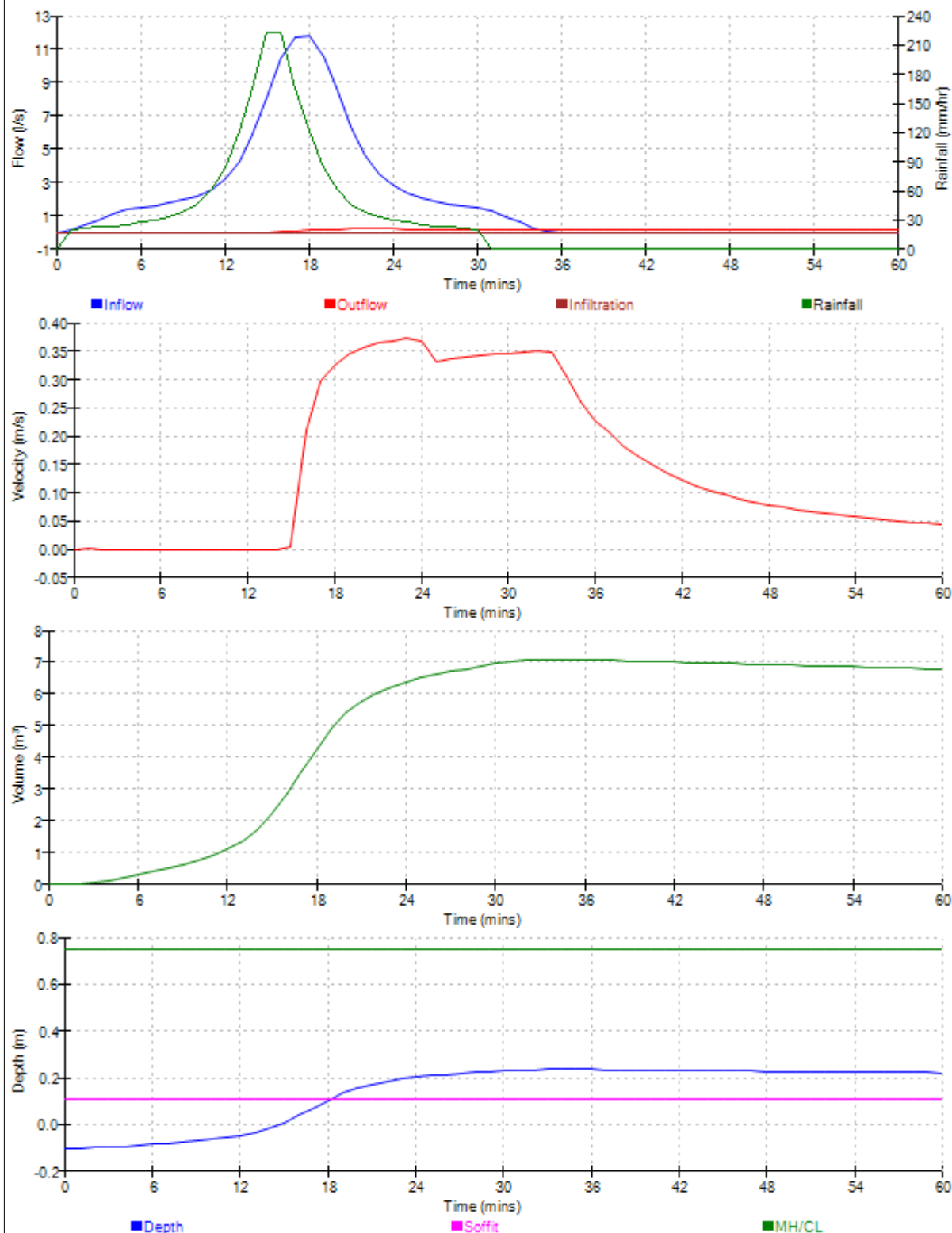
Graphs for Pipe 2.000 US/MH RE2 (Storm)
30 minute 100 year Summer
Status: OK



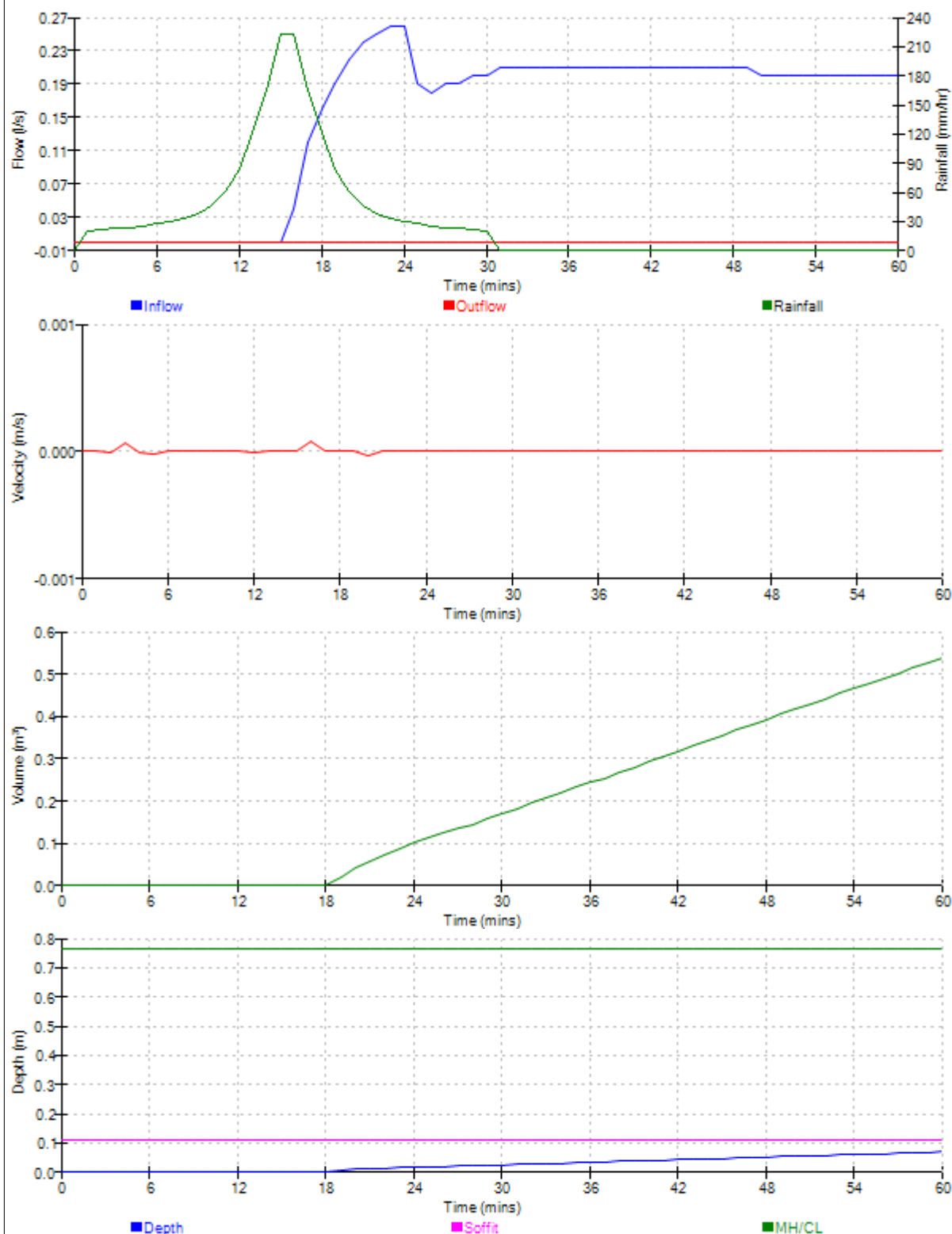


Dixon Hurst Kemp		Page 13
Victoria Court 22 St Pancras West Sussex PO19 7GD Date Oct 25 File COMBINED ATTENUATION... Elstree Computing Ltd	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
	Designed by JS Checked by Network W.12.6	

Graphs for Pipe 1.003 US/MH S4 (Storm)
30 minute 100 year Summer
Status: SURCHARGED



Graphs for Pipe 1.004 US/MH Rain Garden (Storm)
30 minute 100 year Summer
Status: OK



Dixon Hurst Kemp		Page 16
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.000 US/MH RE1 (Storm)
30 minute 100 year Summer
Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	65.400	65.000	-0.110	0.0	0.0	0.0
57	65.400	65.000	-0.110	0.0	0.0	0.0
58	65.400	65.000	-0.110	0.0	0.0	0.0
59	65.400	65.000	-0.110	0.0	0.0	0.0
60	65.400	65.000	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 18
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.001 US/MH S1 (Storm)

30 minute 100 year Summer

Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	65.000	63.850	-0.110	0.0	0.0	0.0
57	65.000	63.850	-0.110	0.0	0.0	0.0
58	65.000	63.850	-0.110	0.0	0.0	0.0
59	65.000	63.850	-0.110	0.0	0.0	0.0
60	65.000	63.850	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 20
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.002 US/MH S2 (Storm)

30 minute 100 year Summer

Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	63.850	63.473	-0.110	0.0	0.0	0.0
57	63.850	63.473	-0.110	0.0	0.0	0.0
58	63.850	63.472	-0.110	0.0	0.0	0.0
59	63.850	63.472	-0.110	0.0	0.0	0.0
60	63.850	63.471	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 22
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.000 US/MH RE2 (Storm)
30 minute 100 year Summer
Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	65.400	63.500	-0.110	0.0	0.0	0.0
57	65.400	63.500	-0.110	0.0	0.0	0.0
58	65.400	63.500	-0.110	0.0	0.0	0.0
59	65.400	63.500	-0.110	0.0	0.0	0.0
60	65.400	63.500	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp			Page 23			
Victoria Court 22 St Pancras West Sussex PO19 7GD		34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01				
Date Oct 25		Designed by JS				
File COMBINED ATTENUATION...		Checked by				
Elstree Computing Ltd		Network W.12.6				
<u>Flows and Levels for Pipe 2.001 US/MH S3 (Storm)</u> <u>30 minute 100 year Summer</u> <u>Average Rainfall Intensity 63.033 mm/hr</u>						
Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
1	63.505	63.150	-0.105	0.0	0.6	0.1
2	63.511	63.152	-0.099	0.0	0.7	0.2
3	63.513	63.154	-0.097	0.0	0.8	0.4
4	63.515	63.157	-0.095	0.0	0.9	0.6
5	63.516	63.161	-0.094	0.0	0.9	0.7
6	63.516	63.165	-0.094	0.0	0.9	0.8
7	63.517	63.170	-0.093	0.0	0.9	0.8
8	63.518	63.175	-0.092	0.0	0.9	0.9
9	63.519	63.180	-0.091	0.0	1.0	1.0
10	63.520	63.186	-0.090	0.0	1.0	1.1
11	63.522	63.194	-0.088	0.0	1.0	1.3
12	63.525	63.203	-0.085	0.0	1.1	1.6
13	63.529	63.216	-0.081	0.0	1.2	2.2
14	63.535	63.233	-0.075	0.0	1.3	3.0
15	63.541	63.256	-0.069	0.0	1.4	4.1
16	63.546	63.287	-0.064	0.0	1.5	5.3
17	63.548	63.320	-0.062	0.0	1.5	5.9
18	63.547	63.353	-0.063	0.0	1.5	5.9
19	63.544	63.383	-0.066	0.0	1.4	5.2
20	63.538	63.406	-0.072	0.0	1.3	4.2
21	63.532	63.423	-0.078	0.0	1.2	3.1
22	63.527	63.436	-0.083	0.0	1.1	2.3
23	63.524	63.445	-0.086	0.0	1.1	1.7
24	63.521	63.452	-0.089	0.0	1.0	1.4
25	63.519	63.458	-0.091	0.0	1.0	1.2
26	63.518	63.463	-0.092	0.0	1.0	1.0
27	63.517	63.468	-0.093	0.0	0.9	0.9
28	63.516	63.471	-0.094	0.0	0.9	0.8
29	63.516	63.475	-0.094	0.0	0.9	0.8
30	63.515	63.479	-0.095	0.0	0.9	0.7
31	63.513	63.482	-0.097	0.0	0.8	0.6
32	63.512	63.484	-0.098	0.0	0.7	0.4
33	63.507	63.485	-0.103	0.0	0.7	0.3
34	63.502	63.486	-0.108	0.0	0.4	0.1
35	63.500	63.485	-0.110	0.0	0.1	0.0
36	63.500	63.485	-0.110	0.0	0.0	0.0
37	63.500	63.484	-0.110	0.0	0.0	0.0
38	63.500	63.484	-0.110	0.0	0.0	0.0
39	63.500	63.483	-0.110	0.0	0.0	0.0
40	63.500	63.483	-0.110	0.0	0.0	0.0
41	63.500	63.482	-0.110	0.0	0.0	0.0
42	63.500	63.481	-0.110	0.0	0.0	0.0
43	63.500	63.481	-0.110	0.0	0.0	0.0
44	63.500	63.480	-0.110	0.0	0.0	0.0
45	63.500	63.480	-0.110	0.0	0.0	0.0
46	63.500	63.479	-0.110	0.0	0.0	0.0
47	63.500	63.478	-0.110	0.0	0.0	0.0
48	63.500	63.478	-0.110	0.0	0.0	0.0
49	63.500	63.477	-0.110	0.0	0.0	0.0
50	63.500	63.477	-0.110	0.0	0.0	0.0
51	63.500	63.476	-0.110	0.0	0.0	0.0
52	63.500	63.476	-0.110	0.0	0.0	0.0
53	63.500	63.475	-0.110	0.0	0.0	0.0
54	63.500	63.474	-0.110	0.0	0.0	0.0
55	63.500	63.474	-0.110	0.0	0.0	0.0
©1982-2011 Micro Drainage Ltd						

Dixon Hurst Kemp		Page 24
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.001 US/MH S3 (Storm)

30 minute 100 year Summer

Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	63.500	63.473	-0.110	0.0	0.0	0.0
57	63.500	63.473	-0.110	0.0	0.0	0.0
58	63.500	63.472	-0.110	0.0	0.0	0.0
59	63.500	63.472	-0.110	0.0	0.0	0.0
60	63.500	63.471	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 26
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.003 US/MH S4 (Storm)

30 minute 100 year Summer

Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	63.473	63.297	0.113	0.0	0.1	0.2
57	63.473	63.299	0.113	0.0	0.0	0.2
58	63.472	63.300	0.112	0.0	0.0	0.2
59	63.472	63.302	0.112	0.0	0.0	0.2
60	63.471	63.303	0.111	0.0	0.0	0.2

Dixon Hurst Kemp		Page 28
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.004 US/MH Rain Garden (Storm)
30 minute 100 year Summer
Average Rainfall Intensity 63.033 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
56	63.297	63.234	-0.046	0.0	0.0	0.0
57	63.299	63.234	-0.044	0.0	0.0	0.0
58	63.300	63.234	-0.043	0.0	0.0	0.0
59	63.302	63.234	-0.041	0.0	0.0	0.0
60	63.303	63.234	-0.040	0.0	0.0	0.0

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2
M5-60 (mm)	20.000
Ratio R	0.343
Maximum Rainfall (mm/hr)	50
Foul Sewage (l/s/ha)	0.00
Volumetric Runoff Coeff.	1.000
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	0.200
Min Design Depth for Optimisation (m)	0.200
Min Vel for Auto Design only (m/s)	0.76
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.014	4-8	0.002

Total Area Contributing (ha) = 0.016

Total Pipe Volume (m³) = 0.455

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	3.600	0.360	10.0	0.004	5.00	0.0	0.600	o	110
1.001	9.200	1.150	8.0	0.004	0.00	0.0	0.600	o	110
1.002	11.200	0.600	18.7	0.000	0.00	0.0	0.600	o	110
2.000	16.200	1.620	10.0	0.004	5.00	0.0	0.600	o	110
2.001	5.000	0.250	20.0	0.004	0.00	0.0	0.600	o	110
1.003	1.700	0.017	100.0	0.000	0.00	0.0	0.600	o	110
1.004	1.000	0.010	100.0	0.000	0.00	0.0	0.600	o	110

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)
1.000	50.00	5.02	65.400	0.004	0.0	0.0	0.0	2.62	24.9	0.7
1.001	50.00	5.08	65.000	0.008	0.0	0.0	0.0	2.93	27.8	1.4
1.002	50.00	5.17	63.850	0.008	0.0	0.0	0.0	1.91	18.2	1.4
2.000	50.00	5.10	65.400	0.004	0.0	0.0	0.0	2.62	24.9	0.7
2.001	50.00	5.15	63.500	0.008	0.0	0.0	0.0	1.85	17.6	1.4
1.003	50.00	5.21	63.250	0.016	0.0	0.0	0.0	0.82	7.8	2.9
1.004	50.00	5.23	63.233	0.016	0.0	0.0	0.0	0.82	7.8	2.9

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)
RE1	66.000	0.600	Open Manhole	110	1.000	65.400	110			
S1	65.650	0.650	Open Manhole	450	1.001	65.000	110	1.000	65.040	110
S2	64.100	0.250	Open Manhole	600	1.002	63.850	110	1.001	63.850	110
RE2	66.000	0.600	Open Manhole	110	2.000	65.400	110			
S3	64.100	0.600	Open Manhole	600	2.001	63.500	110	2.000	63.780	110
S4	64.000	0.750	Open Manhole	600	1.003	63.250	110	1.002	63.250	110
								2.001	63.250	110
Rain Garden	64.000	0.767	Open Manhole	7500 x 1100	1.004	63.233	110	1.003	63.233	110
Dummy	63.700	0.477	Open Manhole	450 x 450		OUTFALL		1.004	63.223	110

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	110	RE1	66.000	65.400	0.490	Open Manhole	110
1.001	o	110	S1	65.650	65.000	0.540	Open Manhole	450
1.002	o	110	S2	64.100	63.850	0.140	Open Manhole	600
2.000	o	110	RE2	66.000	65.400	0.490	Open Manhole	110
2.001	o	110	S3	64.100	63.500	0.490	Open Manhole	600
1.003	o	110	S4	64.000	63.250	0.640	Open Manhole	600
1.004	o	110	Rain Garden	64.000	63.233	0.657	Open Manhole	7500 x 1100

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	3.600	10.0	S1	65.650	65.040	0.500	Open Manhole	450
1.001	9.200	8.0	S2	64.100	63.850	0.140	Open Manhole	600
1.002	11.200	18.7	S4	64.000	63.250	0.640	Open Manhole	600
2.000	16.200	10.0	S3	64.100	63.780	0.210	Open Manhole	600
2.001	5.000	20.0	S4	64.000	63.250	0.640	Open Manhole	600
1.003	1.700	100.0	Rain Garden	64.000	63.233	0.657	Open Manhole	7500 x 1100
1.004	1.000	100.0	Dummy	63.700	63.223	0.367	Open Manhole	450 x 450

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Setting Out Information - True Coordinates (Storm)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
1.000	RE1	110				
1.001	S1	450				
1.002	S2	600				
2.000	RE2	110				
2.001	S3	600				
1.003	S4	600				
1.004	Rain Garden	7500	1100			

PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)
1.004	Dummy	450	450			

Dixon Hurst Kemp		Page 5
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Setting Out Information - Site Coordinates (Storm)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
1.000	RE1	110				●
1.001	S1	450				●
1.002	S2	600				●
2.000	RE2	110				●
2.001	S3	600				●
1.003	S4	600				●
1.004	Rain Garden	7500	1100			■

PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)
1.004	Dummy	450	450			■

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.004	Dummy	63.700	63.223	63.230	450	450

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Foul Sewage per hectare (l/s)	0.000
Area Reduction Factor	1.000	Additional Flow - % of Total Flow	45.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Run Time (mins)	720
Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)	6

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0		

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Winter
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	360
Ratio R	0.343		

Dixon Hurst Kemp		Page 6
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Online Controls for Storm

Orifice Manhole: S4, DS/PN: 1.003, Volume (m³): 0.4

Diameter (m) 0.017 Discharge Coefficient 0.600 Invert Level (m) 63.250

Depth/Flow Relationship Manhole: Rain Garden, DS/PN: 1.004, Volume (m³): 6.3

Invert Level (m) 63.233

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	0.0000	0.400	0.0000

Dixon Hurst Kemp		Page 7
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Storage Structures for Storm

Cellular Storage Manhole: S4, DS/PN: 1.003

Invert Level (m) 63.150
 Infiltration Coefficient Base (m/hr) 0.00000
 Infiltration Coefficient Side (m/hr) 0.00000
 Safety Factor 2.0
 Porosity 0.95

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	21.8	21.8	0.500	0.0	34.6
0.400	21.8	34.6			

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
1.000	RE1	0.500
1.001	S1	0.500
1.002	S2	0.500
2.000	RE2	0.500
2.001	S3	0.500
1.003	S4	0.500
1.004	Rain Garden	0.500

Dixon Hurst Kemp		Page 8
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Summary of Results for 360 minute 100 year Winter (Storm)

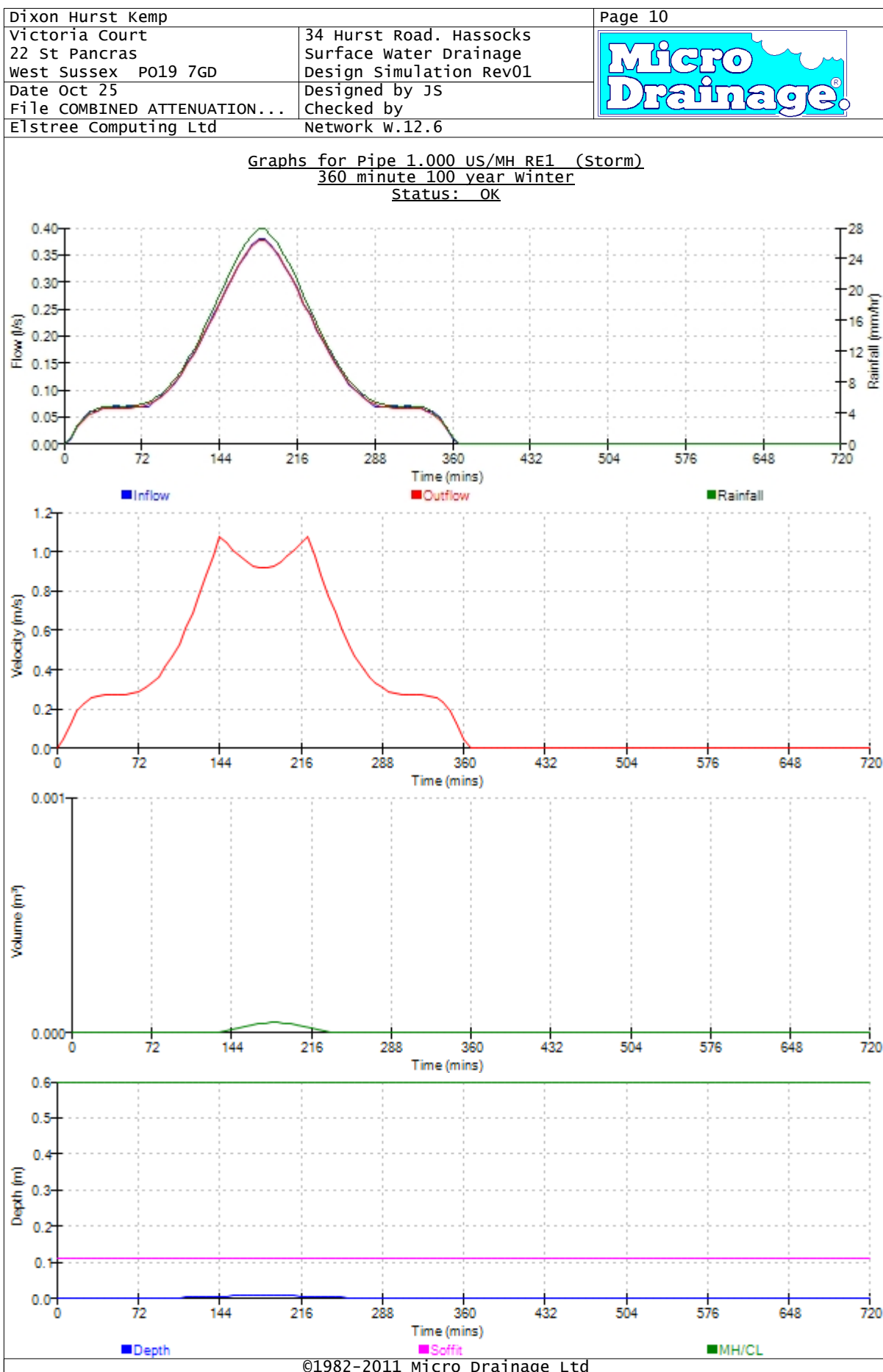
Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

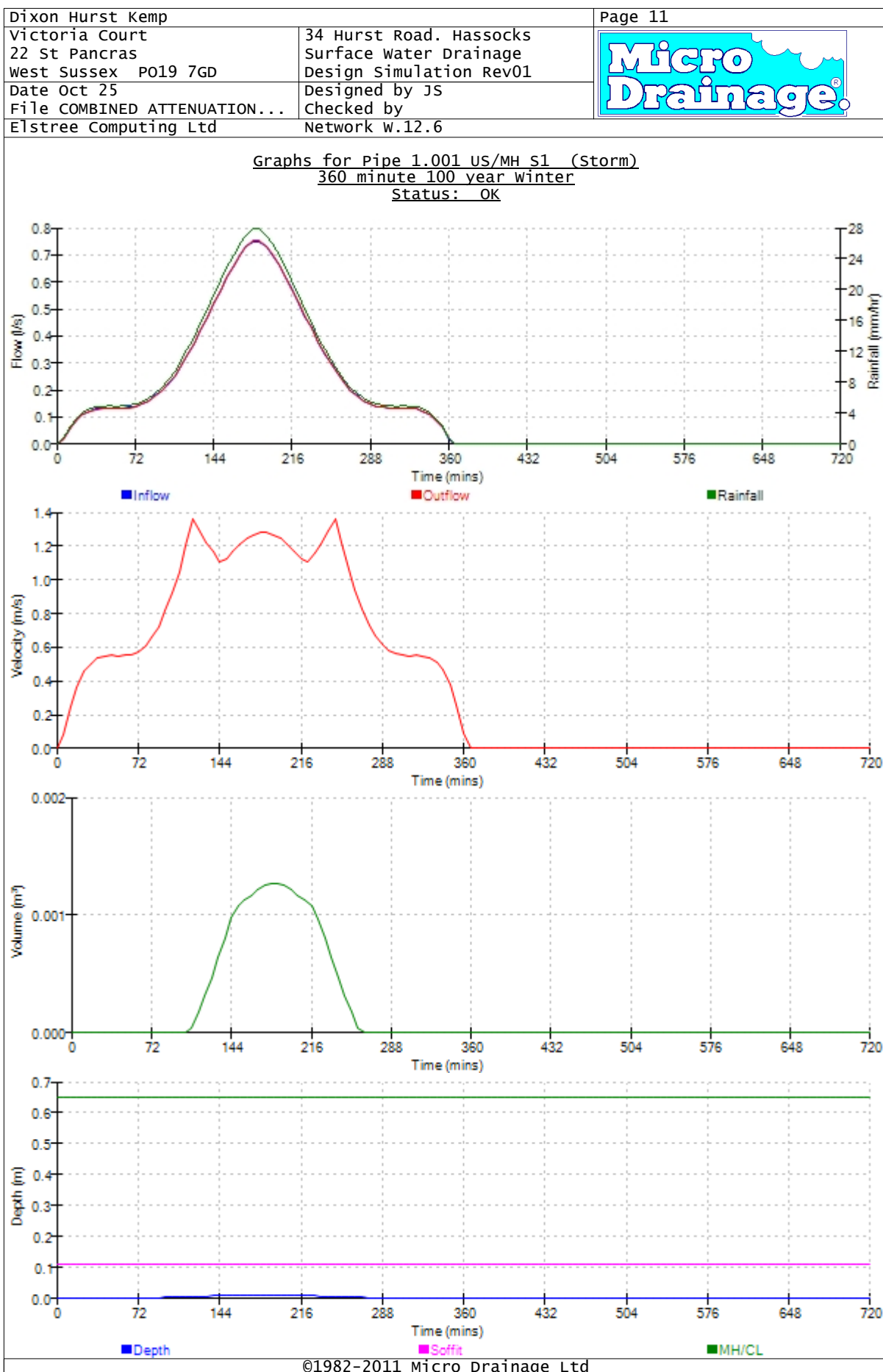
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	RE1	65.410	-0.100	0.000	0.02	0.0	0.4	OK
1.001	S1	65.012	-0.098	0.000	0.03	0.0	0.8	OK
1.002	S2	63.865	-0.095	0.000	0.04	0.0	0.8	OK
2.000	RE2	65.408	-0.102	0.000	0.02	0.0	0.4	OK
2.001	S3	63.831	0.221	0.000	0.05	0.0	0.8	SURCHARGED
1.003	S4	63.830	0.470	0.000	0.07	0.0	0.4	SURCHARGED
1.004	Rain Garden	63.641	0.298	0.000	0.00	0.0	0.0	SURCHARGED

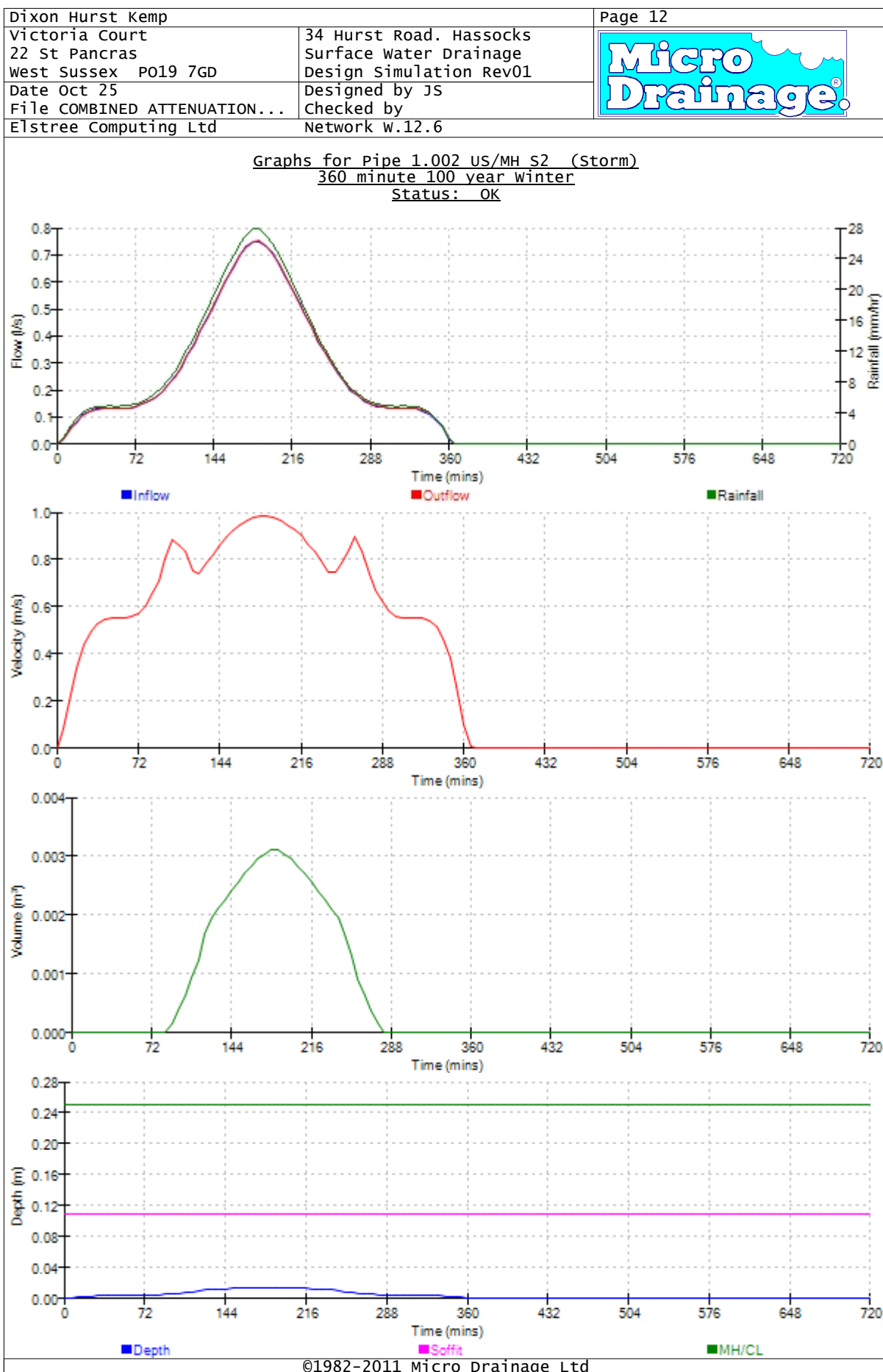
Dixon Hurst Kemp		Page 9
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

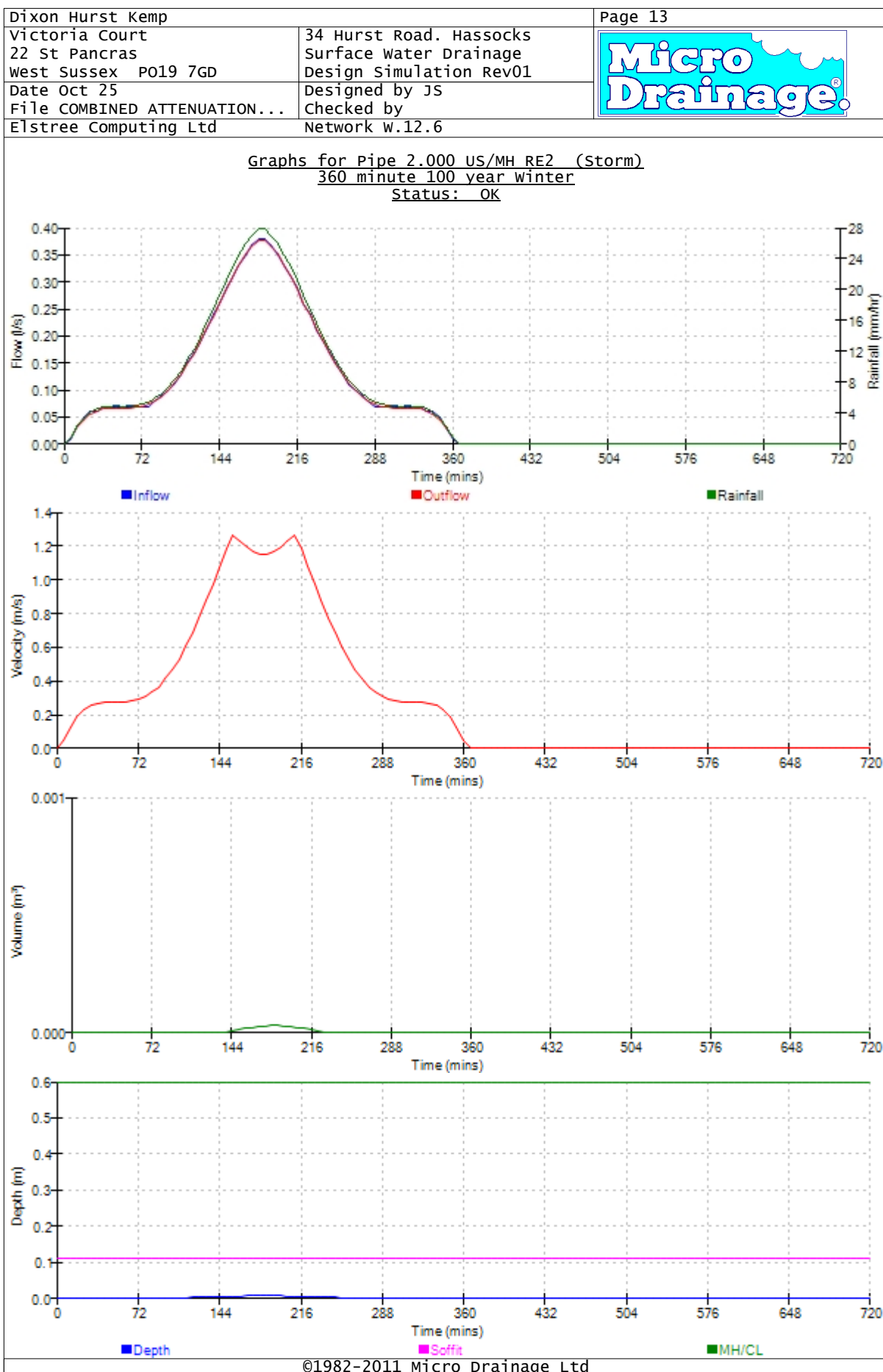
Rainfall Hyetograph for 360 minute 100 year Winter (Storm)

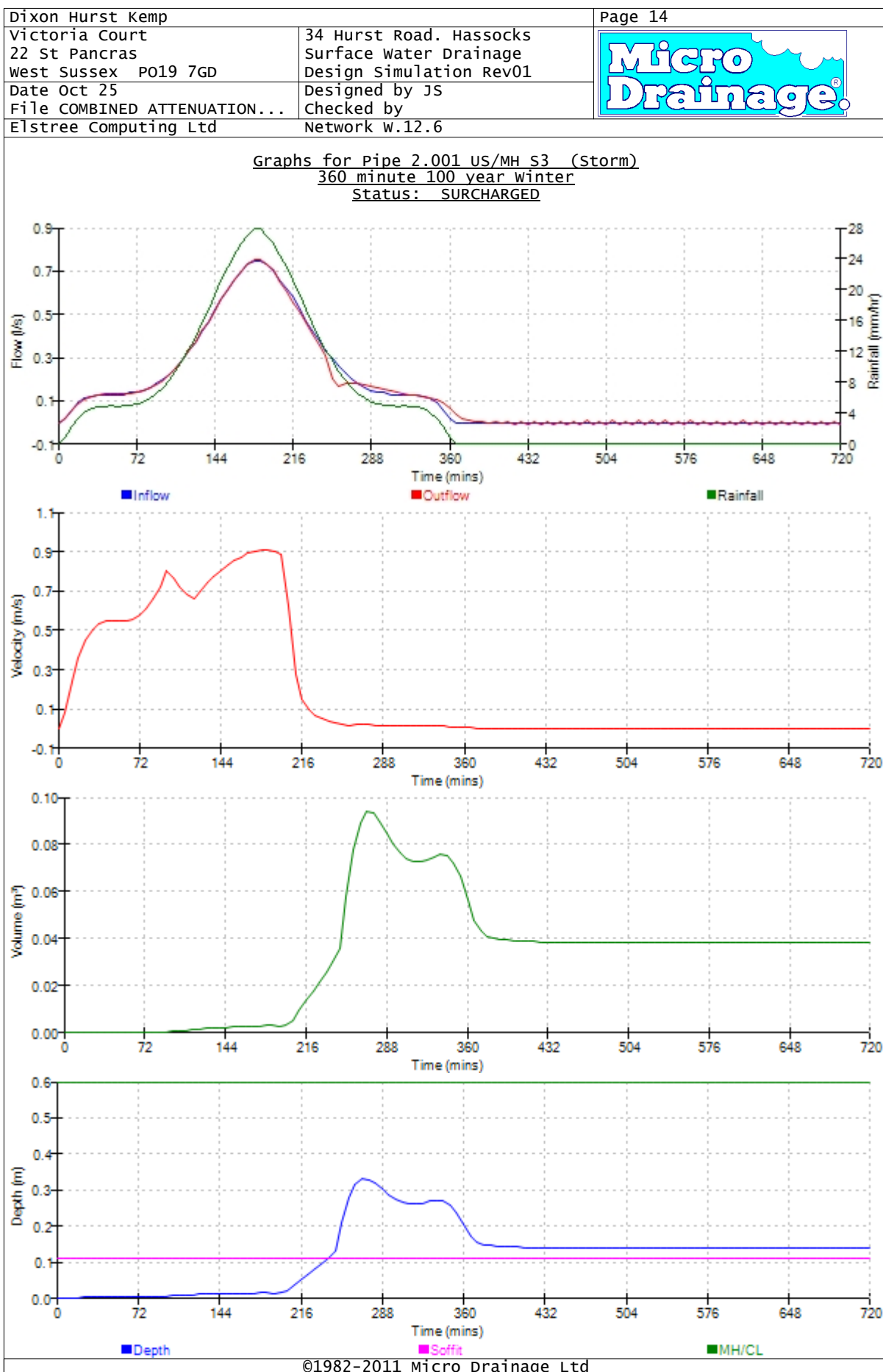
Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)
6	0.786	78	5.492	150	21.205	222	19.245	294	5.166
12	2.261	84	5.936	156	22.874	228	17.487	300	5.005
18	3.343	90	6.525	162	24.430	234	15.755	306	4.930
24	4.143	96	7.391	168	25.958	240	13.886	312	4.919
30	4.568	102	8.344	174	27.042	246	12.332	318	4.930
36	4.809	108	9.453	180	27.824	252	10.894	324	4.916
42	4.916	114	10.894	186	27.824	258	9.453	330	4.809
48	4.929	120	12.332	192	27.042	264	8.344	336	4.568
54	4.919	126	13.886	198	25.958	270	7.391	342	4.143
60	4.930	132	15.755	204	24.430	276	6.525	348	3.344
66	5.005	138	17.487	210	22.874	282	5.936	354	2.261
72	5.166	144	19.245	216	21.205	288	5.492	360	0.786



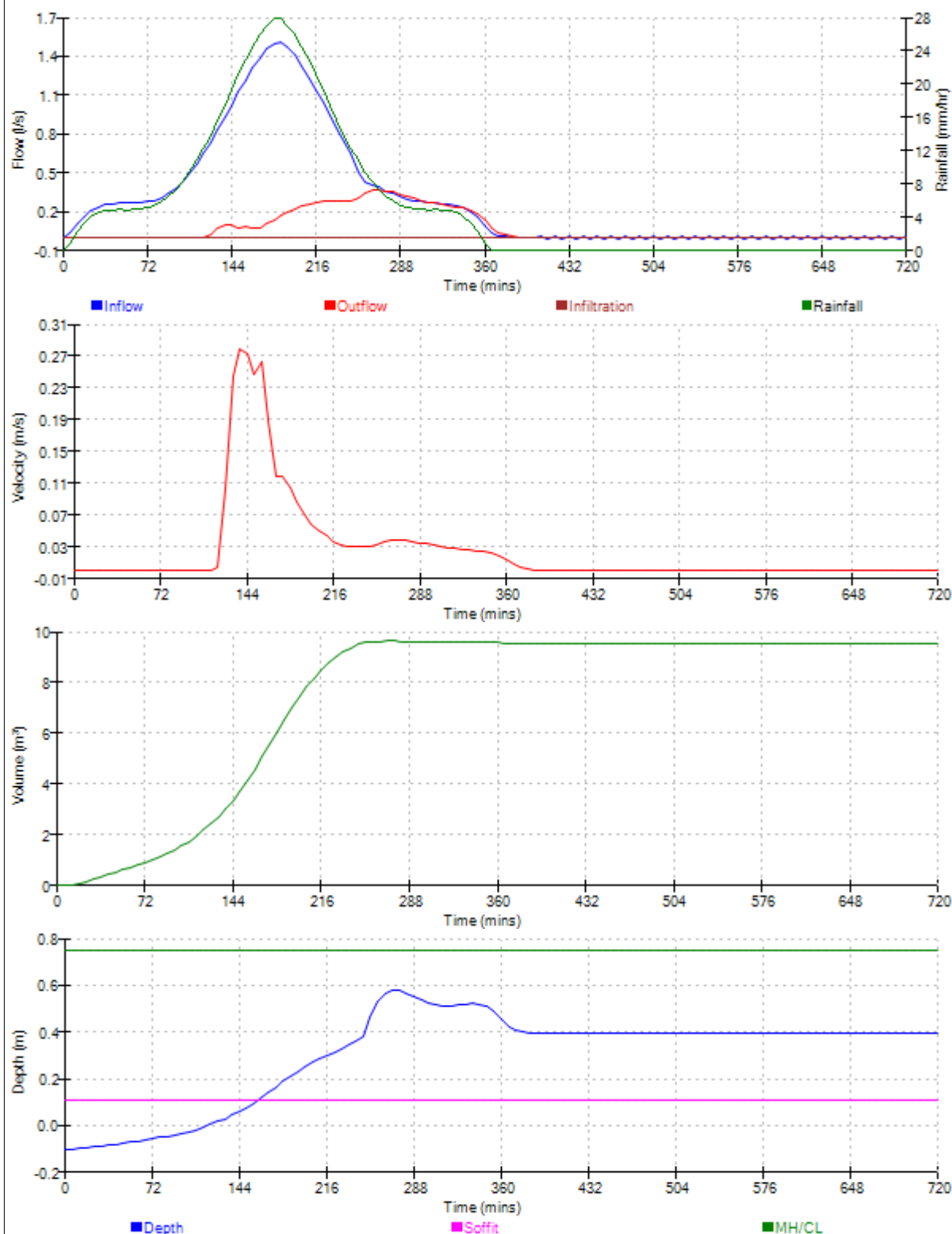




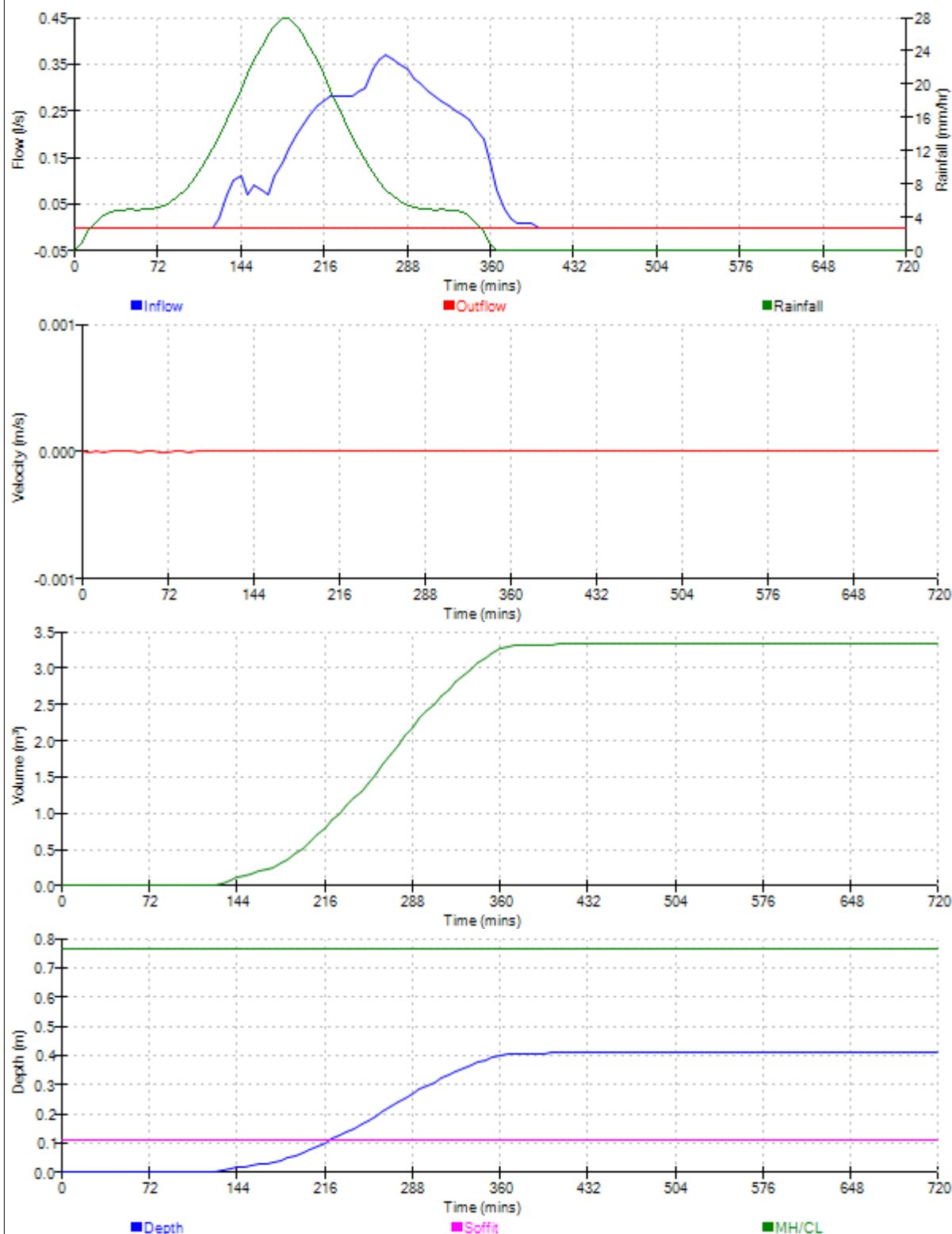




Graphs for Pipe 1.003 US/MH S4 (Storm)
360 minute 100 year winter
Status: SURCHARGED



Graphs for Pipe 1.004 US/MH Rain Garden (Storm)
360 minute 100 year winter
Status: SURCHARGED



Dixon Hurst Kemp		Page 19
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.000 US/MH RE1 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
666	65.400	65.000	-0.110	0.0	0.0	0.0
672	65.400	65.000	-0.110	0.0	0.0	0.0
678	65.400	65.000	-0.110	0.0	0.0	0.0
684	65.400	65.000	-0.110	0.0	0.0	0.0
690	65.400	65.000	-0.110	0.0	0.0	0.0
696	65.400	65.000	-0.110	0.0	0.0	0.0
702	65.400	65.000	-0.110	0.0	0.0	0.0
708	65.400	65.000	-0.110	0.0	0.0	0.0
714	65.400	65.000	-0.110	0.0	0.0	0.0
720	65.400	65.000	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 22
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.001 US/MH S1 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
666	65.000	63.850	-0.110	0.0	0.0	0.0
672	65.000	63.850	-0.110	0.0	0.0	0.0
678	65.000	63.850	-0.110	0.0	0.0	0.0
684	65.000	63.850	-0.110	0.0	0.0	0.0
690	65.000	63.850	-0.110	0.0	0.0	0.0
696	65.000	63.850	-0.110	0.0	0.0	0.0
702	65.000	63.850	-0.110	0.0	0.0	0.0
708	65.000	63.850	-0.110	0.0	0.0	0.0
714	65.000	63.850	-0.110	0.0	0.0	0.0
720	65.000	63.850	-0.110	0.0	0.0	0.0

Flows and Levels for Pipe 1.002 US/MH S2 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
6	63.851	63.151	-0.109	0.0	0.1	0.0
12	63.852	63.152	-0.108	0.0	0.2	0.1
18	63.853	63.155	-0.107	0.0	0.3	0.1
24	63.853	63.158	-0.107	0.0	0.4	0.1
30	63.854	63.162	-0.106	0.0	0.5	0.1
36	63.854	63.167	-0.106	0.0	0.5	0.1
42	63.854	63.171	-0.106	0.0	0.5	0.1
48	63.854	63.176	-0.106	0.0	0.6	0.1
54	63.854	63.180	-0.106	0.0	0.6	0.1
60	63.854	63.185	-0.106	0.0	0.6	0.1
66	63.854	63.190	-0.106	0.0	0.6	0.1
72	63.854	63.194	-0.106	0.0	0.6	0.1
78	63.855	63.199	-0.105	0.0	0.6	0.1
84	63.855	63.205	-0.105	0.0	0.7	0.2
90	63.855	63.210	-0.105	0.0	0.7	0.2
96	63.856	63.217	-0.104	0.0	0.8	0.2
102	63.857	63.224	-0.103	0.0	0.9	0.2
108	63.858	63.233	-0.102	0.0	0.9	0.2
114	63.859	63.242	-0.101	0.0	0.8	0.3
120	63.860	63.255	-0.100	0.0	0.8	0.3
126	63.861	63.267	-0.099	0.0	0.7	0.4
132	63.862	63.280	-0.098	0.0	0.8	0.4
138	63.862	63.294	-0.098	0.0	0.8	0.5
144	63.863	63.310	-0.097	0.0	0.9	0.5
150	63.863	63.328	-0.097	0.0	0.9	0.6
156	63.864	63.347	-0.096	0.0	0.9	0.6
162	63.864	63.370	-0.096	0.0	0.9	0.7
168	63.864	63.392	-0.096	0.0	1.0	0.7
174	63.865	63.415	-0.095	0.0	1.0	0.7
180	63.865	63.438	-0.095	0.0	1.0	0.8
186	63.865	63.460	-0.095	0.0	1.0	0.8
192	63.865	63.482	-0.095	0.0	1.0	0.7
198	63.864	63.502	-0.096	0.0	1.0	0.7
204	63.864	63.520	-0.096	0.0	0.9	0.7
210	63.864	63.536	-0.096	0.0	0.9	0.6
216	63.863	63.551	-0.097	0.0	0.9	0.6
222	63.863	63.565	-0.097	0.0	0.9	0.5
228	63.862	63.579	-0.098	0.0	0.8	0.5
234	63.862	63.594	-0.098	0.0	0.8	0.4
240	63.861	63.611	-0.099	0.0	0.7	0.4
246	63.860	63.631	-0.100	0.0	0.7	0.3
252	63.859	63.710	-0.101	0.0	0.8	0.3
258	63.858	63.779	-0.102	0.0	0.8	0.3
264	63.857	63.816	-0.103	0.0	0.9	0.2
270	63.856	63.830	-0.104	0.0	0.8	0.2
276	63.855	63.828	-0.105	0.0	0.7	0.2
282	63.855	63.818	-0.105	0.0	0.7	0.2
288	63.855	63.804	-0.105	0.0	0.6	0.2
294	63.854	63.788	-0.106	0.0	0.6	0.1
300	63.854	63.775	-0.106	0.0	0.6	0.1
306	63.854	63.766	-0.106	0.0	0.6	0.1
312	63.854	63.761	-0.106	0.0	0.6	0.1
318	63.854	63.761	-0.106	0.0	0.6	0.1
324	63.854	63.764	-0.106	0.0	0.5	0.1
330	63.854	63.769	-0.106	0.0	0.5	0.1

Dixon Hurst Kemp		Page 25
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.002 US/MH S2 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
666	63.850	63.641	-0.110	0.0	0.0	0.0
672	63.850	63.641	-0.110	0.0	0.0	0.0
678	63.850	63.641	-0.110	0.0	0.0	0.0
684	63.850	63.641	-0.110	0.0	0.0	0.0
690	63.850	63.641	-0.110	0.0	0.0	0.0
696	63.850	63.641	-0.110	0.0	0.0	0.0
702	63.850	63.641	-0.110	0.0	0.0	0.0
708	63.850	63.641	-0.110	0.0	0.0	0.0
714	63.850	63.641	-0.110	0.0	0.0	0.0
720	63.850	63.641	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 28
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.000 US/MH RE2 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
666	65.400	63.642	-0.110	0.0	0.0	0.0
672	65.400	63.641	-0.110	0.0	0.0	0.0
678	65.400	63.641	-0.110	0.0	0.0	0.0
684	65.400	63.641	-0.110	0.0	0.0	0.0
690	65.400	63.641	-0.110	0.0	0.0	0.0
696	65.400	63.641	-0.110	0.0	0.0	0.0
702	65.400	63.641	-0.110	0.0	0.0	0.0
708	65.400	63.641	-0.110	0.0	0.0	0.0
714	65.400	63.642	-0.110	0.0	0.0	0.0
720	65.400	63.641	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 31
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.001 US/MH S3 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
666	63.642	63.641	0.032	0.0	0.0	0.0
672	63.641	63.641	0.031	0.0	0.0	0.0
678	63.641	63.641	0.031	0.0	0.0	0.0
684	63.641	63.641	0.031	0.0	0.0	0.0
690	63.641	63.641	0.031	0.0	0.0	0.0
696	63.641	63.641	0.031	0.0	0.0	0.0
702	63.641	63.641	0.031	0.0	0.0	0.0
708	63.641	63.641	0.031	0.0	0.0	0.0
714	63.642	63.641	0.032	0.0	0.0	0.0
720	63.641	63.641	0.031	0.0	0.0	0.0

Flows and Levels for Pipe 1.003 US/MH S4 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
6	63.151	63.233	-0.209	0.0	0.0	0.0
12	63.152	63.233	-0.208	0.0	0.0	0.0
18	63.155	63.233	-0.205	0.0	0.0	0.0
24	63.158	63.233	-0.202	0.0	0.0	0.0
30	63.162	63.233	-0.198	0.0	0.0	0.0
36	63.167	63.233	-0.193	0.0	0.0	0.0
42	63.171	63.233	-0.189	0.0	0.0	0.0
48	63.176	63.233	-0.184	0.0	0.0	0.0
54	63.180	63.233	-0.180	0.0	0.0	0.0
60	63.185	63.233	-0.175	0.0	0.0	0.0
66	63.190	63.233	-0.170	0.0	0.0	0.0
72	63.194	63.233	-0.166	0.0	0.0	0.0
78	63.199	63.233	-0.161	0.0	0.0	0.0
84	63.205	63.233	-0.155	0.0	0.0	0.0
90	63.210	63.233	-0.150	0.0	0.0	0.0
96	63.217	63.233	-0.143	0.0	0.0	0.0
102	63.224	63.233	-0.136	0.0	0.0	0.0
108	63.233	63.233	-0.127	0.0	0.0	0.0
114	63.242	63.233	-0.118	0.0	0.0	0.0
120	63.255	63.233	-0.105	0.0	0.0	0.0
126	63.267	63.235	-0.093	0.0	0.1	0.0
132	63.280	63.240	-0.080	0.0	0.2	0.1
138	63.294	63.246	-0.066	0.0	0.3	0.1
144	63.310	63.251	-0.050	0.0	0.3	0.1
150	63.328	63.254	-0.032	0.0	0.2	0.1
156	63.347	63.257	-0.013	0.0	0.3	0.1
162	63.370	63.261	0.010	0.0	0.2	0.1
168	63.392	63.264	0.032	0.0	0.1	0.1
174	63.415	63.269	0.055	0.0	0.1	0.1
180	63.438	63.275	0.078	0.0	0.1	0.1
186	63.460	63.283	0.100	0.0	0.1	0.2
192	63.482	63.291	0.122	0.0	0.1	0.2
198	63.502	63.301	0.142	0.0	0.1	0.2
204	63.520	63.311	0.160	0.0	0.1	0.2
210	63.536	63.323	0.176	0.0	0.0	0.3
216	63.551	63.335	0.191	0.0	0.0	0.3
222	63.565	63.347	0.205	0.0	0.0	0.3
228	63.579	63.359	0.219	0.0	0.0	0.3
234	63.594	63.371	0.234	0.0	0.0	0.3
240	63.611	63.384	0.251	0.0	0.0	0.3
246	63.631	63.396	0.271	0.0	0.0	0.3
252	63.710	63.409	0.350	0.0	0.0	0.3
258	63.779	63.424	0.419	0.0	0.0	0.3
264	63.816	63.440	0.456	0.0	0.0	0.4
270	63.830	63.456	0.470	0.0	0.0	0.4
276	63.828	63.472	0.468	0.0	0.0	0.4
282	63.818	63.488	0.458	0.0	0.0	0.4
288	63.804	63.502	0.444	0.0	0.0	0.3
294	63.788	63.517	0.428	0.0	0.0	0.3
300	63.775	63.530	0.415	0.0	0.0	0.3
306	63.766	63.543	0.406	0.0	0.0	0.3
312	63.761	63.555	0.401	0.0	0.0	0.3
318	63.761	63.566	0.401	0.0	0.0	0.3
324	63.764	63.578	0.404	0.0	0.0	0.3
330	63.769	63.589	0.409	0.0	0.0	0.2

Dixon Hurst Kemp		Page 34
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.003 US/MH S4 (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
666	63.641	63.641	0.281	0.0	0.0	0.0
672	63.641	63.641	0.281	0.0	0.0	0.0
678	63.641	63.641	0.281	0.0	0.0	0.0
684	63.641	63.641	0.281	0.0	0.0	0.0
690	63.641	63.641	0.281	0.0	0.0	0.0
696	63.641	63.641	0.281	0.0	0.0	0.0
702	63.641	63.641	0.281	0.0	0.0	0.0
708	63.641	63.641	0.281	0.0	0.0	0.0
714	63.641	63.641	0.281	0.0	0.0	0.0
720	63.641	63.641	0.281	0.0	0.0	0.0

Dixon Hurst Kemp		Page 37
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev01	
Date Oct 25	Designed by JS	
File COMBINED ATTENUATION...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.004 US/MH Rain Garden (Storm)
360 minute 100 year winter
Average Rainfall Intensity 11.062 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
666	63.641	63.234	0.298	0.0	0.0	0.0
672	63.641	63.234	0.298	0.0	0.0	0.0
678	63.641	63.234	0.298	0.0	0.0	0.0
684	63.641	63.234	0.298	0.0	0.0	0.0
690	63.641	63.234	0.298	0.0	0.0	0.0
696	63.641	63.234	0.298	0.0	0.0	0.0
702	63.641	63.234	0.298	0.0	0.0	0.0
708	63.641	63.234	0.298	0.0	0.0	0.0
714	63.641	63.234	0.298	0.0	0.0	0.0
720	63.641	63.234	0.298	0.0	0.0	0.0

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 1 year Return Period (+45%)

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
180 min Winter	63.372	0.122	0.0	0.2	0.2	3.3	0 K
240 min Winter	63.376	0.126	0.0	0.2	0.2	3.5	0 K
360 min Winter	63.379	0.129	0.0	0.2	0.2	3.5	0 K
480 min Winter	63.379	0.129	0.0	0.2	0.2	3.5	0 K
600 min Winter	63.377	0.127	0.0	0.2	0.2	3.5	0 K
720 min Winter	63.374	0.124	0.0	0.2	0.2	3.4	0 K
960 min Winter	63.368	0.118	0.0	0.2	0.2	3.2	0 K
1440 min Winter	63.354	0.104	0.0	0.1	0.1	2.9	0 K
2160 min Winter	63.337	0.087	0.0	0.1	0.1	2.4	0 K
2880 min Winter	63.323	0.073	0.0	0.1	0.1	2.0	0 K
4320 min Winter	63.304	0.054	0.0	0.1	0.1	1.5	0 K
5760 min Winter	63.293	0.043	0.0	0.1	0.1	1.2	0 K
7200 min Winter	63.285	0.035	0.0	0.1	0.1	1.0	0 K
8640 min Winter	63.279	0.029	0.0	0.1	0.1	0.8	0 K
10080 min Winter	63.276	0.026	0.0	0.1	0.1	0.7	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	9.076	174
240 min Winter	7.499	198
360 min Winter	5.677	274
480 min Winter	4.658	352
600 min Winter	3.996	426
720 min Winter	3.526	500
960 min Winter	2.895	644
1440 min Winter	2.194	918
2160 min Winter	1.659	1308
2880 min Winter	1.362	1684
4320 min Winter	1.032	2424
5760 min Winter	0.848	3120
7200 min Winter	0.726	3824
8640 min Winter	0.639	4576
10080 min Winter	0.574	5240

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	1	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.347	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.016

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.005	4-8	0.005	8-12	0.005

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 64.100

Cellular Storage Structure

Invert Level (m) 63.250 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	29.0	29.0	0.500	0.0	42.2
0.400	29.0	42.2			

Orifice Outflow Control

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 63.250

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 30 year Return Period (+45%)

Half Drain Time : 334 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	63.397	0.147	0.0	0.2	0.2	4.0	OK
30 min Summer	63.443	0.193	0.0	0.2	0.2	5.3	OK
60 min Summer	63.489	0.239	0.0	0.2	0.2	6.6	OK
120 min Summer	63.530	0.280	0.0	0.2	0.2	7.7	OK
180 min Summer	63.547	0.297	0.0	0.3	0.3	8.2	OK
240 min Summer	63.553	0.303	0.0	0.3	0.3	8.3	OK
360 min Summer	63.559	0.309	0.0	0.3	0.3	8.5	OK
480 min Summer	63.560	0.310	0.0	0.3	0.3	8.6	OK
600 min Summer	63.560	0.310	0.0	0.3	0.3	8.5	OK
720 min Summer	63.557	0.307	0.0	0.3	0.3	8.5	OK
960 min Summer	63.549	0.299	0.0	0.3	0.3	8.2	OK
1440 min Summer	63.529	0.279	0.0	0.2	0.2	7.7	OK
2160 min Summer	63.500	0.250	0.0	0.2	0.2	6.9	OK
2880 min Summer	63.473	0.223	0.0	0.2	0.2	6.2	OK
4320 min Summer	63.432	0.182	0.0	0.2	0.2	5.0	OK
5760 min Summer	63.402	0.152	0.0	0.2	0.2	4.2	OK
7200 min Summer	63.379	0.129	0.0	0.2	0.2	3.6	OK
8640 min Summer	63.362	0.112	0.0	0.2	0.2	3.1	OK
10080 min Summer	63.348	0.098	0.0	0.1	0.1	2.7	OK
15 min Winter	63.397	0.147	0.0	0.2	0.2	4.0	OK
30 min Winter	63.443	0.193	0.0	0.2	0.2	5.3	OK
60 min Winter	63.490	0.240	0.0	0.2	0.2	6.6	OK
120 min Winter	63.531	0.281	0.0	0.2	0.2	7.7	OK

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	105.082	26
30 min Summer	70.021	40
60 min Summer	44.676	68
120 min Summer	27.642	124
180 min Summer	20.622	182
240 min Summer	16.674	234
360 min Summer	12.359	290
480 min Summer	9.980	354
600 min Summer	8.449	422
720 min Summer	7.371	492
960 min Summer	5.939	628
1440 min Summer	4.374	902
2160 min Summer	3.217	1300
2880 min Summer	2.585	1684
4320 min Summer	1.896	2428
5760 min Summer	1.521	3176
7200 min Summer	1.282	3896
8640 min Summer	1.116	4592
10080 min Summer	0.992	5344
15 min Winter	105.082	26
30 min Winter	70.021	39
60 min Winter	44.676	68
120 min Winter	27.642	122

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 30 year Return Period (+45%)

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
180 min Winter	63.548	0.298	0.0	0.3	0.3	8.2	0 K
240 min Winter	63.555	0.305	0.0	0.3	0.3	8.4	0 K
360 min Winter	63.559	0.309	0.0	0.3	0.3	8.5	0 K
480 min Winter	63.559	0.309	0.0	0.3	0.3	8.5	0 K
600 min Winter	63.556	0.306	0.0	0.3	0.3	8.4	0 K
720 min Winter	63.551	0.301	0.0	0.3	0.3	8.3	0 K
960 min Winter	63.538	0.288	0.0	0.2	0.2	7.9	0 K
1440 min Winter	63.508	0.258	0.0	0.2	0.2	7.1	0 K
2160 min Winter	63.468	0.218	0.0	0.2	0.2	6.0	0 K
2880 min Winter	63.435	0.185	0.0	0.2	0.2	5.1	0 K
4320 min Winter	63.388	0.138	0.0	0.2	0.2	3.8	0 K
5760 min Winter	63.356	0.106	0.0	0.1	0.1	2.9	0 K
7200 min Winter	63.335	0.085	0.0	0.1	0.1	2.3	0 K
8640 min Winter	63.320	0.070	0.0	0.1	0.1	1.9	0 K
10080 min Winter	63.309	0.059	0.0	0.1	0.1	1.6	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	20.622	178
240 min Winter	16.674	234
360 min Winter	12.359	298
480 min Winter	9.980	372
600 min Winter	8.449	448
720 min Winter	7.371	526
960 min Winter	5.939	674
1440 min Winter	4.374	962
2160 min Winter	3.217	1368
2880 min Winter	2.585	1764
4320 min Winter	1.896	2512
5760 min Winter	1.521	3232
7200 min Winter	1.282	3968
8640 min Winter	1.116	4672
10080 min Winter	0.992	5352

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.347	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.016

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.005	4-8	0.005	8-12	0.005

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 64.100

Cellular Storage Structure

Invert Level (m) 63.250 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	29.0	29.0	0.500	0.0	42.2
0.400	29.0	42.2			

Orifice Outflow Control

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 63.250

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 374 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	63.441	0.191	0.0	0.2	0.2	5.3	0 K
30 min Summer	63.504	0.254	0.0	0.2	0.2	7.0	0 K
60 min Summer	63.568	0.318	0.0	0.3	0.3	8.8	0 K
120 min Summer	63.624	0.374	0.0	0.3	0.3	10.3	0 K
180 min Summer	63.646	0.396	0.0	0.3	0.3	10.9	0 K
240 min Summer	63.655	0.405	0.0	0.3	0.3	11.2	0 K
360 min Summer	63.661	0.411	0.0	0.3	0.3	11.3	0 K
480 min Summer	63.663	0.413	0.0	0.3	0.3	11.3	0 K
600 min Summer	63.661	0.411	0.0	0.3	0.3	11.3	0 K
720 min Summer	63.657	0.407	0.0	0.3	0.3	11.2	0 K
960 min Summer	63.647	0.397	0.0	0.3	0.3	10.9	0 K
1440 min Summer	63.621	0.371	0.0	0.3	0.3	10.2	0 K
2160 min Summer	63.581	0.331	0.0	0.3	0.3	9.1	0 K
2880 min Summer	63.547	0.297	0.0	0.3	0.3	8.2	0 K
4320 min Summer	63.492	0.242	0.0	0.2	0.2	6.7	0 K
5760 min Summer	63.452	0.202	0.0	0.2	0.2	5.6	0 K
7200 min Summer	63.421	0.171	0.0	0.2	0.2	4.7	0 K
8640 min Summer	63.398	0.148	0.0	0.2	0.2	4.1	0 K
10080 min Summer	63.379	0.129	0.0	0.2	0.2	3.6	0 K
15 min Winter	63.441	0.191	0.0	0.2	0.2	5.3	0 K
30 min Winter	63.504	0.254	0.0	0.2	0.2	7.0	0 K
60 min Winter	63.568	0.318	0.0	0.3	0.3	8.8	0 K
120 min Winter	63.625	0.375	0.0	0.3	0.3	10.3	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	136.149	26
30 min Summer	91.587	40
60 min Summer	58.739	68
120 min Summer	36.305	126
180 min Summer	26.955	184
240 min Summer	21.679	240
360 min Summer	15.967	306
480 min Summer	12.831	368
600 min Summer	10.820	432
720 min Summer	9.407	500
960 min Summer	7.537	640
1440 min Summer	5.504	914
2160 min Summer	4.010	1320
2880 min Summer	3.199	1708
4320 min Summer	2.322	2468
5760 min Summer	1.848	3184
7200 min Summer	1.549	3904
8640 min Summer	1.341	4664
10080 min Summer	1.188	5352
15 min Winter	136.149	26
30 min Winter	91.587	40
60 min Winter	58.739	68
120 min Winter	36.305	124

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

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
180 min Winter	63.648	0.398	0.0	0.3	0.3	11.0	0 K
240 min Winter	63.658	0.408	0.0	0.3	0.3	11.2	0 K
360 min Winter	63.663	0.413	0.0	0.3	0.3	11.3	0 K
480 min Winter	63.662	0.412	0.0	0.3	0.3	11.3	0 K
600 min Winter	63.658	0.408	0.0	0.3	0.3	11.2	0 K
720 min Winter	63.651	0.401	0.0	0.3	0.3	11.0	0 K
960 min Winter	63.635	0.385	0.0	0.3	0.3	10.6	0 K
1440 min Winter	63.597	0.347	0.0	0.3	0.3	9.6	0 K
2160 min Winter	63.545	0.295	0.0	0.3	0.3	8.1	0 K
2880 min Winter	63.502	0.252	0.0	0.2	0.2	6.9	0 K
4320 min Winter	63.438	0.188	0.0	0.2	0.2	5.2	0 K
5760 min Winter	63.395	0.145	0.0	0.2	0.2	4.0	0 K
7200 min Winter	63.365	0.115	0.0	0.2	0.2	3.2	0 K
8640 min Winter	63.344	0.094	0.0	0.1	0.1	2.6	0 K
10080 min Winter	63.329	0.079	0.0	0.1	0.1	2.2	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	26.955	180
240 min Winter	21.679	236
360 min Winter	15.967	336
480 min Winter	12.831	380
600 min Winter	10.820	458
720 min Winter	9.407	534
960 min Winter	7.537	686
1440 min Winter	5.504	976
2160 min Winter	4.010	1392
2880 min Winter	3.199	1792
4320 min Winter	2.322	2556
5760 min Winter	1.848	3288
7200 min Winter	1.549	4032
8640 min Winter	1.341	4688
10080 min Winter	1.188	5440

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.347	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.016

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.005	4-8	0.005	8-12	0.005

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	Twinham 34 Hurst Road Hass... Surface Water Drainage Attenuation Tank Design Rev02	
Date Oct 25	Designed by JS	
File Attenuation Tank Rev0...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 64.100

Cellular Storage Structure

Invert Level (m) 63.250 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	29.0	29.0	0.500	0.0	42.2
0.400	29.0	42.2			

Orifice Outflow Control

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 63.250

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 1 year Return Period (+45%)

Half Drain Time : 29 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	63.236	0.036	0.0	0.1	O K
30 min Summer	63.242	0.042	0.0	0.1	O K
60 min Summer	63.246	0.046	0.0	0.1	O K
120 min Summer	63.247	0.047	0.0	0.1	O K
180 min Summer	63.245	0.045	0.0	0.1	O K
240 min Summer	63.243	0.043	0.0	0.1	O K
360 min Summer	63.238	0.038	0.0	0.1	O K
480 min Summer	63.234	0.034	0.0	0.1	O K
600 min Summer	63.232	0.032	0.0	0.1	O K
720 min Summer	63.229	0.029	0.0	0.1	O K
960 min Summer	63.226	0.026	0.0	0.1	O K
1440 min Summer	63.221	0.021	0.0	0.1	O K
2160 min Summer	63.217	0.017	0.0	0.0	O K
2880 min Summer	63.214	0.014	0.0	0.0	O K
4320 min Summer	63.211	0.011	0.0	0.0	O K
5760 min Summer	63.209	0.009	0.0	0.0	O K
7200 min Summer	63.208	0.008	0.0	0.0	O K
8640 min Summer	63.207	0.007	0.0	0.0	O K
10080 min Summer	63.206	0.006	0.0	0.0	O K
15 min Winter	63.236	0.036	0.0	0.1	O K
30 min Winter	63.242	0.042	0.0	0.1	O K
60 min Winter	63.245	0.045	0.0	0.1	O K
120 min Winter	63.244	0.044	0.0	0.1	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	42.908	16
30 min Summer	28.573	25
60 min Summer	18.560	42
120 min Summer	11.840	76
180 min Summer	9.068	108
240 min Summer	7.491	140
360 min Summer	5.668	202
480 min Summer	4.650	264
600 min Summer	3.989	326
720 min Summer	3.519	384
960 min Summer	2.888	504
1440 min Summer	2.188	750
2160 min Summer	1.654	1104
2880 min Summer	1.357	1472
4320 min Summer	1.028	2204
5760 min Summer	0.845	2928
7200 min Summer	0.723	3592
8640 min Summer	0.637	4400
10080 min Summer	0.572	5096
15 min Winter	42.908	16
30 min Winter	28.573	26
60 min Winter	18.560	44
120 min Winter	11.840	80

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 1 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
180 min Winter	63.240	0.040	0.0	0.1	0 K
240 min Winter	63.237	0.037	0.0	0.1	0 K
360 min Winter	63.232	0.032	0.0	0.1	0 K
480 min Winter	63.228	0.028	0.0	0.1	0 K
600 min Winter	63.225	0.025	0.0	0.1	0 K
720 min Winter	63.222	0.022	0.0	0.1	0 K
960 min Winter	63.219	0.019	0.0	0.0	0 K
1440 min Winter	63.215	0.015	0.0	0.0	0 K
2160 min Winter	63.211	0.011	0.0	0.0	0 K
2880 min Winter	63.209	0.009	0.0	0.0	0 K
4320 min Winter	63.207	0.007	0.0	0.0	0 K
5760 min Winter	63.206	0.006	0.0	0.0	0 K
7200 min Winter	63.205	0.005	0.0	0.0	0 K
8640 min Winter	63.205	0.005	0.0	0.0	0 K
10080 min Winter	63.204	0.004	0.0	0.0	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	9.068	114
240 min Winter	7.491	146
360 min Winter	5.668	210
480 min Winter	4.650	270
600 min Winter	3.989	332
720 min Winter	3.519	392
960 min Winter	2.888	514
1440 min Winter	2.188	750
2160 min Winter	1.654	1104
2880 min Winter	1.357	1472
4320 min Winter	1.028	2192
5760 min Winter	0.845	2944
7200 min Winter	0.723	3776
8640 min Winter	0.637	4400
10080 min Winter	0.572	5296

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	1	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.001

Time (mins)	Area (ha)
----------------	--------------

0-4	0.001
-----	-------

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 63.700

Infiltration Blanket Structure

Infiltration Coefficient Base (m/hr)	0.04461	Diameter/Width (m)	1.1
Safety Factor	2.0	Length (m)	7.5
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	63.200		

Dixon Hurst Kemp			Page 1		
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01				
Date Oct 25	Designed by JS				
File Rain Garden storage d...	Checked by				
Elstree Computing Ltd	Source Control w.12.6				
Summary of Results for 30 year Return Period (+45%)					
Half Drain Time : 60 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	63.293	0.093	0.1	0.2	O K
30 min Summer	63.316	0.116	0.1	0.3	O K
60 min Summer	63.330	0.130	0.1	0.3	O K
120 min Summer	63.334	0.134	0.1	0.3	O K
180 min Summer	63.330	0.130	0.1	0.3	O K
240 min Summer	63.322	0.122	0.1	0.3	O K
360 min Summer	63.307	0.107	0.1	0.3	O K
480 min Summer	63.292	0.092	0.1	0.2	O K
600 min Summer	63.280	0.080	0.1	0.2	O K
720 min Summer	63.269	0.069	0.1	0.2	O K
960 min Summer	63.253	0.053	0.1	0.1	O K
1440 min Summer	63.241	0.041	0.0	0.1	O K
2160 min Summer	63.232	0.032	0.0	0.1	O K
2880 min Summer	63.226	0.026	0.0	0.1	O K
4320 min Summer	63.220	0.020	0.0	0.0	O K
5760 min Summer	63.216	0.016	0.0	0.0	O K
7200 min Summer	63.214	0.014	0.0	0.0	O K
8640 min Summer	63.212	0.012	0.0	0.0	O K
10080 min Summer	63.211	0.011	0.0	0.0	O K
15 min Winter	63.293	0.093	0.1	0.2	O K
30 min Winter	63.316	0.116	0.1	0.3	O K
60 min Winter	63.329	0.129	0.1	0.3	O K
120 min Winter	63.330	0.130	0.1	0.3	O K
Storm Event	Rain (mm/hr)	Time-Peak (mins)			
15 min Summer	105.185	17			
30 min Summer	70.056	31			
60 min Summer	44.676	52			
120 min Summer	27.629	86			
180 min Summer	20.607	120			
240 min Summer	16.658	154			
360 min Summer	12.345	220			
480 min Summer	9.967	284			
600 min Summer	8.436	344			
720 min Summer	7.359	400			
960 min Summer	5.929	512			
1440 min Summer	4.365	750			
2160 min Summer	3.210	1108			
2880 min Summer	2.578	1472			
4320 min Summer	1.891	2204			
5760 min Summer	1.516	2928			
7200 min Summer	1.279	3632			
8640 min Summer	1.112	4400			
10080 min Summer	0.989	5080			
15 min Winter	105.185	17			
30 min Winter	70.056	31			
60 min Winter	44.676	56			
120 min Winter	27.629	92			
©1982-2011 Micro Drainage Ltd					

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 30 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
180 min Winter	63.322	0.122	0.1	0.3	0 K
240 min Winter	63.310	0.110	0.1	0.3	0 K
360 min Winter	63.286	0.086	0.1	0.2	0 K
480 min Winter	63.267	0.067	0.1	0.2	0 K
600 min Winter	63.253	0.053	0.1	0.1	0 K
720 min Winter	63.246	0.046	0.0	0.1	0 K
960 min Winter	63.239	0.039	0.0	0.1	0 K
1440 min Winter	63.229	0.029	0.0	0.1	0 K
2160 min Winter	63.222	0.022	0.0	0.1	0 K
2880 min Winter	63.218	0.018	0.0	0.0	0 K
4320 min Winter	63.213	0.013	0.0	0.0	0 K
5760 min Winter	63.211	0.011	0.0	0.0	0 K
7200 min Winter	63.209	0.009	0.0	0.0	0 K
8640 min Winter	63.208	0.008	0.0	0.0	0 K
10080 min Winter	63.207	0.007	0.0	0.0	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	20.607	128
240 min Winter	16.658	164
360 min Winter	12.345	230
480 min Winter	9.967	290
600 min Winter	8.436	338
720 min Winter	7.359	396
960 min Winter	5.929	514
1440 min Winter	4.365	752
2160 min Winter	3.210	1120
2880 min Winter	2.578	1464
4320 min Winter	1.891	2192
5760 min Winter	1.516	2992
7200 min Winter	1.279	3672
8640 min Winter	1.112	4328
10080 min Winter	0.989	5144

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.001

Time (mins)	Area (ha)
----------------	--------------

0-4	0.001
-----	-------

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 63.700

Infiltration Blanket Structure

Infiltration Coefficient Base (m/hr)	0.04461	Diameter/Width (m)	1.1
Safety Factor	2.0	Length (m)	7.5
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	63.200		

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 77 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	63.323	0.123	0.1	0.3	O K
30 min Summer	63.357	0.157	0.1	0.4	O K
60 min Summer	63.382	0.182	0.1	0.5	O K
120 min Summer	63.390	0.190	0.1	0.5	O K
180 min Summer	63.386	0.186	0.1	0.5	O K
240 min Summer	63.378	0.178	0.1	0.4	O K
360 min Summer	63.360	0.160	0.1	0.4	O K
480 min Summer	63.342	0.142	0.1	0.4	O K
600 min Summer	63.325	0.125	0.1	0.3	O K
720 min Summer	63.310	0.110	0.1	0.3	O K
960 min Summer	63.284	0.084	0.1	0.2	O K
1440 min Summer	63.253	0.053	0.1	0.1	O K
2160 min Summer	63.240	0.040	0.0	0.1	O K
2880 min Summer	63.233	0.033	0.0	0.1	O K
4320 min Summer	63.224	0.024	0.0	0.1	O K
5760 min Summer	63.220	0.020	0.0	0.0	O K
7200 min Summer	63.216	0.016	0.0	0.0	O K
8640 min Summer	63.214	0.014	0.0	0.0	O K
10080 min Summer	63.213	0.013	0.0	0.0	O K
15 min Winter	63.323	0.123	0.1	0.3	O K
30 min Winter	63.358	0.158	0.1	0.4	O K
60 min Winter	63.383	0.183	0.1	0.5	O K
120 min Winter	63.388	0.188	0.1	0.5	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	136.286	17
30 min Summer	91.635	32
60 min Summer	58.739	60
120 min Summer	36.288	94
180 min Summer	26.937	128
240 min Summer	21.660	162
360 min Summer	15.950	230
480 min Summer	12.815	294
600 min Summer	10.804	358
720 min Summer	9.393	420
960 min Summer	7.524	538
1440 min Summer	5.493	752
2160 min Summer	4.002	1104
2880 min Summer	3.192	1472
4320 min Summer	2.316	2204
5760 min Summer	1.843	2936
7200 min Summer	1.545	3672
8640 min Summer	1.338	4304
10080 min Summer	1.184	5032
15 min Winter	136.286	17
30 min Winter	91.635	31
60 min Winter	58.739	58
120 min Winter	36.288	96

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
180 min Winter	63.380	0.180	0.1	0.4	0 K
240 min Winter	63.367	0.167	0.1	0.4	0 K
360 min Winter	63.340	0.140	0.1	0.3	0 K
480 min Winter	63.313	0.113	0.1	0.3	0 K
600 min Winter	63.290	0.090	0.1	0.2	0 K
720 min Winter	63.271	0.071	0.1	0.2	0 K
960 min Winter	63.249	0.049	0.0	0.1	0 K
1440 min Winter	63.237	0.037	0.0	0.1	0 K
2160 min Winter	63.227	0.027	0.0	0.1	0 K
2880 min Winter	63.222	0.022	0.0	0.1	0 K
4320 min Winter	63.216	0.016	0.0	0.0	0 K
5760 min Winter	63.213	0.013	0.0	0.0	0 K
7200 min Winter	63.211	0.011	0.0	0.0	0 K
8640 min Winter	63.209	0.009	0.0	0.0	0 K
10080 min Winter	63.208	0.008	0.0	0.0	0 K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	26.937	134
240 min Winter	21.660	172
360 min Winter	15.950	244
480 min Winter	12.815	310
600 min Winter	10.804	370
720 min Winter	9.393	426
960 min Winter	7.524	518
1440 min Winter	5.493	752
2160 min Winter	4.002	1104
2880 min Winter	3.192	1472
4320 min Winter	2.316	2208
5760 min Winter	1.843	2880
7200 min Winter	1.545	3640
8640 min Winter	1.338	4376
10080 min Winter	1.184	5096

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.001

Time (mins)	Area (ha)
----------------	--------------

0-4	0.001
-----	-------

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	Hurst Road, Hassocks Surface Water Drainage Rain Garden Design Rev01	
Date Oct 25	Designed by JS	
File Rain Garden storage d...	Checked by	
Elstree Computing Ltd	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 63.700

Infiltration Blanket Structure

Infiltration Coefficient Base (m/hr)	0.04461	Diameter/Width (m)	1.1
Safety Factor	2.0	Length (m)	7.5
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	63.200		

DIXON HURST CONSULTING CIVIL & STRUCTURAL ENGINEERS	Project:	Twinham, 34 Hurst Road, Lindfield			By:
	Calculation:	Soakaway Design			JS
	Infiltration Rate - Test				Approved:
	Sheet Number:	1	Date:	Oct-25	JS

Infiltration Test (BRE 365)

Weather : Raining

Start Time: 8:00 am (Mon 20th)

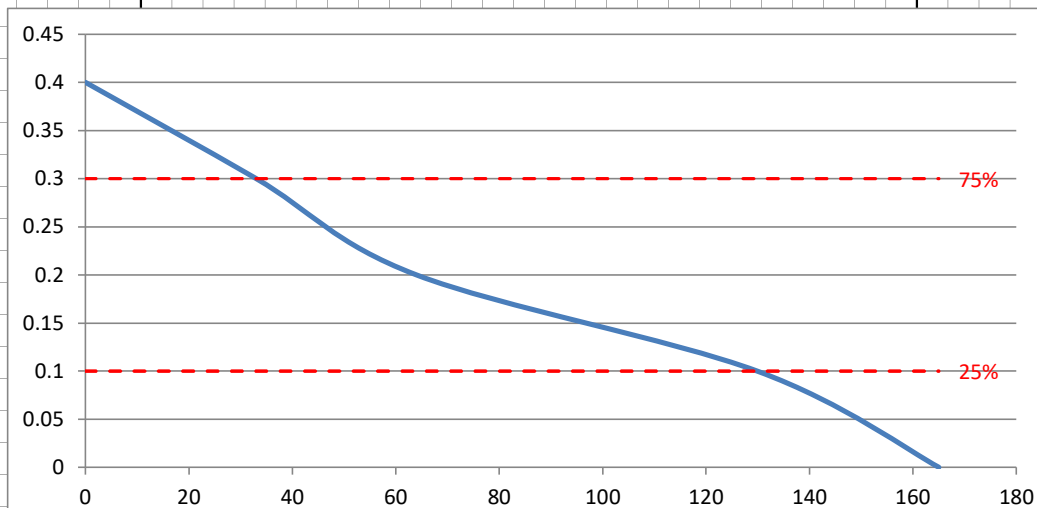
End Time :10:45 am

Trial Pit Details : 0.9 Lx 0.8W x 0.6D

Total Water Depth	0.4	m
Total Pit Length	0.9	m
Total Pit Width	0.8	m

Test Results

	Time (Mins)	Water Level (From Base)
1	0	0.40
2	33	0.30
3	64	0.20
4	130	0.10
5	165	0.00
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		





Project:	Twinham, 34 Hurst Road, Lindfield			By:
Calculation:	Soakaway Design			JS
Infiltration Rate - Test 1				Approved:
Sheet Number:	2	Date:	Oct-25	JS

Results

Time to reach 75% depth: 33.0 mins
Time to reach 25% depth: 130.0 mins

Soil Infiltration Rate: **1.7673E-05** m/s

0.063622975 m/hr

Project:	Twinham, 34 Hurst Road, Lindfield			By:
Calculation:	Soakaway Design			JS
Infiltration Rate - Test 2				Approved:
Sheet Number:	1	Date:	Oct-25	JS

Infiltration Test (BRE 365)

Weather : Raining

Start Time: 10:55 (Mon 20th)

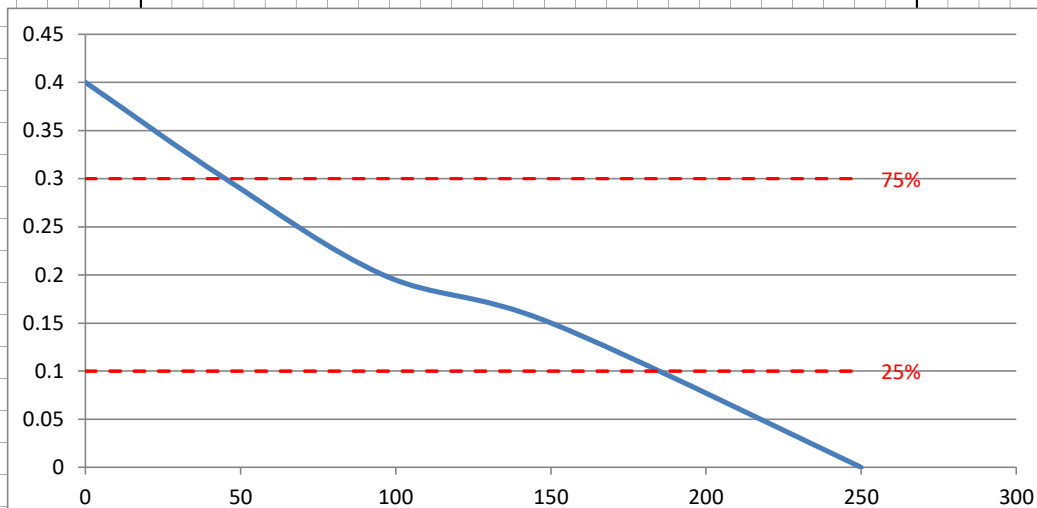
End Time :15:05 am

Trial Pit Details : 0.9 Lx 0.8W x 0.6D

Total Water Depth	0.4	m
Total Pit Length	0.9	m
Total Pit Width	0.8	m

Test Results

	Time (Mins)	Water Level (From Base)
1	0	0.40
2	45	0.30
3	96	0.20
4	150	0.15
5	250	0.00
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		





Project:	Twinham, 34 Hurst Road, Lindfield			By:
Calculation:	Soakaway Design			JS
Infiltration Rate - Test 2				Approved:
Sheet Number:	2	Date:	Oct-25	JS

Results

Time to reach 75% depth: 45.0 mins
Time to reach 25% depth: 183.3 mins

Soil Infiltration Rate: **1.23924E-05** m/s

0.044612737 m/hr

 CONSULTING CIVIL & STRUCTURAL ENGINEERS	Project:	Land Next to Lansdowne Road, Worthing	By:
	Calculation:	Soakaway Design	JS
	Infiltration Rate - Test 3		Approved:
Sheet Number:	1	Date:	Oct-25 JS

Infiltration Test (BRE 365)

Weather : Light Drizzle

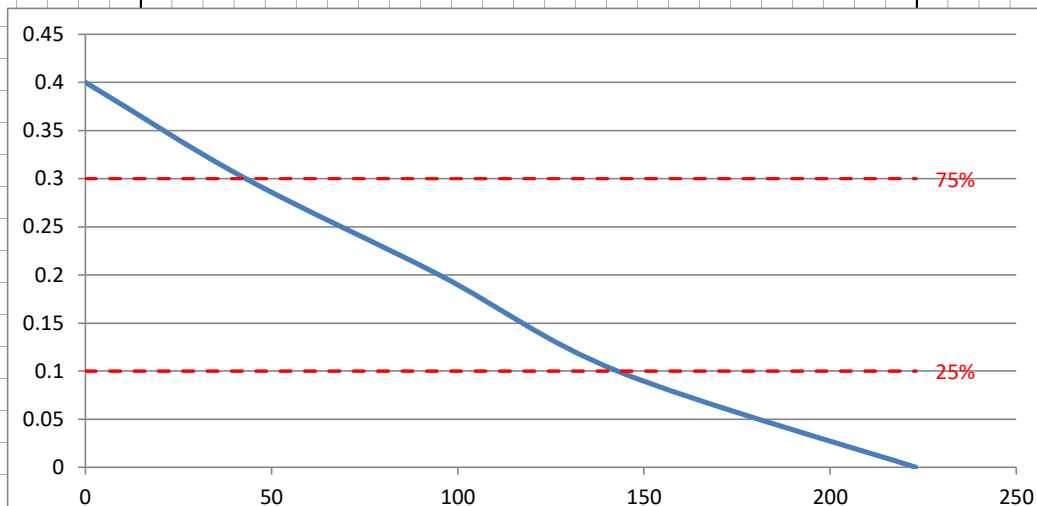
Start Time : 9:15 (Tue 21st)

End Time : 12:58 am

Trial Pit Details : 0.9 Lx 0.8W x 0.6D

Total Water Depth	0.4	m
Total Pit Length	0.9	m
Total Pit Width	0.8	m

Test Results		
	Time (Mins)	Water Level (From Base)
1	0	0.40
2	43	0.30
3	95	0.20
4	143	0.10
5	223	0.00
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		





Project:	Land Next to Lansdowne Road, Worthing		By:
Calculation:	Soakaway Design		JS
Infiltration Rate - Test 3			Approved:
Sheet Number:	2	Date:	21/10/2025 JS

Results

Time to reach 75% depth: 43.0 mins
Time to reach 25% depth: 143.0 mins

Soil Infiltration Rate: **1.71429E-05** m/s
0.061714286 m/hr



Soakaway Test Pit – Location



Soakaway Test Pit – 0.9L x 0.8W x 0.6D



Soakaway Test Pit – Start Water Level 400mm



Soakaway Test Pit – Water Level 300mm



Soakaway Test Pit – Start Water Level 200mm



Soakaway Test Pit – Start Water Level 100mm