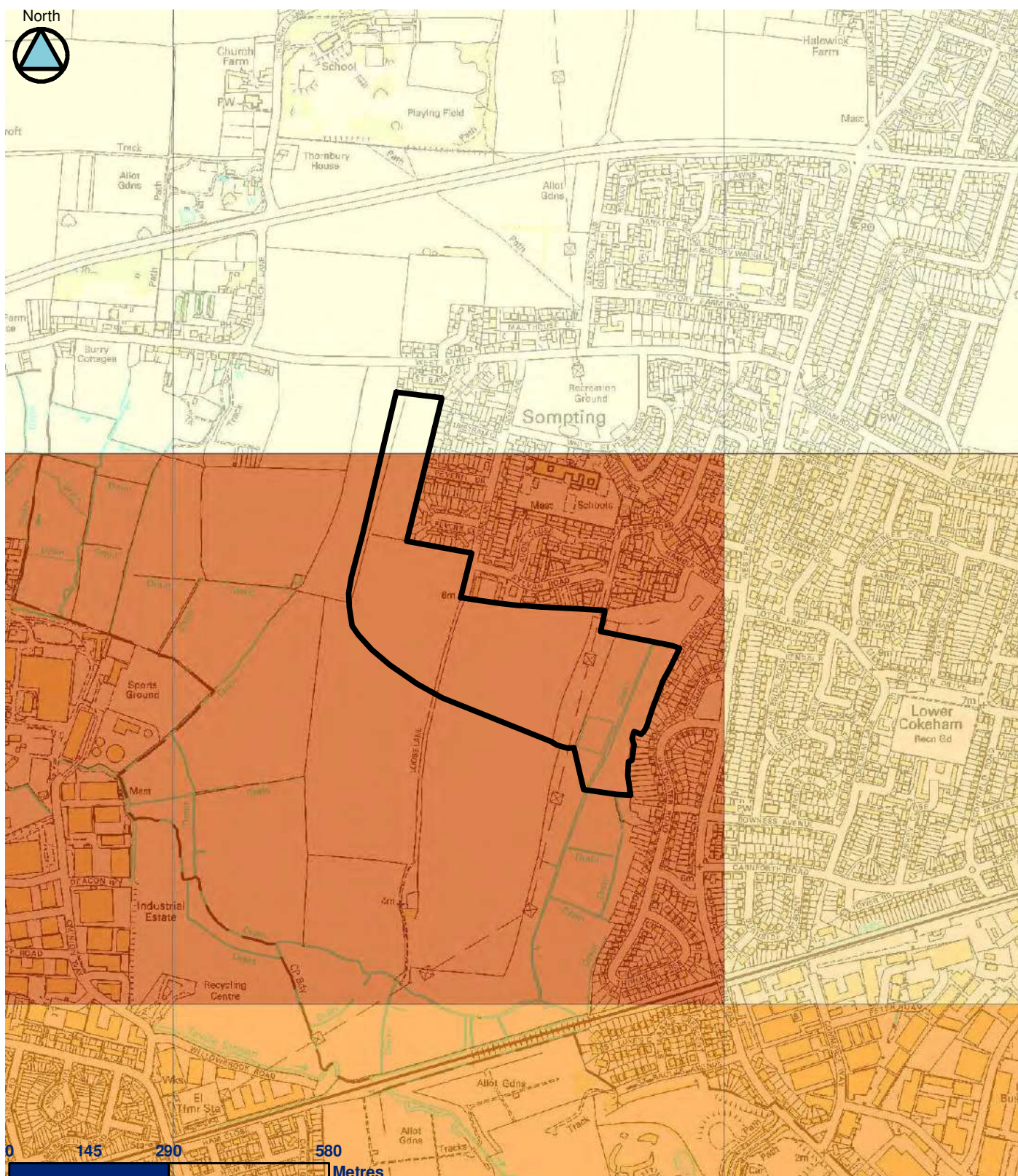




Legend

Sompting Fringe

AStGWF

RISK

$\geq 75\%$

$\geq 50\% < 75\%$

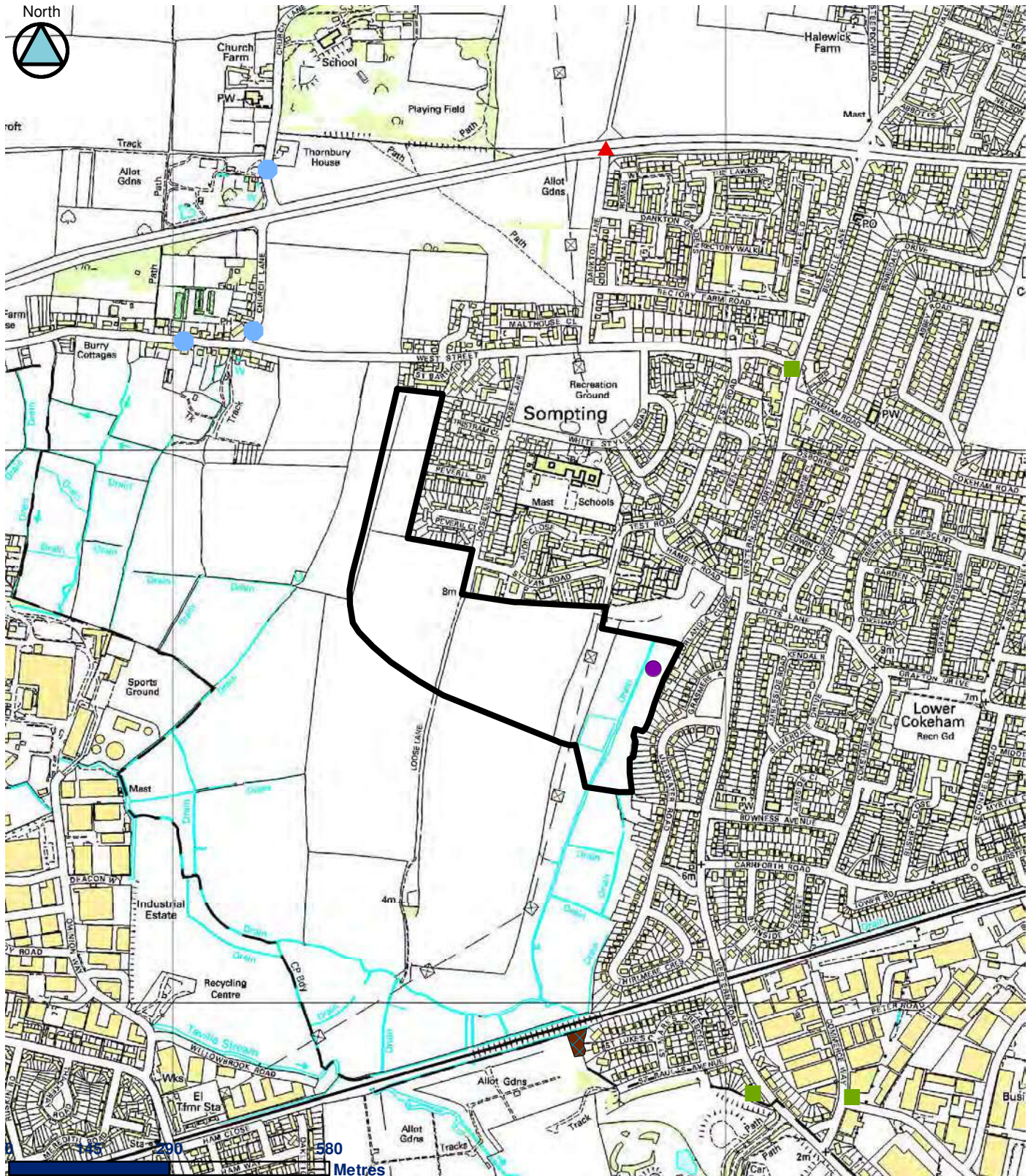
$\geq 25\% < 50\%$

$< 25\%$



Sompting Fringe

Groundwater Flood Risk
(Areas Susceptible to Groundwater Flooding)



Legend

- Sompting Fringe
- Groundwater Flooding
- EA Historic Flood Map
- Surface Water Flooding
- Fluvial Flooding
- Flooding from failure
- Sewer Flooding

Note: Failure relates to a blockage or bank/structure failure and according to the SFRA 2008 this is usually related to flooding from rivers.



Sompting Fringe

Historical Flooding

Appendix F Microdrainage/Run-off Calculations

RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting Phase 1 Greenfield Run-Off	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.300
Area (ha)	5.030	Urban	0.000
SAAR (mm)	716	Region Number	Region 7

Results l/s

QBAR Rural	9.4
QBAR Urban	9.4
Q100 years	30.0
Q1 year	8.0
Q30 years	21.3
Q100 years	30.0

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting Phase 1 Greenfield Volume	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

Greenfield Runoff Volume

FSR Data

Return Period (years)	100
Storm Duration (mins)	360
Region	England and Wales
M5-60 (mm)	19.800
Ratio R	0.350
Areal Reduction Factor	1.00
Area (ha)	5.030
SAAR (mm)	723
CWI	107.968
Urban	0.000
SPR	30.000

Results

Percentage Runoff (%)	30.06
Greenfield Runoff Volume (m³)	987.199

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting North Greenfield Run-Off	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.300
Area (ha)	9.220	Urban	0.000
SAAR (mm)	716	Region Number	Region 7

Results l/s

QBAR Rural	17.3
QBAR Urban	17.3
Q100 years	55.0
Q1 year	14.7
Q30 years	39.1
Q100 years	55.0

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting North Greenfield Volume	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

Greenfield Runoff Volume

FSR Data

Return Period (years)	100
Storm Duration (mins)	360
Region	England and Wales
M5-60 (mm)	19.800
Ratio R	0.350
Areal Reduction Factor	1.00
Area (ha)	9.220
SAAR (mm)	723
CWI	107.968
Urban	0.000
SPR	30.000

Results

Percentage Runoff (%)	30.06
Greenfield Runoff Volume (m³)	1809.537

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting South (Inc. Phase 1) Greenfield Run-Off	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.300
Area (ha)	35.320	Urban	0.000
SAAR (mm)	716	Region Number	Region 7

Results l/s

QBAR Rural	66.1
QBAR Urban	66.1
Q100 years	210.8
Q1 year	56.2
Q30 years	149.8
Q100 years	210.8

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting South (Inc. Phase 1) Greenfield Volume	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

Greenfield Runoff Volume

FSR Data

Return Period (years)	100
Storm Duration (mins)	360
Region	England and Wales
M5-60 (mm)	19.800
Ratio R	0.350
Areal Reduction Factor	1.00
Area (ha)	35.320
SAAR (mm)	723
CWI	107.968
Urban	0.000
SPR	30.000

Results

Percentage Runoff (%)	30.06
Greenfield Runoff Volume (m³)	6931.978

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting South (ex. Phase 1) Greenfield Run-Off	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.300
Area (ha)	30.290	Urban	0.000
SAAR (mm)	716	Region Number	Region 7

Results l/s

QBAR Rural	56.7
QBAR Urban	56.7
Q100 years	180.8
Q1 year	48.2
Q30 years	128.5
Q100 years	180.8

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RGP Design Limited		Page 1
2 West Barn Norton Lane Chichester PO20 3AF	West Sompting South (ex. Phase 1) Greenfield Volume	
Date 06/02/2019 File	Designed by SPB Checked by MJA	
Innovyze Source Control 2018.1		

Greenfield Runoff Volume

FSR Data

Return Period (years)	100
Storm Duration (mins)	360
Region	England and Wales
M5-60 (mm)	19.800
Ratio R	0.350
Areal Reduction Factor	1.00
Area (ha)	30.290
SAAR (mm)	723
CWI	107.968
Urban	0.000
SPR	30.000

Results

Percentage Runoff (%)	30.06
Greenfield Runoff Volume (m ³)	5944.780

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Phase 1

Quick Storage Estimate

Micro Drainage

Variables

FSR Rainfall

Return Period (years) 100

Region England and Wales

Map

M5-60 (mm) 19.800

Ratio R 0.350

Cv (Summer) 0.750

Cv (Winter) 0.840

Impermeable Area (ha) 1.830

Maximum Allowable Discharge (l/s) 0.0

Infiltration Coefficient (m/hr) 0.55080

Safety Factor 2.0

Climate Change (%) 40

Analyse OK Cancel Help

Enter Area between 0.000 and 999.999

Quick Storage Estimate

Micro Drainage

Results

Global Variables require approximate storage of between 2914 m³ and 2914 m³.

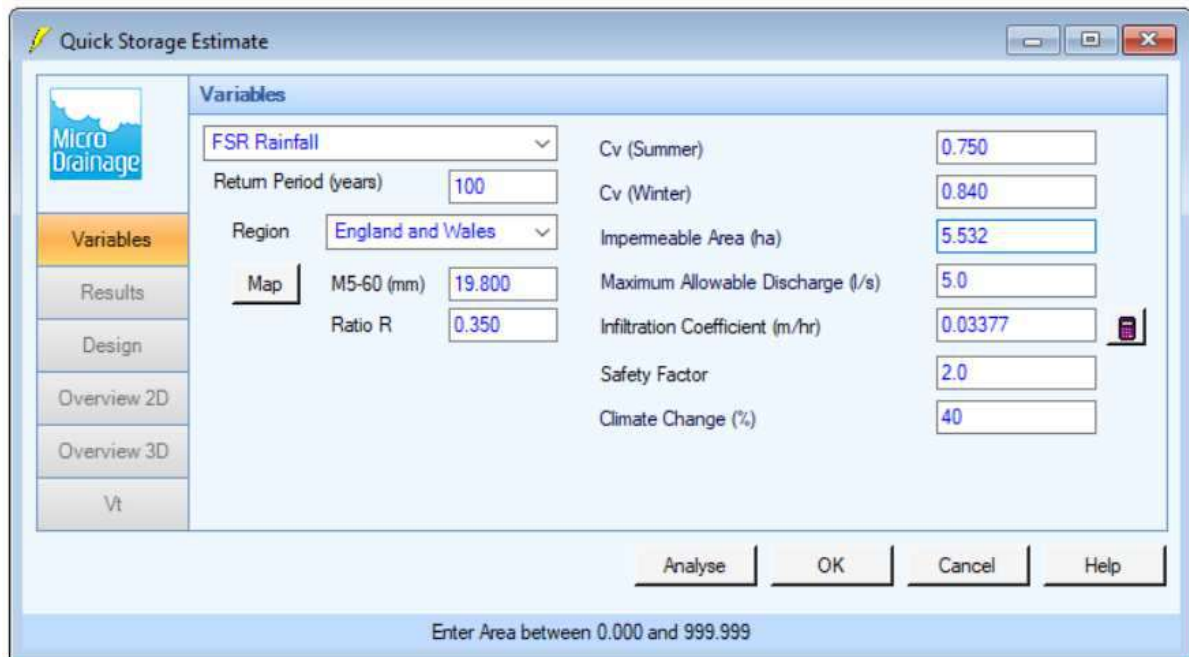
With Infiltration storage is reduced to between 179 m³ and 838 m³.

These values are estimates only and should not be used for design purposes.

Analyse OK Cancel Help

Enter Area between 0.000 and 999.999

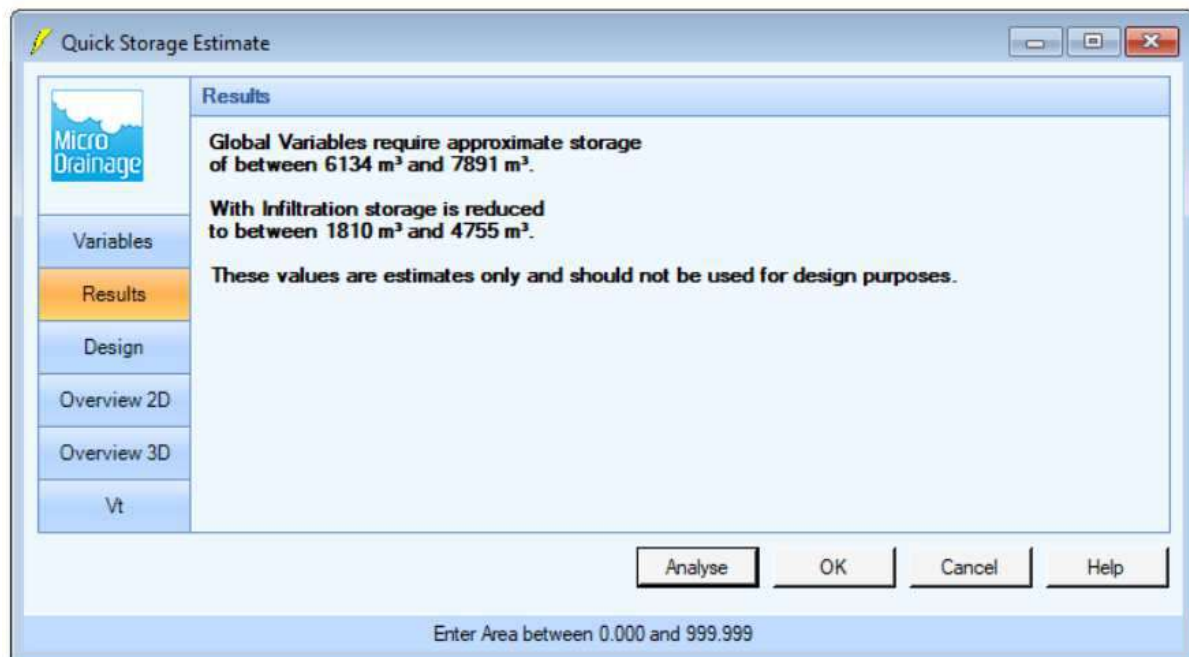
Sompting North – Assumed 60% Hardstanding



The screenshot shows the 'Variables' tab of the 'Quick Storage Estimate' software. The left sidebar contains buttons for 'Variables', 'Results', 'Design', 'Overview 2D', 'Overview 3D', and 'Vt'. The main area is divided into two columns. The left column contains a dropdown for 'FSR Rainfall', a text input for 'Return Period (years)' with the value '100', a dropdown for 'Region' with 'England and Wales' selected, and a 'Map' button. Below the 'Map' button are two text inputs: 'M5-60 (mm)' with '19.800' and 'Ratio R' with '0.350'. The right column contains several text inputs: 'Cv (Summer)' with '0.750', 'Cv (Winter)' with '0.840', 'Impervious Area (ha)' with '5.532', 'Maximum Allowable Discharge (l/s)' with '5.0', 'Infiltration Coefficient (m/hr)' with '0.03377', 'Safety Factor' with '2.0', and 'Climate Change (%)' with '40'. At the bottom right of the main area is a small icon of a mobile phone. Below the main area are four buttons: 'Analyse', 'OK', 'Cancel', and 'Help'. At the very bottom, a status bar reads 'Enter Area between 0.000 and 999.999'.

Variable	Value
FSR Rainfall	[Dropdown]
Return Period (years)	100
Region	England and Wales
M5-60 (mm)	19.800
Ratio R	0.350
Cv (Summer)	0.750
Cv (Winter)	0.840
Impervious Area (ha)	5.532
Maximum Allowable Discharge (l/s)	5.0
Infiltration Coefficient (m/hr)	0.03377
Safety Factor	2.0
Climate Change (%)	40

Enter Area between 0.000 and 999.999



The screenshot shows the 'Results' tab of the 'Quick Storage Estimate' software. The left sidebar is the same as the previous screen, but the 'Results' button is highlighted. The main area contains the following text:

Global Variables require approximate storage of between 6134 m³ and 7891 m³.

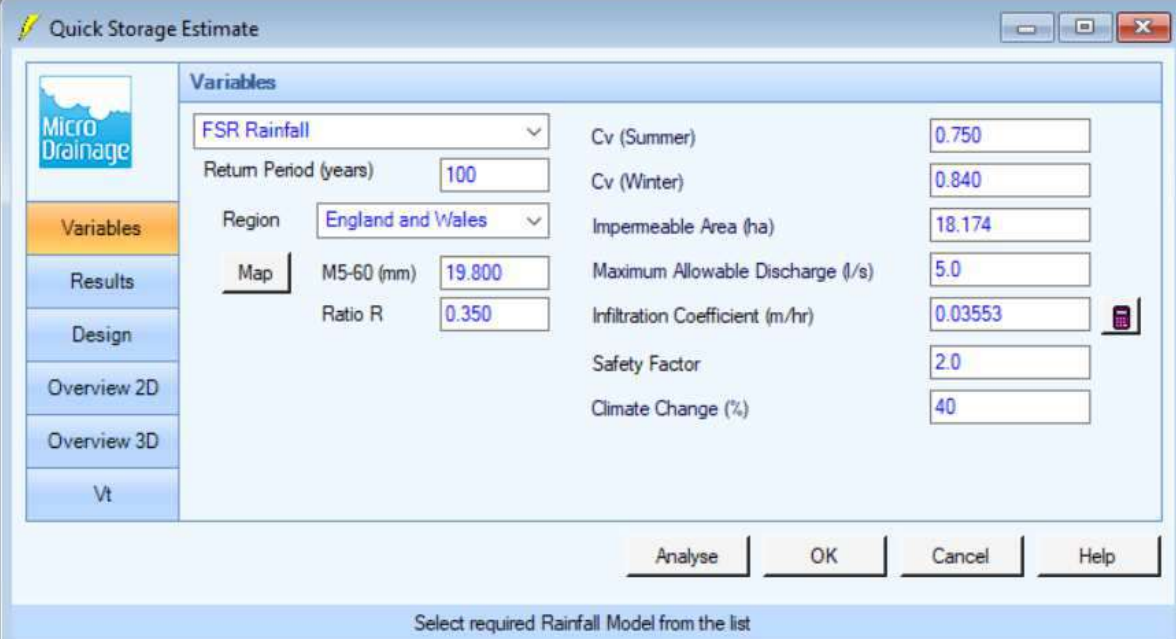
With Infiltration storage is reduced to between 1810 m³ and 4755 m³.

These values are estimates only and should not be used for design purposes.

At the bottom right of the main area are four buttons: 'Analyse', 'OK', 'Cancel', and 'Help'. At the very bottom, a status bar reads 'Enter Area between 0.000 and 999.999'.

Enter Area between 0.000 and 999.999

Sompting South (ex. Phase 1) – Assumed 60% Hardstanding



Micro Drainage Quick Storage Estimate

Variables

FSR Rainfall

Return Period (years) 100

Region England and Wales

Map

M5-60 (mm) 19.800

Ratio R 0.350

Cv (Summer) 0.750

Cv (Winter) 0.840

Impermeable Area (ha) 18.174

Maximum Allowable Discharge (l/s) 5.0

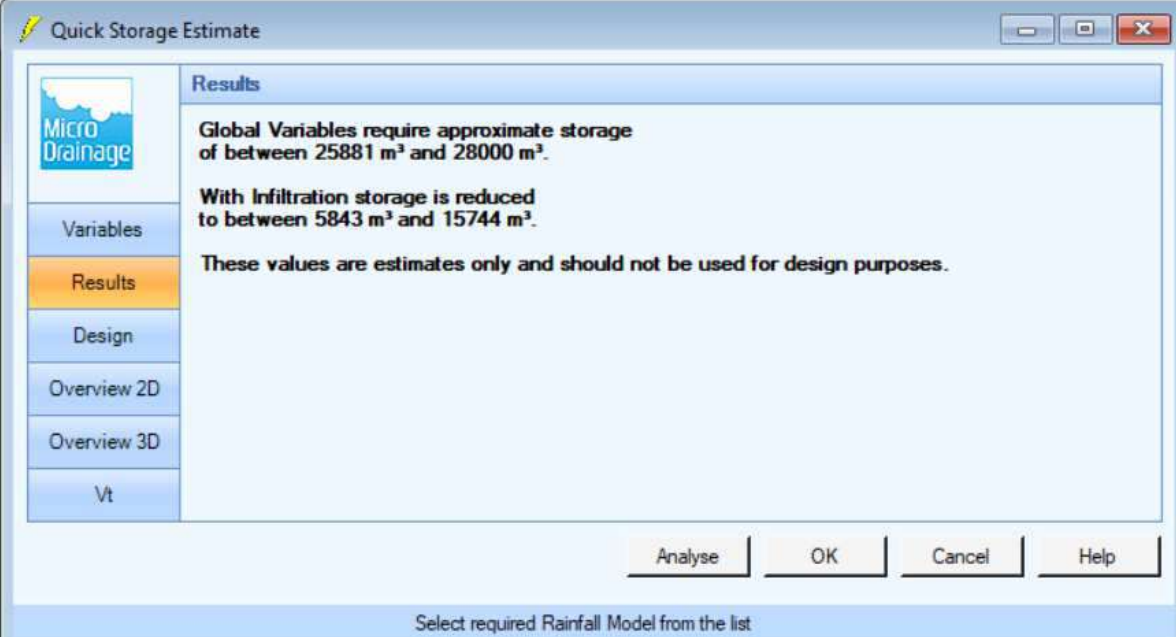
Infiltration Coefficient (m/hr) 0.03553

Safety Factor 2.0

Climate Change (%) 40

Analyse OK Cancel Help

Select required Rainfall Model from the list



Micro Drainage Quick Storage Estimate

Results

Global Variables require approximate storage of between 25881 m³ and 28000 m³.

With Infiltration storage is reduced to between 5843 m³ and 15744 m³.

These values are estimates only and should not be used for design purposes.

Analyse OK Cancel Help

Select required Rainfall Model from the list



**LAND AT WEST SOMPTING, WEST
SUSSEX BN15 0DZ**

PHASE 1 - RESIDENTIAL DEVELOPMENT

Drainage Strategy

Prepared on Behalf of

Persimmon Homes and Sompting Estate
Trustees

D1358/PHASE 1/DS/1.4

February 2021

DOCUMENT CONTROL

Project: Land at West Sompting, West Sussex BN15 0DZ
Phase 1 - Residential Development

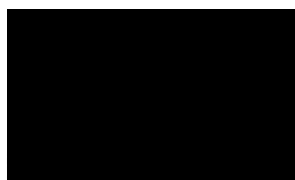
Document: **Drainage Strategy**

Client: Persimmon Homes and Sompting Estate Trustees

Reference: D1358/PHASE 1/DS/1.4

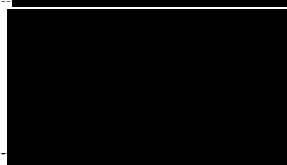
Document Checking:

Author: SPB



Date: 08/02/2021

Checked by: MJA



Date: 08/02/2021

Approved by: MJA



Date: 08/02/2021

Status:

Issue	Date	Status	Issued by
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2.	06/02/2019	Rev. 1.1	SPB
3.	23/06/2020	Rev. 1.2	SPB
4.	29/01/2021	Rev. 1.3	SPB
5.	08/02/2021	Rev. 1.4	SPB
6.			

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1	INTRODUCTION	5
1.1	Background	5
1.2	Site Location and Description	5
1.3	Ground Conditions	5
1.4	Existing Drainage	6
2	PROPOSED DEVELOPMENT	8
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DRAWINGS

SK201	Post Development Impermeable Areas
SK202	Post Development Catchment Areas
SK300	Drainage Strategy (Sheet 1 of 3)
SK301	Drainage Strategy (Sheet 2 of 3)
SK302	Drainage Strategy (Sheet 3 of 3)
SK400	Surface Water Drainage Catchments, Loading and Referencing

APPENDICES

Appendix A	Development Proposals
Appendix B	Infiltration Testing Results (Resource & Environmental Consultants)
Appendix C	(Shallow) Infiltration Testing Results (January 2020) and Groundwater Monitoring (December 2019 – March 2020)
Appendix D	Hydraulic Assessment - Permeable Paving Catchment
Appendix E	Hydraulic Assessment - Roof Area Catchment
Appendix F	Hydraulic Assessment – Highway Catchment

1 INTRODUCTION

1.1 Background

- 1.1.1 This document and the associated drainage strategy should be read in conjunction with the Flood Risk Assessment (2017/D1358/FRA 1.4) as prepared by RGP Design Ltd, dated February 2019.
- 1.1.2 This drainage strategy has been prepared in view of the information contained within the Flood Risk Assessment as detailed within 1.1.1, in addition to further ground investigation works since undertaken by LEAP Environment between December 2019 and March 2020.

1.2 Site Location and Description

- 1.2.1 The site is subject to a Hybrid planning application. (1) Outline planning permission (all matters reserved with the exception of access) for the erection of up to and including 520 dwellings, community orchard/growing space, non-vehicular links between the site and Worthing, traffic calming measures, associated landscaping, open space / recreation areas, provision of formal playing pitches, ecological enhancements including improvements and extension to Cokeham Brooks Local Wildlife Site, and all other associated development works. (2) Full planning permission for 96 dwellings and other associated development works (Phase1).
- 1.2.2 The site is located approximately 2km west of Lancing, 3.6km east of Worthing, 8.6km west of Shoreham-by-Sea and 19km west of Brighton
- 1.2.3 Phase 1 of the development is located to the south of West Street, covering an area to the order of 62,492m² (6.25Ha) and will involve the construction of 96 No. residential dwellings.

1.3 Ground Conditions

- 1.3.1 A site-specific geotechnical investigation has been undertaken at the site, conducted by Resource & Environmental Consultants, dated July 2014.
- 1.3.2 The trial pit logs for the pits located within the bounds of Phase 1 of the development, and/or within the vicinity of this area are contained within **Appendix B** of this report.
- 1.3.3 The underlying geology was confirmed as consisting of '*Brown slightly gravelly SILT*' (Made Ground), '*Light brown slightly clayey gravelly SILT*' (Head Deposits) and '*Light brown clayey GRAVEL*' (Head Deposits) within Trial Pit SA4.
- 1.3.4 As part of this investigation, infiltration testing was undertaken with the relevant results contained within **Appendix B** of this report.
- 1.3.5 The nearest Trial Pit to proposed location of Phase 1 of the development is SA4. Infiltration rates were confirmed as being 1.53×10^{-4} at this location. This rate has been utilised for preliminary design calculations.
- 1.3.6 Additional site works were undertaken between December 2019 and March 2020 by LEAP Environmental, with shallow infiltration testing and additional groundwater monitoring undertaken.

1.3.7 A further 5 No. trial pits were excavated, to depths ranging from 0.640m to 1.050m, to allow 'shallow' infiltration testing to be undertaken. In addition, 6 No. window samplers were installed, to allow full winter groundwater monitoring to be undertaken.

1.3.8 The following infiltration rates were established following the additional testing undertaken at 'shallow' depths, by LEAP Environmental;

Trial Pit (Location)	Infiltration Rate
TP1	1.99×10^{-4}
TP2	4.60×10^{-5}
TP3	1.15×10^{-4}
TP4	1.74×10^{-4}
TP5	5.37×10^{-5}

1.3.9 Of the additional groundwater monitoring conducted by LEAP Environmental between December 2019 and March 2020, the following 'peak' groundwater levels were established (the highest of the 7 No. readings obtained, for each of the 6 No. locations);

Window Sampler (Location)	'Peak' (Highest) Groundwater Level
WS1	2.30m Below Ground Level
WS2	3.25m Below Ground Level
WS3	2.15m Below Ground Level
WS4	3.00m Below Ground Level
WS5	1.86m Below Ground Level
WS6	2.87m Below Ground Level

1.3.10 Full reports into the additional infiltration testing and groundwater monitoring conducted by LEAP Environmental can be found within **Appendix C** of this report.

1.4 Existing Drainage

1.4.1 Surface Water

- Public sewer records provided by Southern Water confirm that there are no public surface water sewers located within the vicinity of the site.
- It is understood that the site currently drains via infiltration, with run-off also following the natural topography of the site and naturally occurring overland flow routes.
- Greenfield run-off rate (QBAR) has been calculated to be 0.95/s (Q1 = 0.81l/s, Q30 = 2.19l/s and Q100 = 3.04l/s).

1.4.2 Foul Water

- The public sewer records provided by Southern Water confirm that there are public foul water sewers located within Loose Lane and Sylvan Road, to the south-east of Phase 1

development. It is understood that this sewer measures 225mm in diameter and has a recorded depth in the range of 3.55m to 4.45m.

2 PROPOSED DEVELOPMENT

2.1 Description of Development

- 2.1.1 The site is subject to a Hybrid planning application. (1) Outline planning permission (all matters reserved with the exception of access) for the erection of up to and including 520 dwellings, community orchard/growing space, non-vehicular links between the site and Worthing, traffic calming measures, associated landscaping, open space / recreation areas, provision of formal playing pitches, ecological enhancements including improvements and extension to Cokeham Brooks Local Wildlife Site, and all other associated development works. (2) Full planning permission for 96 dwellings and other associated development works (Phase1).
- 2.1.2 Phase 1 of the development seeks to utilise an area totalling 62,492m² (6.25Ha).
- 2.1.3 The total impermeable area, post development, has been determined to be 21,440m² (2.14Ha) as demonstrated by drawing **D1358-SK201 – 'Post Development Impermeable Areas'**.
- 2.1.4 The total impermeable area has been split into various catchments, as detailed in the table, below. This information is also illustrated on drawing **D1358-SK202 – 'Post Development Catchment Areas'**.

Catchment Type	Catchment Area	Catchment Area + 10% Urban Creep Allowance
Permeable Paving	4,861m ² (0.49Ha)	5,347m ² (0.53Ha)
Roofs	6,101m ² (0.61Ha)	6,711m ² (0.67Ha)
Highways	8,185m ² (0.82Ha)	9,004m ² (0.90Ha)
Paths/Paving	1,890m ² (0.19Ha)	2,079m ² (0.21Ha)

- 2.1.5 West Sussex County Council (as Lead Local Flood Authority) has published updated guidance on 'Policy for the Management of Surface Water' dated 27 November 2018.
- 2.1.6 Further to the West Sussex County Council's 'Policy for the Management of Surface Water', a maximum allowance of 10% has been included where the total impermeable area is concerned and has been included within each individual catchment, as detailed in the table, above.

1 PROPOSED DRAINAGE STRATEGY

3.1 Surface Water

- 3.1.1 It is proposed that Phase 1 of the development will be wholly drained by infiltration methods and techniques.
- 3.1.2 As confirmed further to infiltration testing undertaken at the site, infiltration rates within the vicinity of Phase 1 of the development have been confirmed as being 1.53×10^{-4} . This rate has been used for preliminary design purposes.
- 3.1.3 It is proposed that permeable paving will be introduced to support Phase 1 of the development, with this being utilised for the private estate roads, shared parking areas and private driveways.
- 3.1.4 The total plan area for the extents which are proposed to be constructed using permeable is 4,861m². Calculations contained within **Appendix D** of this report confirm that a 300mm sub-base with a void ratio of 30% provide sufficient storage and allow adequate infiltration to drain the impermeable area of 5,347m² (inclusive of 10% urban creep allowance).
- 3.1.5 Further to 3.1.4, in view of the additional infiltration testing undertaken by LEAP Environmental at shallow depths as associated with traditional permeable paving construction, consideration has been afforded to the varying rate(s) of infiltration established through the additional testing undertaken. The 'catchments' associated with each infiltration rate established by LEAP Environmental have been related to the proposed site layout to ensure that assessment and calculations are accurate, and a fair reflection of the associated soils' abilities where infiltration is concerned has been provided.
- 3.1.6 The roof areas associated with the proposed development will total 6,101m². An assessment has been conducted, again in view of the varying rates of infiltration at 'shallow' depths across the site, to ascertain the effectiveness of proposed soakaways in order to drain those roof areas, associated. Calculations contained within **Appendix E** of this report, indicate the required provision where soakaway volume is concerned for each plot, based on the appropriate rate of infiltration.
- 3.1.7 It is understood that the main access road will be offered for adoption by the local Highways Authority. The access road and public footways will be drained via a positive, piped drainage system, which will outfall to 5 No. cellular soakaway features. Supporting calculations are contained within **Appendix F**, whilst drawing **D1358-SK400 – 'Surface Water Drainage Catchments, Loading and Referencing'** has been prepared to assist in the understanding of the model produced.
- 3.1.8 The table, below, has been provided for quick interpretation and understanding of the soakaways designed in relation to Phase 1 of the development, to support the proposed adoptable highway extents;

Soakaway ID (Node)	SA1 (18)	SA2 (11)	SA3 (6)	SA4 (1)	SA5 (1 - Additional Road)
CL (Ground Level)	7.00m AOD	8.100m AOD	8.850m AOD	9.700m AOD	7.00m AOD
Depth of Cover	0.500m	0.900m	0.500m	0.500m	1.250m
Top of Tank Level	6.500m AOD	7.200m AOD	8.350m AOD	9.20m AOD	5.75m AOD
Tank Invert	5.700m AOD	6.400m AOD	7.150m AOD	8.00m AOD	5.35m AOD
Groundwater Level (Peak)	1.86m BGL (5.140m AOD)	2.15m BGL (5.95m AOD)	2.15m BGL (6.70m AOD)	2.30m BGL (7.40m AOD)	1.86m BGL (5.140m AOD)
Groundwater Freeboard	560mm	0.450mm	0.450mm	0.600mm	0.210mm
Soakaway Length	23.00m	10.00m	9.00m	9.00m	15m
Soakaway Width	5.00m	5.00m	5.00m	5.00m	3m
Soakaway Depth	0.800m	0.800m	1.200m	1.200m	0.400m

- 3.1.9 Freeboard has been provided in view of the 'peak' (highest) groundwater levels established within the vicinity of the proposed soakaway locations. The locations for monitoring were selected in view of the anticipated location(s) of the soakaway features, albeit in relation to an earlier revision of the current site arrangement, which has since developed to the revision as contained within this report. It is possible that the amount of freeboard may be increased at detailed design stage, subject to increased ground levels on site and/or through alterations to the proposed soakaways (i.e. plan area extents and depths).
- 3.1.10 The above strategy has been designed to accommodate a 1-in-100-year storm event, with the inclusion of an allowance of 40% for climate change. A further consideration has been made for Urban Creep, with an allowance of 10% incorporated within the total impermeable area associated with Phase 1 of the development and subsequent Microdrainage calculation.
- 3.1.11 The surface water drainage proposals are shown on drawing **D1358-SK300 'Drainage Strategy (Sheet 1 of 3)'**, **SK301 'Drainage Strategy (Sheet 2 of 3)'** and **SK302 'Drainage Strategy (Sheet 3 of 3)'** contained within this report.

3.2 Foul Water

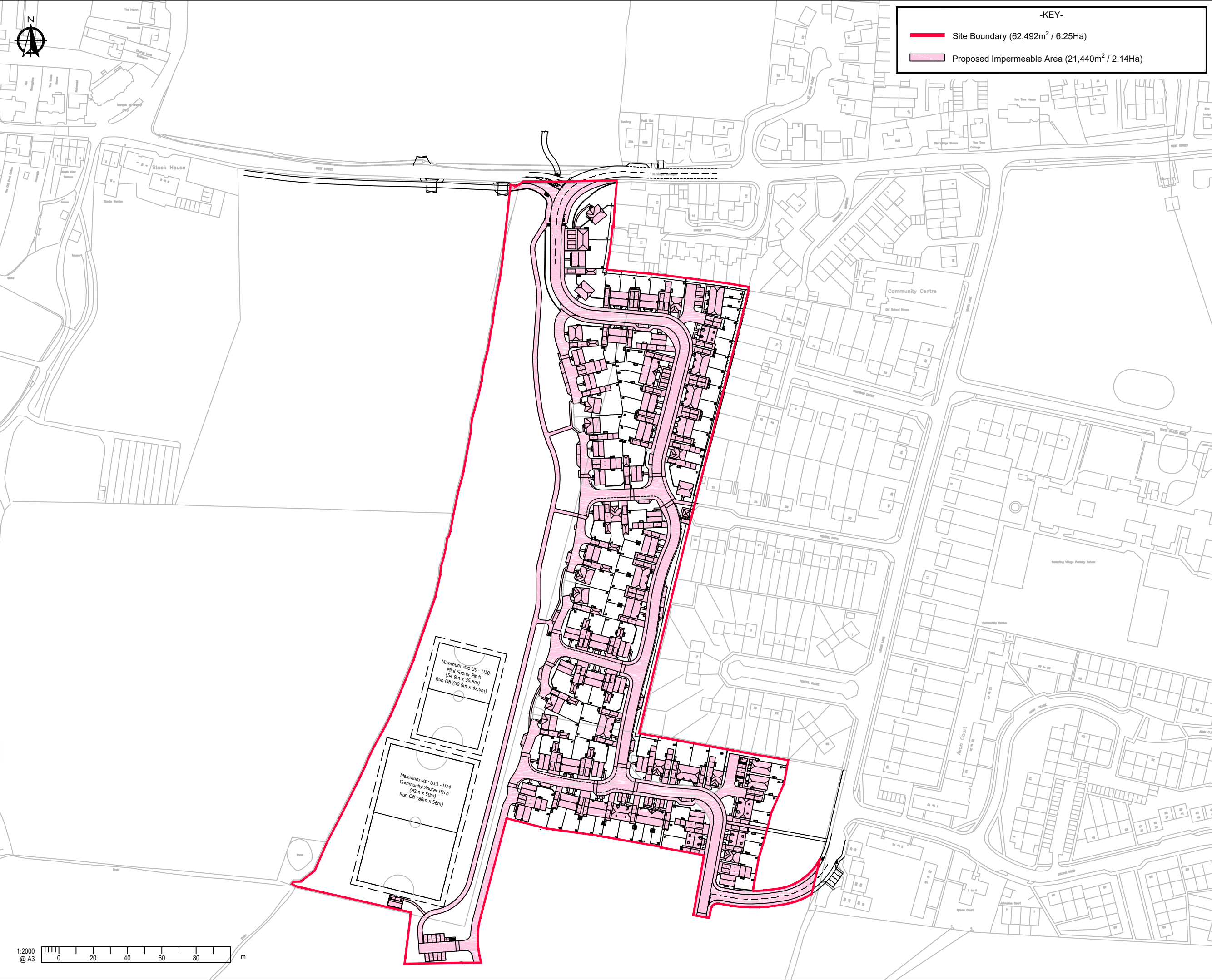
- 3.2.1 It is proposed that Phase 1 of the development will utilise a connection to the existing 225mm dia. public foul water sewer located within Sylvan Road, to the south-east of the development area, subject to confirmation of line, level, condition, and connectivity.
- 3.2.2 A S106 application will need to be submitted to Southern Water as a means of establishing the required connection.
- 3.2.3 Post development peak foul water flows will amount to 4.44l/s, based on 4000 litres per day (Design and Construction Guidance, 2020).

4 SUMMARY

- 4.1.1 Phase 1 of the development covers land totalling 62,492m² (6.25Ha).
- 4.1.2 The proposed impermeable area for Phase 1 will total 21,440m² (2.14Ha).
- 4.1.3 Phase 1 surface water run-off will be discharged fully via infiltration methods and techniques. Infiltration rates have been confirmed as 1.53x10⁻⁴ for the proposed highway soakaways, whilst varying infiltration rates have been established across the site at shallow depths for the provision of soakaways at shallow depths to support the roof area(s) of the proposed dwellings, as well as permeable paving.
- 4.1.4 Phase 1 foul water flows will discharge to the existing public foul sewer network, with a connection point in Sylvan Road (via a new manhole) being identified – subject to S106 approval from Southern Water.
- 4.1.5 Post development peak foul water flows have been determined to be 4.44l/s, based on 4000 litres per day (Design and Construction Guidance, 2020).

DRAWINGS

SK201	Post Development Impermeable Areas
SK202	Post Development Catchment Areas
SK300	Drainage Strategy (Sheet 1 of 3)
SK301	Drainage Strategy (Sheet 2 of 3)
SK302	Drainage Strategy (Sheet 3 of 3)
SK400	Surface Water Drainage Catchments, Loading and Referencing



-KEY-

Site Boundary (62,492m² / 6.25Ha)

Proposed Impermeable Area (21,440m² / 2.14Ha)

NOTES

A3

1. This drawing is to be read in conjunction with all other RGP drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.

2. RGP accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.

3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.

4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

PLANNING

NOT FOR CONSTRUCTION

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D	28/01/2021	Minor revisions to site layout
C	18/06/2020	Minor revisions to site layout
B	29/05/2020	Revised site layout
A	06/02/2019	Revised site layout
-	28/11/2018	Original Issue

Rev.	Date	Amendments
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Transport Planning and Infrastructure Design Consultants

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Tel: 01243 210418 www.rgpdesign.co.uk

Client

Persimmon Homes

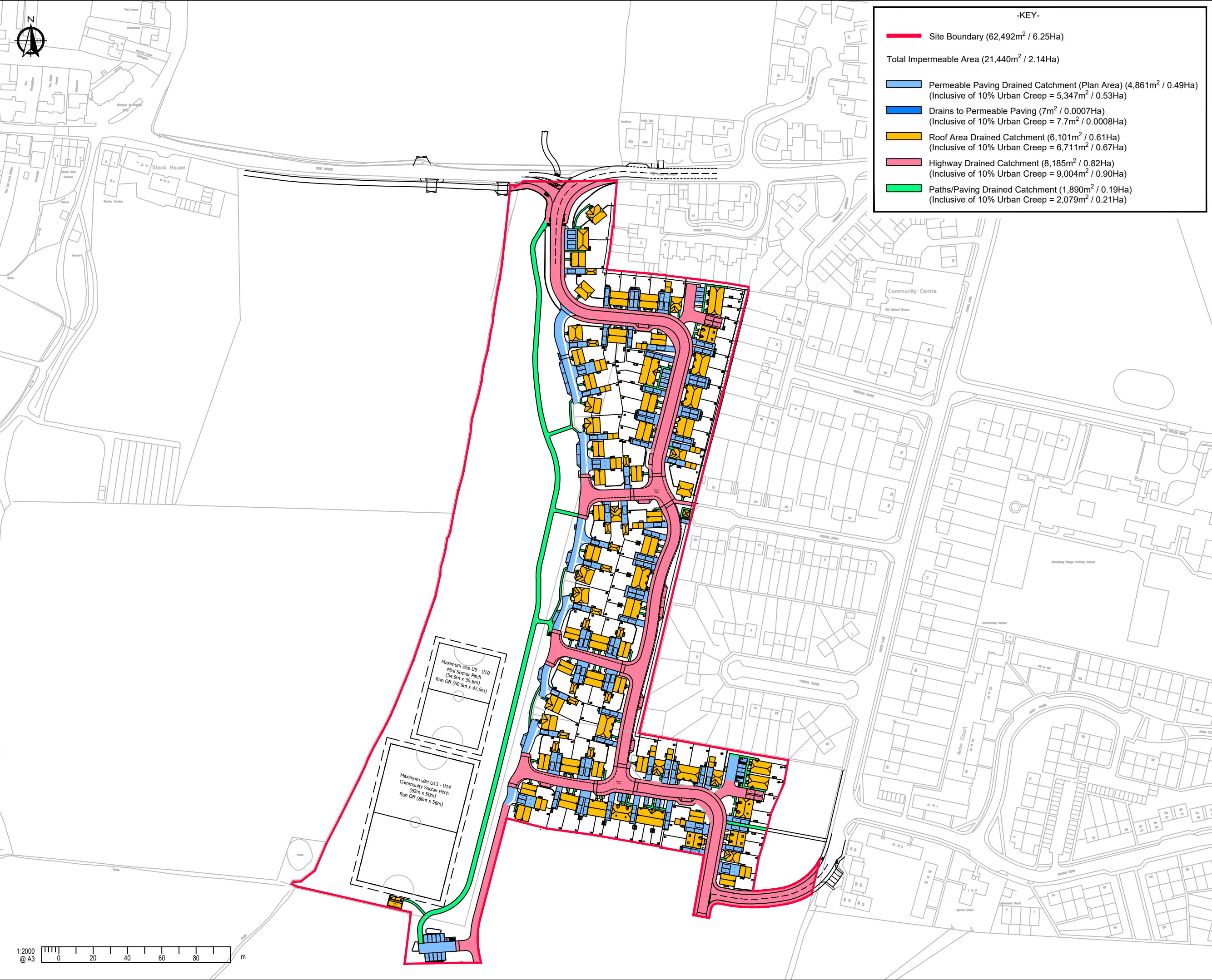
Project

Land at West Sompting
Phase 1

Drawing Title

Post Development
Impermeable Areas

Scale	1:2000	Drawn By	SPB	Checked By	MJA	Approved By	MJA
Date	November 2018	Drawing No.	2017-D1358-SK201	Rev.	D		



-KEY-

Site Boundary (62,492m² / 6.25Ha)

Total Impermeable Area (21,440m² / 2.14Ha)

Permeable Paving Drained Catchment (Plan Area) (4,861m² / 0.49Ha)
(Inclusive of 10% Urban Creep = 5,347m² / 0.53Ha)

Drains to Permeable Paving (7m² / 0.0007Ha)
(Inclusive of 10% Urban Creep = 7.7m² / 0.0008Ha)

Roof Area Drained Catchment (6,101m² / 0.61Ha)
(Inclusive of 10% Urban Creep = 6,711m² / 0.67Ha)

Highway Drained Catchment (8,185m² / 0.82Ha)
(Inclusive of 10% Urban Creep = 9,004m² / 0.90Ha)

Paths/Paving Drained Catchment (1,890m² / 0.19Ha)
(Inclusive of 10% Urban Creep = 2,079m² / 0.21Ha)

NOTES

A3

1. This drawing is to be read in conjunction with all other RGP drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.

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F08/02/2021Preliminary service margins allowed for in permeable paving

E28/01/2021Minor revisions to site layout

D19/06/2020Minor revisions to site layout

C29/05/2020Revised site layout

B02/04/2019Urban creep figures revised - 10% allowance

A06/02/2019Revised site layout

Rev.

Date

Amendments

RGP DESIGN LIMITED

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Client

Persimmon Homes

Project

Land at West Sompting
Phase 1

Drawing Title

Post Development
Catchment Areas

Scale

1:2000

Drawn By

SPB

Checked By

MJA

Approved By

MJA

Date

November 2018

Drawing No.

2017-D1358-SK202

Rev.

F

-DRAINAGE KEY-

- Existing Public Foul Water Sewer
- Existing Public Foul Water Manhole
- Proposed Foul Water Sewer
- Proposed Foul Water Manhole
- Proposed Surface Water Sewer
- Proposed Surface Water Manhole
- Proposed Soakaway
- Proposed Permeable Paving
- Infiltration Rate Catchment 1 (TP1) = 1.99×10^{-4}
- Infiltration Rate Catchment 2 (TP2) = 4.60×10^{-5}
- Infiltration Rate Catchment 3 (TP3) = 1.15×10^{-4}
- Infiltration Rate Catchment 4 (TP4) = 1.74×10^{-4}
- Infiltration Rate Catchment 5 (TP5) = 5.37×10^{-5}

-SURFACE WATER STRATEGY-

- Surface water disposal should be managed in view of the SuDS hierarchy:
 - Infiltration
 - Watercourse
 - Public Surface Water Sewer(s)

IMPERMEABLE AREA

- Phase 1 of the development has a total post-development impermeable area of 21,440m² (2.14Ha).
- The increase in impermeable area(s) across this phase of development will be dealt with through sustainable means, adhering to the SuDS hierarchy as outlined above.

INFILTRATION

- Infiltration testing has been undertaken at the site by Resource & Environmental Consultants, dated July 2014, as well as additional testing at shallow depths by LEAP Environmental, as of January 2020.
- Trial Pit SA4 (Resource & Environmental Consultants) was the closest test location relative to Phase 1 of the development, where the rate of infiltration has been confirmed as being 1.53×10^{-4} . This rate has been used for preliminary design calculations.

GROUNDWATER

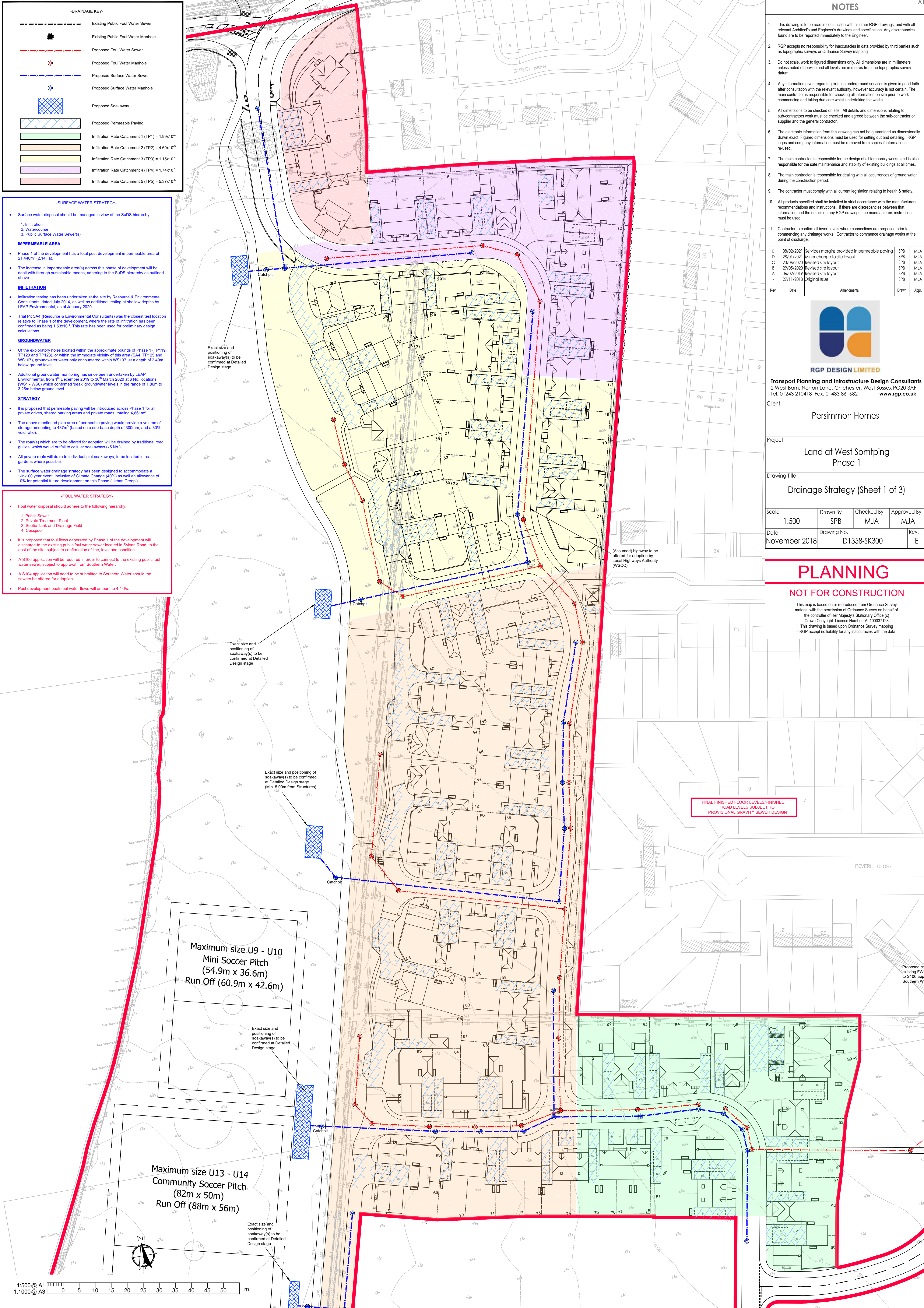
- Of the exploratory holes located within the approximate bounds of Phase 1 (TP119, TP120 and TP123), or within the immediate vicinity of this area (SA4, TP125 and WS107), groundwater water only encountered within WS107, at a depth of 2.40m below ground level.
- Additional groundwater monitoring has since been undertaken by LEAP Environmental, from 1st December 2019 to 30th March 2020 at 6 No. locations (WS1 - WS6) which confirmed 'peak' groundwater levels in the range of 1.86m to 3.25m below ground level.

STRATEGY

- It is proposed that permeable paving will be introduced across Phase 1 for all private drives, shared parking areas and private roads, totaling 4,881m².
- The above mentioned plan area of permeable paving would provide a volume of storage amounting to 437m³ (based on a sub-base depth of 300mm, and a 30% void ratio).
- The road(s) which are to be offered for adoption will be drained by traditional road gullies, which would outfall to cellular soakaways (x5 No.).
- All private roofs will drain to individual plot soakaways, to be located in rear gardens where possible.
- The surface water drainage strategy has been designed to accommodate a 1-in-100 year event, inclusive of Climate Change (40%) as well as allowance of 10% for potential future development on this Phase (Urban Creep).

-FOUL WATER STRATEGY-

- Foul water disposal should adhere to the following hierarchy:
 - Public Sewer
 - Private Treatment Plant
 - Septic Tank and Drainage Field
 - Cesspool
- It is proposed that foul flows generated by Phase 1 of the development will discharge to the existing public foul water sewer located in Sylvan Road, to the east of the site, subject to confirmation of line, level and condition.
- A S106 application will be required in order to connect to the existing public foul water sewer, subject to approval from Southern Water.
- A S104 application will need to be submitted to Southern Water should the sewers be offered for adoption.
- Post development peak foul water flows will amount to 4.44l/s.



NOTES

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- The contractor must comply with all current legislation relating to health & safety.
- All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any RGP drawings, the manufacturers instructions must be used.
- Contractor to confirm all invert levels where connections are proposed prior to commencing any drainage works. Contractor to commence drainage works at the point of discharge.

E	08/02/2021	Services margins provided in permeable paving	SPB	MJA
D	28/01/2021	Minor change to site layout	SPB	MJA
C	23/06/2020	Revised site layout	SPB	MJA
B	29/05/2020	Revised site layout	SPB	MJA
A	06/02/2019	Revised site layout	SPB	MJA
	27/11/2018	Original Issue	SPB	MJA

Rev.	Date	Amendments	Drawn	Appr.
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Client
Persimmon Homes

Project
Land at West Somtpting
Phase 1

Drawing Title
Drainage Strategy (Sheet 1 of 3)

Scale	Drawn By	Checked By	Approved By
1:500	SPB	MJA	MJA
Date	Drawing No.	Rev.	
November 2018	D1358-SK300	E	

PLANNING

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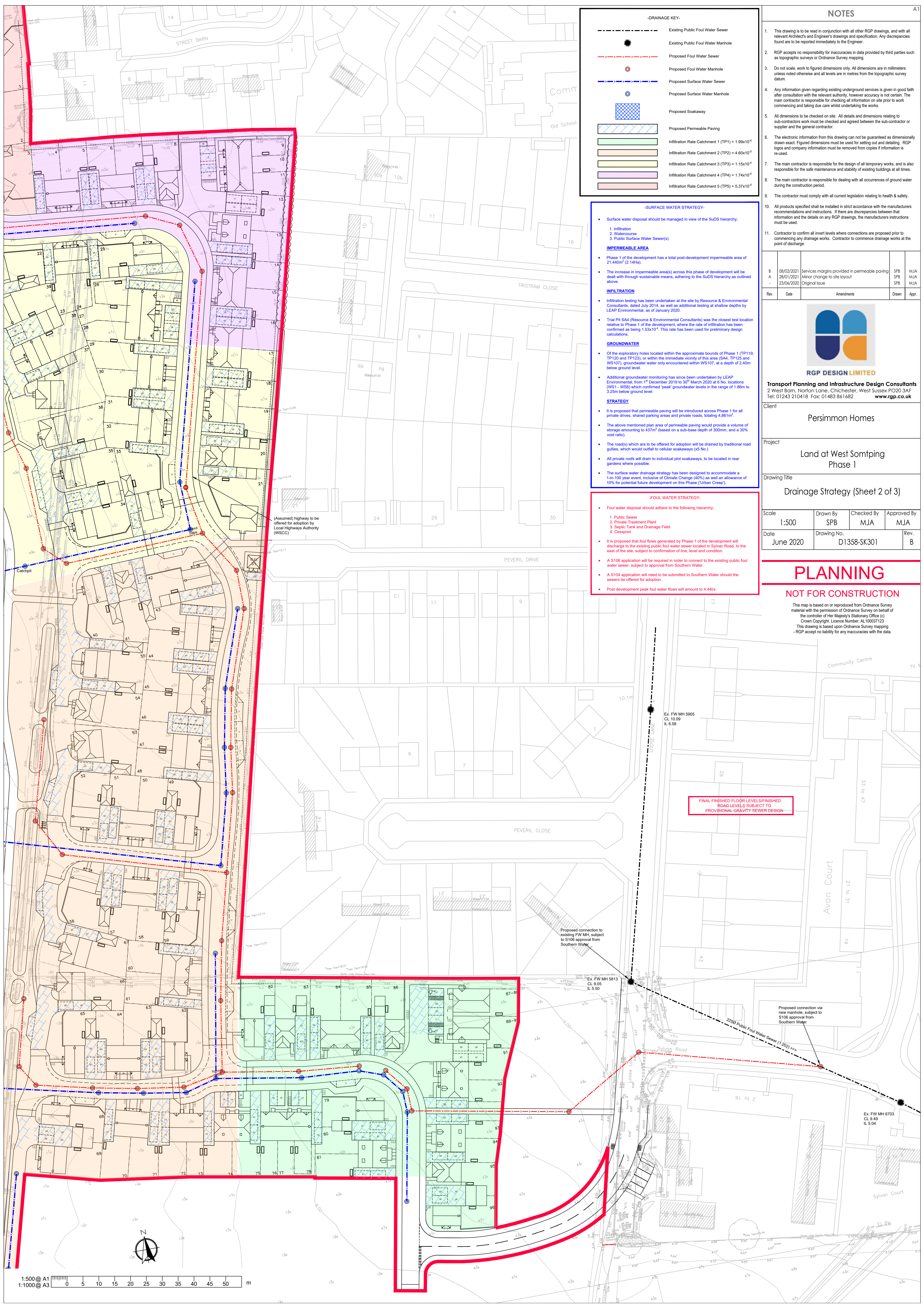
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FINAL FINISHED FLOOR LEVELS/FINISHED ROAD LEVELS SUBJECT TO PROVISIONAL GRAVITY SEWER DESIGN

Maximum size U9 - U10
Mini Soccer Pitch
(54.9m x 36.6m)
Run Off (60.9m x 42.6m)

Maximum size U13 - U14
Community Soccer Pitch
(82m x 50m)
Run Off (88m x 56m)

1:500 @ A1
1:1000 @ A3
0 5 10 15 20 25 30 35 40 45 50 m



-DRAINAGE KEY-

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B	08/02/2021	Services margins provided in permeable paving	SPB	MJA
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Rev.	Date	Amendments	Drawn	Appr.



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Client
Persimmon Homes

Project
Land at West Somtptng Phase 1

Drawing Title
Drainage Strategy (Sheet 2 of 3)

Scale	1:500	Drawn By	SPB	Checked By	MJA	Approved By	MJA
Date	June 2020	Drawing No.	D1358-SK301	Rev.	B		

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