



**REDROW HOMES
PROPOSED RESIDENTIAL
DEVELOPMENT
PHASE 2, BEREWOOD,
WATERLOOVILLE**

DRAINAGE STRATEGY

JANUARY 2014



the journey is the reward

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WATERLOOVILLE**

DRAINAGE STRATEGY

JANUARY 2014

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**REDROW HOMES
PROPOSED RESIDENTIAL DEVELOPMENT
PHASE 2, BEREWOOD, WATERLOOVILLE
DRAINAGE STRATEGY**

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1 Introduction

- 1.1 Mayer Brown Ltd has been commissioned by Redrow Homes to provide an infrastructure design service for the delivery of the Phase 2 residential area at Berewood, Waterlooville.
- 1.2 This drainage strategy has been prepared in support of the reserved matters application to demonstrate how the proposed development area will be drained for both foul and surface water.
- 1.3 This document relates to Condition 18 of the outline consent, and in part Condition 6(d).
- 1.4 Once the reserved matters layout has been agreed by Havant Borough Council as Local Planning Authority this strategy will be developed into a detailed design with supporting calculations. These would be submitted to the LPA for reserved matters approval in full prior to commencement.

2 Planning

- 2.1 The Berewood Development benefits from Outline Consent granted by Havant Borough Council on 18th April 2012, reference APP/10/00828.
- 2.2 This site is referred to in the outline application as Phase 2 and falls within the “Garden Suburb” area as defined in the design codes.
- 2.3 Condition 18 of the consent relates to the provision of Sustainable Drainage and is applicable in the context of a drainage strategy. Condition 18 states:

“Prior to the commencement of each reserved matters area a surface water drainage scheme, based on sustainable drainage principles and an assessment of the hydrological and hydro-geological context of the development, shall be submitted to and approved in writing by the Local Planning Authority. The drainage scheme for each reserved matters area shall be implemented prior to the completion of each reserved matters area and thereafter managed and maintained in accordance with the approved Phased Area Strategy. Information regarding the design storm period and intensity, the method employed to delay and control the surface water discharge from the site shall be included in the scheme.

The drainage scheme for each reserved matters area shall be designed in accordance with the principles set out in “Proposed Outline SUDS Strategy Statement” by Mayer Brown dated October 2010 submitted in support of the planning application.

Where the drainage scheme relies on drainage features outside of the reserved matters area boundary these must be completed to a point where that particular reserved matters area can be serviced. No reserved matters area shall be allowed to discharge run-off un-attenuated and untreated into receiving watercourses reliant on future reserved matters area can be serviced. No reserved matters area shall be allowed to discharge run-off un-attenuated and untreated into the receiving watercourses reliant on future reserved matters downstream for attenuation and treatment”

- 2.4 In relation to the general layout of foul and surface water condition 6 part (d) requires plans and particulars to be submitted and approved prior to commencement and requests information on:

The layout, depth and capacity of all foul sewers and surface drainage including SUDS and their means of disposal; and details of any other proposed ancillary drainage works / plant (e.g. pumping stations)

3 Existing Drainage

- 3.1 The proposed development is wholly serviced by the strategic infrastructure provided by the vendor, West of Waterlooville Developments Ltd. This includes the strategic spine roads, a main foul sewer discharging by gravity to the south and surface water sewer connections discharging to a series of strategic SuDS features.
- 3.2 The strategic SuDS provided has been approved in relation to Condition 18 by virtue of the consented Phase 2 Infrastructure reserved matters application, with specific reference to “Phase 2 Infrastructure – Berewood, Waterlooville – SuDS Design Document” produced by Mayer Brown dated December 2012. The proposed development area will connect to spurs provided.
- 3.3 The foul drainage provided has also been approved within the consented Phase 2 Infrastructure reserved matters application. This is a gravity sewer adopted on-site by SSE and connecting to the Southern Water network at the junction of London Road and Purbrook Heath Road. The proposed development area will connect to spurs provided.

4 Proposed Drainage

- 4.1 The main issue with respect to the consented Phase 2 Infrastructure SuDS layout is to ensure that the distribution of surface water catchments within the proposed layout is equivalent to that assumed for the original design. This is to ensure that there is not an uneven distribution of surface water, which could potentially overload one or more of the SuDS features.
- 4.2 Figure 1 in Appendix A shows the catchment area plan contained within the Phase 2 Infrastructure SuDS Design Document. The surface water pipe network has been designed to follow this plan as closely as possible and to ensure that the upstream SuDS features are being fully utilised. This is done by assuming that the areas on the Infrastructure strategy are equalled or exceeded. The consequence of exceeding the areas will be to bring the overflows into operation more frequently. This is preferable to underutilising the upstream SuDS features and overloading the final SuDS features.
- 4.3 Figure 2 shows the proposed surface water drainage layout and the resulting catchment areas routed to each of the SuDS features. For ease of cross referencing the catchment areas in Figure 2 have been numbered to co-ordinate with Figure 1. Larger scale drawings of the drainage layout can be found in Appendix B. These clearly show how the proposed housing area connects to the infrastructure drainage network.
- 4.4 The drawings in Appendix B also show the foul sewer drainage network layout and how this will connect to the infrastructure drainage layout.
- 4.5 The detailed design of the pipework shall be progressed once the layout is approved by the appropriate reserved matters consent. This shall in turn be submitted for reserved matters approval under condition 6(d) prior to commencement.
- 4.6 As has been stated above, the development is catered for by the strategic SuDS features. However, there is a requirement under the design codes (section GS07.01.05) to incorporate pervious paving into the design of all private parking areas and drives. Figure 2 highlights these areas with a cross hatch.

5 Conclusion

- 5.1 The proposed surface water drainage layout as shown in Appendix B conveys the drained areas by gravity to the appropriate previously consented Phase 2 Infrastructure SuDS features. This is demonstrated with reference to Figures 1 & 2 and fulfils the requirements of Condition 18.
- 5.2 Private drive and parking areas shall incorporate appropriate pervious pavement in accordance with the Design Codes.
- 5.3 The proposed foul water drainage layout as shown in Appendix B conveys the drained areas by gravity to the previously consented Phase 2 Infrastructure foul network

Appendix A – Figures

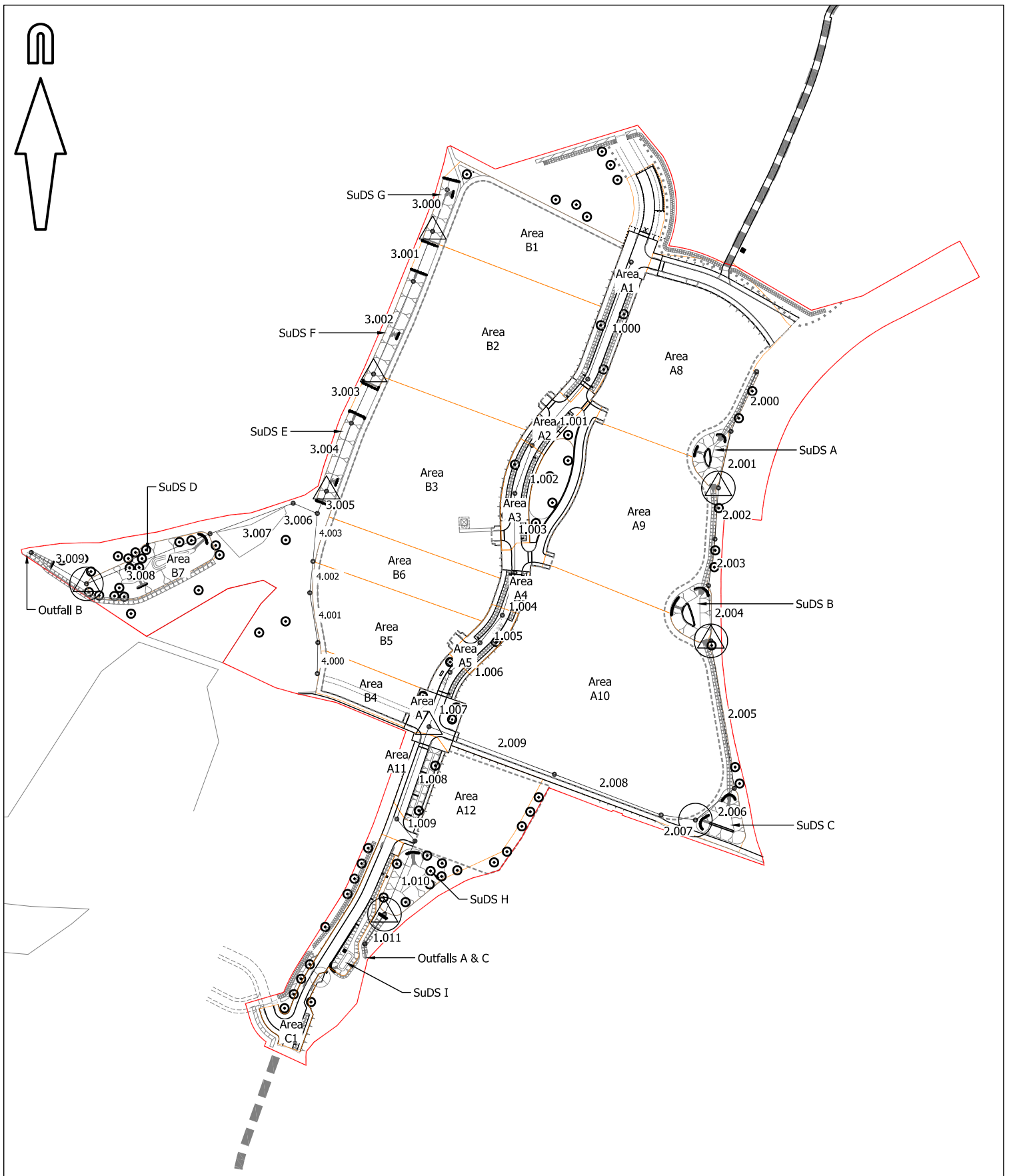
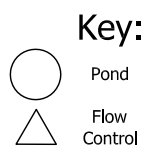
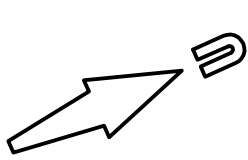
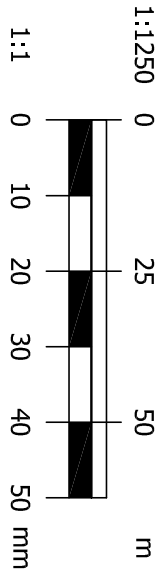
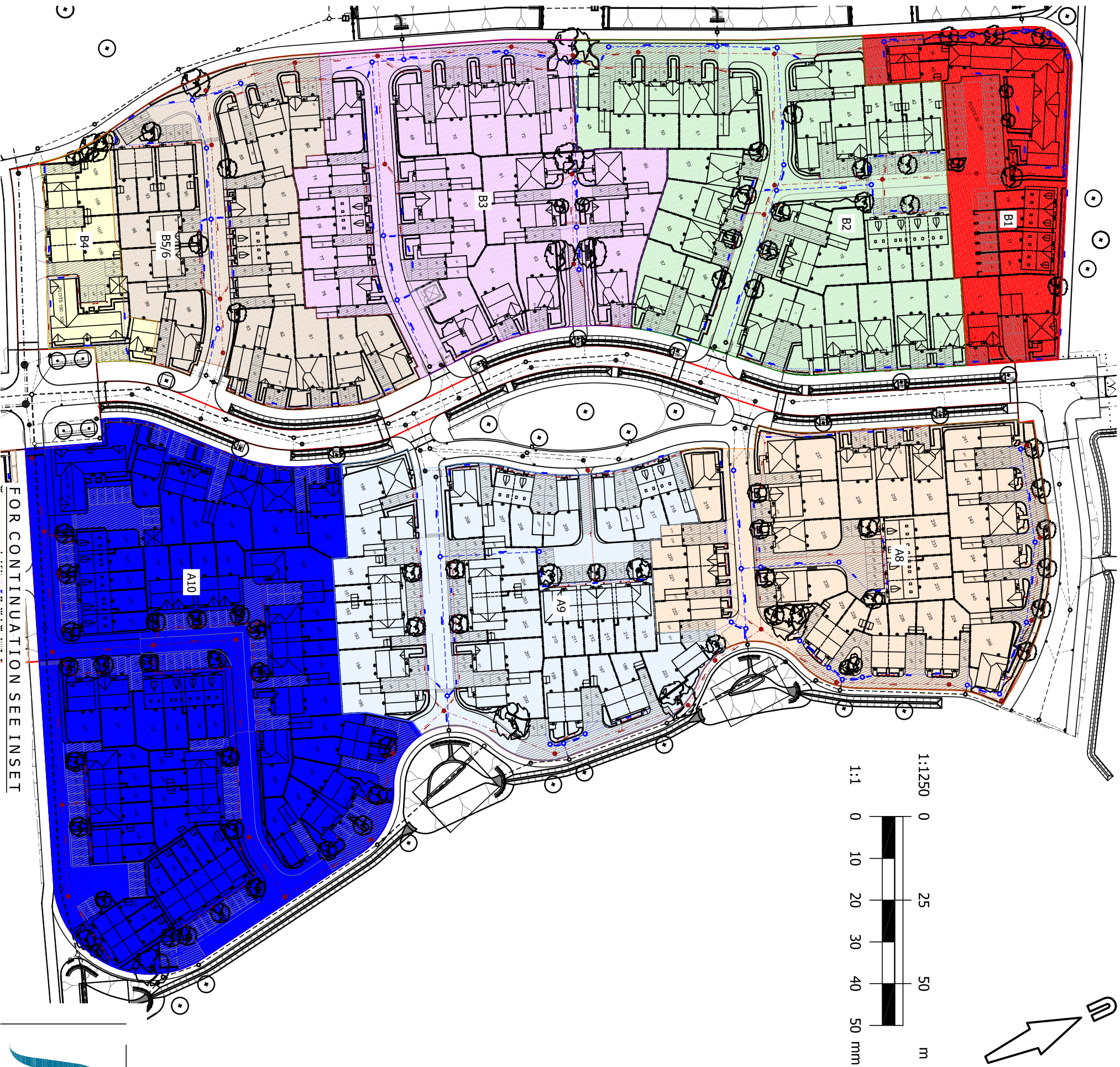
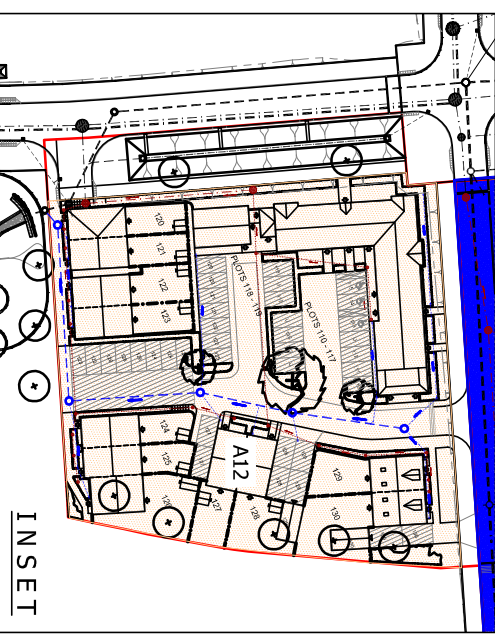


Figure 1
Phase 2 Infrastructure
Surface Water Drainage - Schematic Diagram

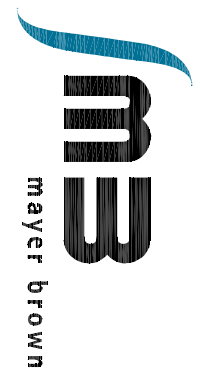




KEY	
SURFACE WATER SUDS CATCHMENT AREAS	
	CATCHMENT B1
	CATCHMENT B2
	CATCHMENT B3
	CATCHMENT B4
	CATCHMENT B5/6
	CATCHMENT A8
	CATCHMENT A9
	CATCHMENT A10
	CATCHMENT A12
	PERMEABLE PAVING

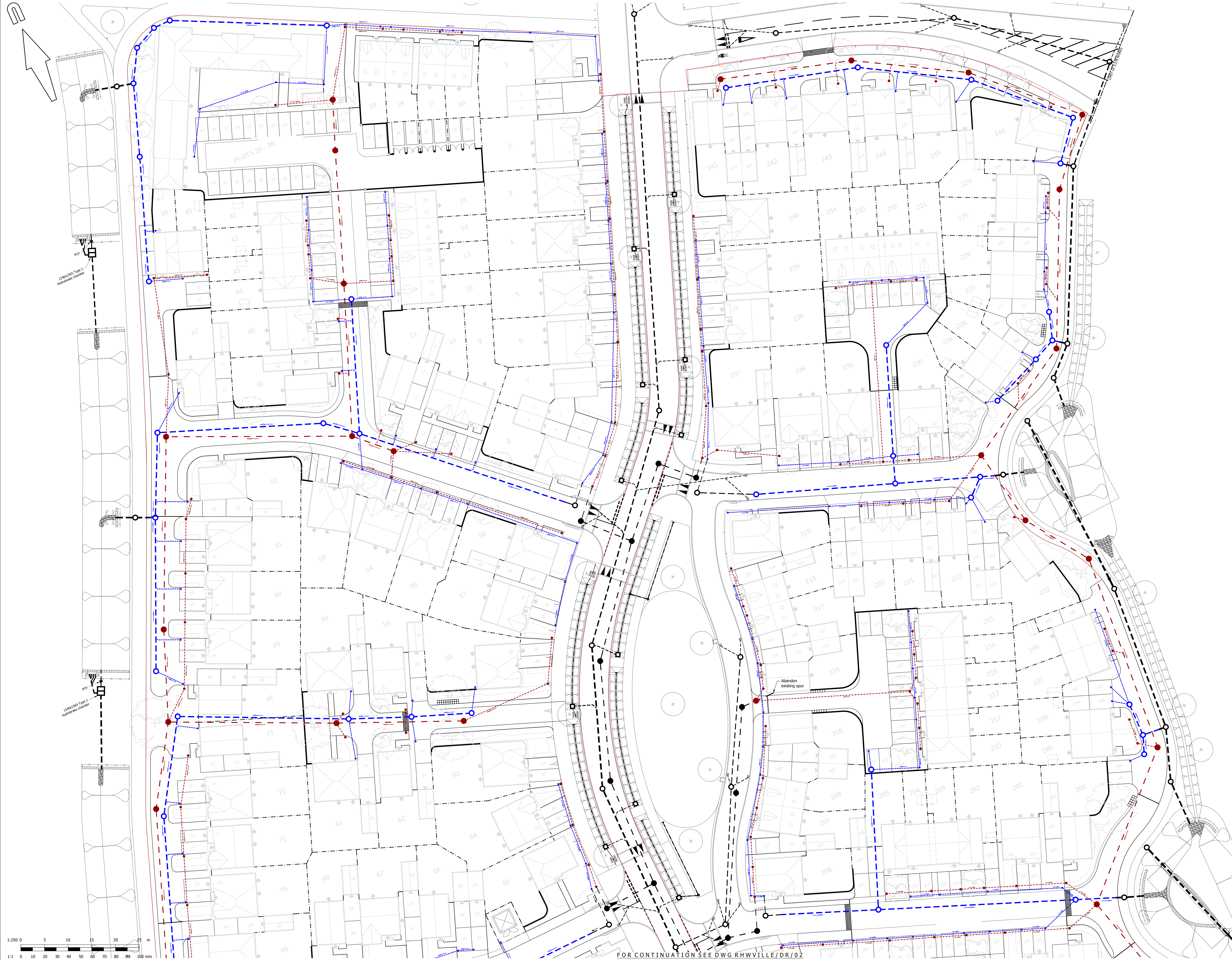


A	Updated to reflect Tetlow King masterplan revisions. (NT)	PAS	09/01/2014
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REDROW HOMES
SURFACE WATER DRAINAGE
CATCHMENT PLAN
SCALE 1:1250@A3

Appendix B – Drawings



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A0 ORIGINAL

KEY:

- PROPOSED SURFACE WATER MANHOLE
- PROPOSED SURFACE WATER SEWER
- PROPOSED SURFACE WATER PIPE
- PROPOSED SURFACE WATER INSPECTION CHAMBER
- PROPOSED FOUL WATER MANHOLE
- PROPOSED FOUL WATER SEWER
- PROPOSED FOUL WATER PIPE
- PROPOSED FOUL WATER INSPECTION CHAMBER
- EXISTING P21 SURFACE WATER MANHOLE
- EXISTING P21 SURFACE WATER SEWER
- EXISTING P21 FOUL WATER MANHOLE
- EXISTING P21 FOUL WATER SEWER

PRELIMINARY
NOT FOR CONSTRUCTION

A	Updated to reflect Tetlow King Masterplan revisions (PIT)	PAS	09/01/2014
rev.	amendment	checked	date

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REDROW HOMES

project
BEREWOOD, WATERLOOVILLE
PHASE 2 HOUSING

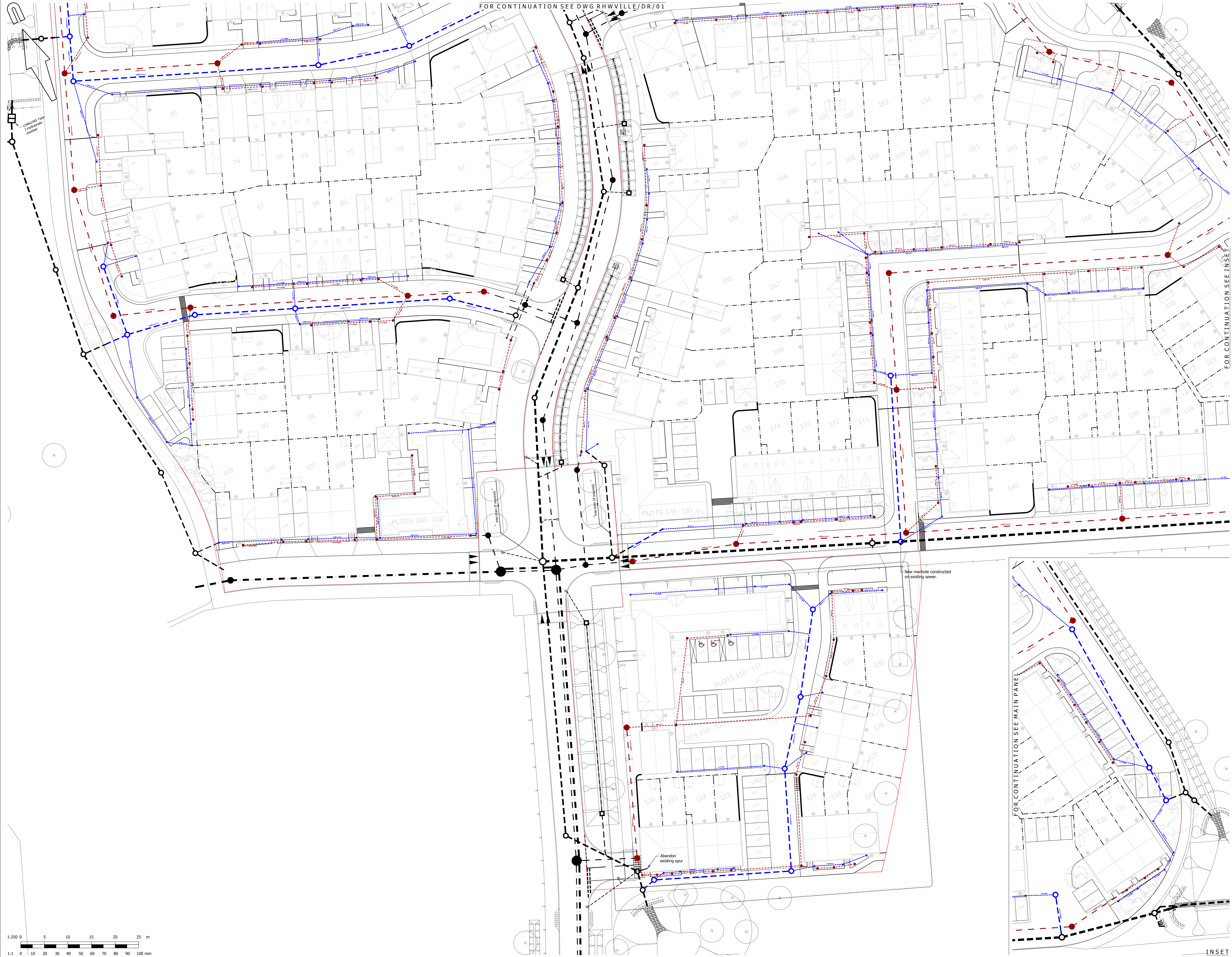
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date DECEMBER 2013 cad file DR_01-02.dwg

title
PROPOSED DRAINAGE LAYOUT
SHEET 1 OF 2

drawing number
RHWVILLE/DR/01

rev.
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- EXISTING P21 FOUL WATER SEWER

PRELIMINARY
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A Updated to reflect Tetlow King Masterplan revisions (RT) PAS 09/01/2014

rev. amendment checked date

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PHASE 2 HOUSING

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title
PROPOSED DRAINAGE LAYOUT
SHEET 2 OF 2

drawing number
RHWVILLE/DR/02
rev. A

