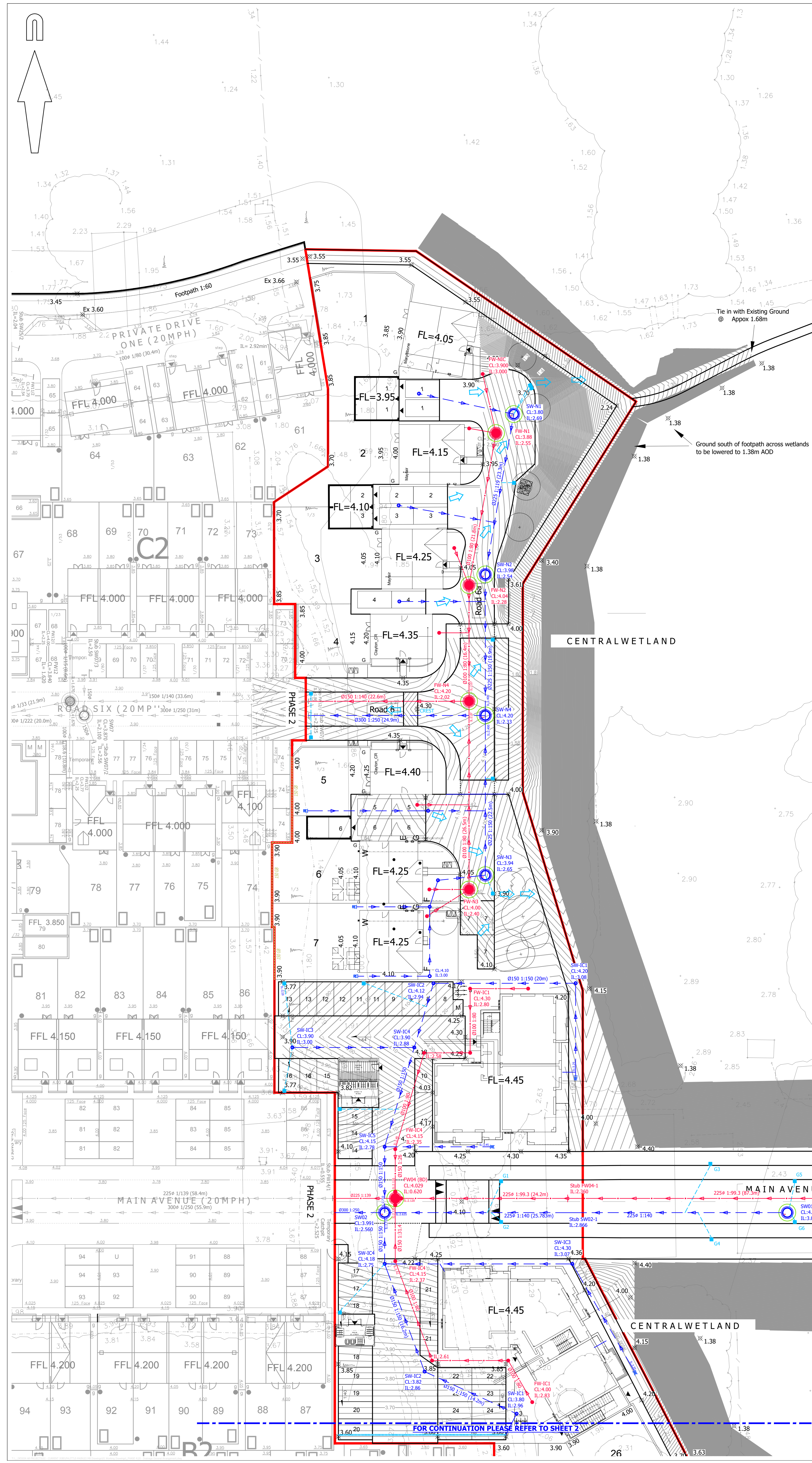




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A1 ORIGINAL

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DRAINAGE KEY:

- PROPOSED SURFACE WATER SEWER AND MANHOLE
- PROPOSED FOUL WATER SEWER AND MANHOLE
- PROPOSED FOUL WATER BACKDROP
- PROPOSED SURFACE WATER SEWER AND INSPECTION CHAMBER
- PROPOSED FOUL WATER SEWER AND INSPECTION CHAMBER
- PROPOSED ROAD GULLY
- PROPOSED RODDING EYE
- PROPOSED SURFACE WATER OUTFALL
- PROPOSED ATTENUATION TANK
- PROPOSED PERMEABLE PAVING & FIN DRAIN
- EXCEEDENCE FLOW ARROWS
- PROPOSED CONTOURS
- PROPOSED FOUL RISING MAIN
- SITE BOUNDARY
- LEVELS KEY:
 - FL=1.45 PROPOSED FLOOR LEVEL
 - 1/200 PROPOSED GRADIENT
 - PROPOSED GRAVEL BOARD RETENTION
 - TOW=3.05 PROPOSED RETAINING WALL

NOTES:

- This drawing is not to be scaled.
- Drawing based on Persimmon Homes Thames Valley Architect's 'Site Layout' drawing reference 545_PL_101, received on 04/06/2020.

FOR INFORMATION
NOT FOR CONSTRUCTION

P3	Exceedence Flow Arrows Added (SF)	SF	06/07/20
P2	Kerbs updated in parking courts A & B and along the main avenue. (TC)	SF	09/06/20
P1	Initial Issue. (TC)	SF	04/06/2020

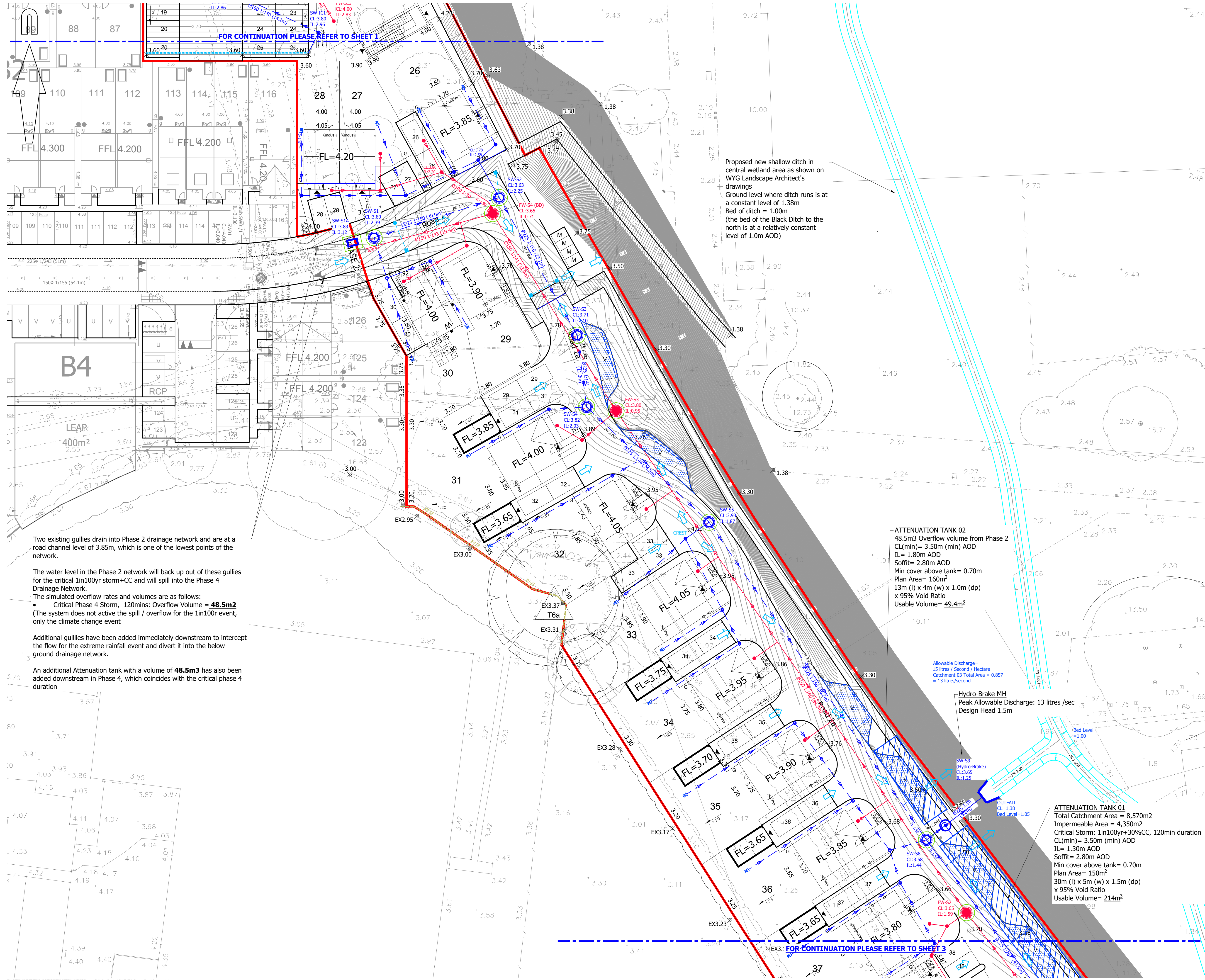
rev.	amendment	checked	date
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client	PERSIMMON HOMES THAMES VALLEY		
project	PHASE 4 LITTLEHAMPTON		
scale	1:250	drawn by	TC
		checked by	SF
date	FEBRUARY 2020	cad file	20.DWG
title	PROPOSED DRAINAGE AND LEVELS DRAWING (SHEET 1 OF 3)		
Mayer Brown Limited jobcode		suitability	revision
		-	P3
drawing number	PHLITTLE P4-20-1		



Two existing gullies drain into Phase 2 drainage network and are at a road channel level of 3.85m, which is one of the lowest points of the network.

The water level in the Phase 2 network will back up out of these gullies for the critical 1in100yr storm+CC and will spill into the Phase 4 Drainage Network.

The simulated overflow rates and volumes are as follows:
• Critical Phase 4 Storm, 120mins: Overflow Volume = **48.5m³**
(The system does not active the spill / overflow for the 1in100r event, only the climate change event)

Additional gullies have been added immediately downstream to intercept the flow for the extreme rainfall event and divert it into the below ground drainage network.

An additional Attenuation tank with a volume of **48.5m³** has also been added downstream in Phase 4, which coincides with the critical phase 4 duration

Proposed new shallow ditch in central wetland area as shown on WYG Landscape Architect's drawings
Ground level where ditch runs is at a constant level of 1.38m
Bed of ditch = 1.00m
(the bed of the Black Ditch to the north is at a relatively constant level of 1.0m AOD)

ATTENUATION TANK 02
48.5m³ Overflow volume from Phase 2
CL(min)= 3.50m (min) AOD
IL= 1.80m AOD
Soffit= 2.80m AOD
Min cover above tank= 0.70m
Plan Area= 160m²
13m (l) x 4m (w) x 1.0m (dp)
x 95% Void Ratio
Usable Volume= **49.4m³**

Allowable Discharge=
15 litres / Second / Hectare
Catchment 03 Total Area = 0.857
= 13 litres/second

Hydro-Brake MH
Peak Allowable Discharge: 13 litres /sec
Design Head 1.5m

ATTENUATION TANK 01
Total Catchment Area = 8,570m²
Impermeable Area = 4,350m²
Critical Storm: 1in100yr+30%CC, 120min duration
CL(min)= 3.50m (min) AOD
IL= 1.30m AOD
Soffit= 2.80m AOD
Min cover above tank= 0.70m
Plan Area= 150m²
30m (l) x 5m (w) x 1.5m (dp)
x 95% Void Ratio
Usable Volume= **214m³**

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- PROPOSED PERMEABLE PAVING & FIN DRAIN
- EXCEEDENCE FLOW ARROWS
- PROPOSED CONTOURS
- PROPOSED FOUL RISING MAIN
- SITE BOUNDARY

LEVELS KEY:

- FL=1.45 PROPOSED FLOOR LEVEL
- 1/200 PROPOSED GRADIENT
- 150 GR PROPOSED GRAVEL BOARD RETENTION
- TOW=3.85 PROPOSED RETAINING WALL

NOTES:

- This drawing is not to be scaled.
- Drawing based on Persimmon Homes Thames Valley Architect's 'Site Layout' drawing reference 545_PL_101, received on 04/06/2020.

FOR APPROVAL
NOT FOR CONSTRUCTION

P3	Surface Water Attenuation updated, note about Phase 2 overflow added, outfall swale and CWA ditch added, Exceedence flows arrows added (SF)	SF	06.07.2020
P2	Drawing updated following revised layout. (TC)	SF	05/06/2020
P1	Initial Issue. (TC)	SF	04/06/2020

rev.	amendment	checked	date
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client
PERSIMMON HOMES THAMES VALLEY

project
**PHASE 4
LITTLEHAMPTON**

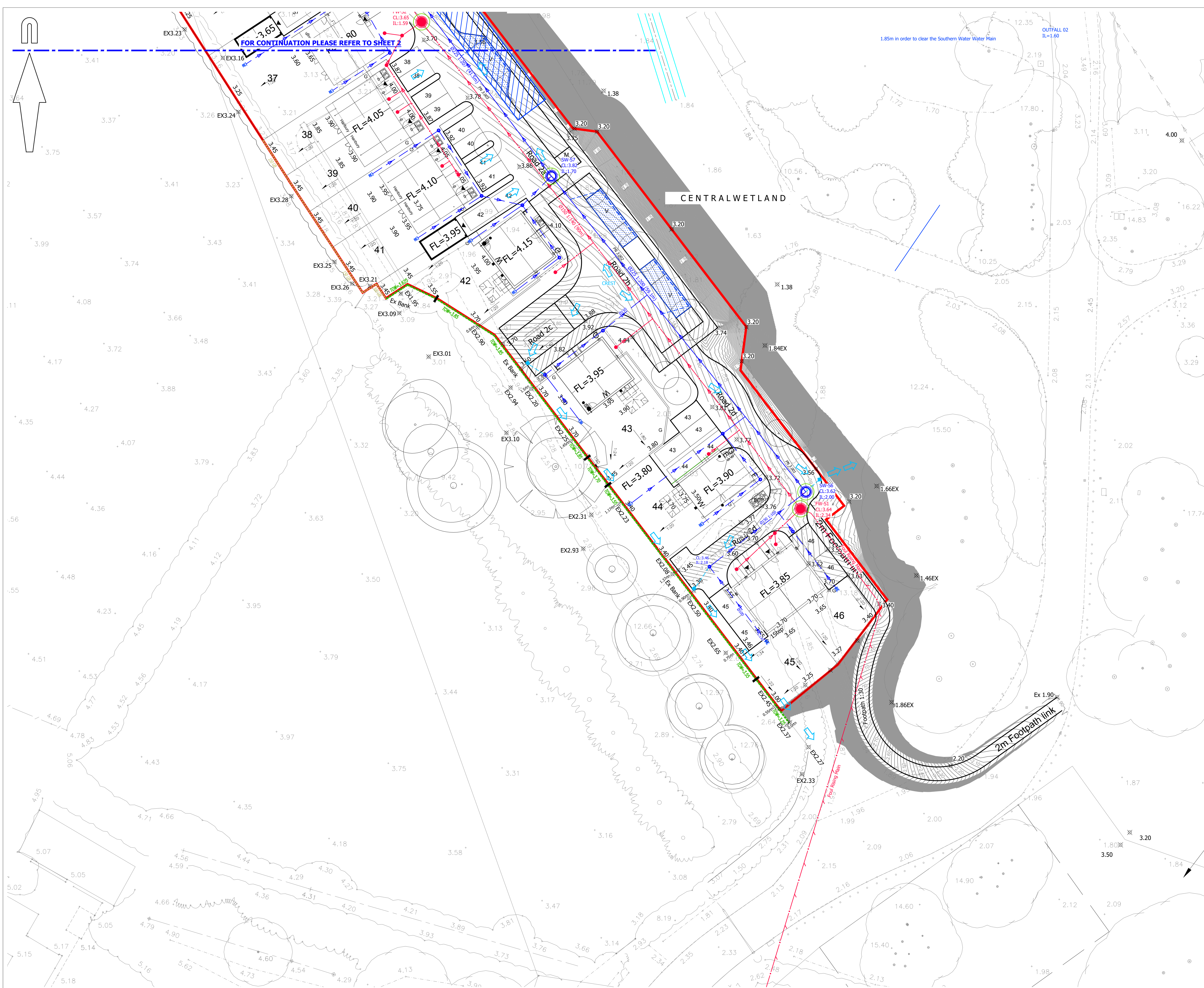
scale 1:250	drawn by TC	checked by SF
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date FEBRUARY 2020	cad file 20.DWG
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title
**DRAINAGE AND LEVELS
GENERAL ARRANGEMENT DRAWING
(SHEET 2 OF 3)**

Mayer Brown Limited jobcode	suitability	revision
	-	P3

drawing number
PHLITTLE P4-20-2



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NOTES:

- This drawing is not to be scaled.
- Drawing based on Persimmon Homes Thames Valley Architect's 'Site Layout' drawing reference 545_PL_101, received on 04/06/2020.

FOR APPROVAL
NOT FOR CONSTRUCTION

P3	Exceedence Flow arrows and permeabel paving added	SF	06.07.2020
P2	Drawing updated following revised layout. (TC)	SF	05/06/2020
P1	Initial Issue. (TC)	SF	04/06/2020

rev.	amendment	checked	date
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client
PERSIMMON HOMES THAMES VALLEY

project
**PHASE 4
LITTLEHAMPTON**

scale 1:250	drawn by TC	checked by SF
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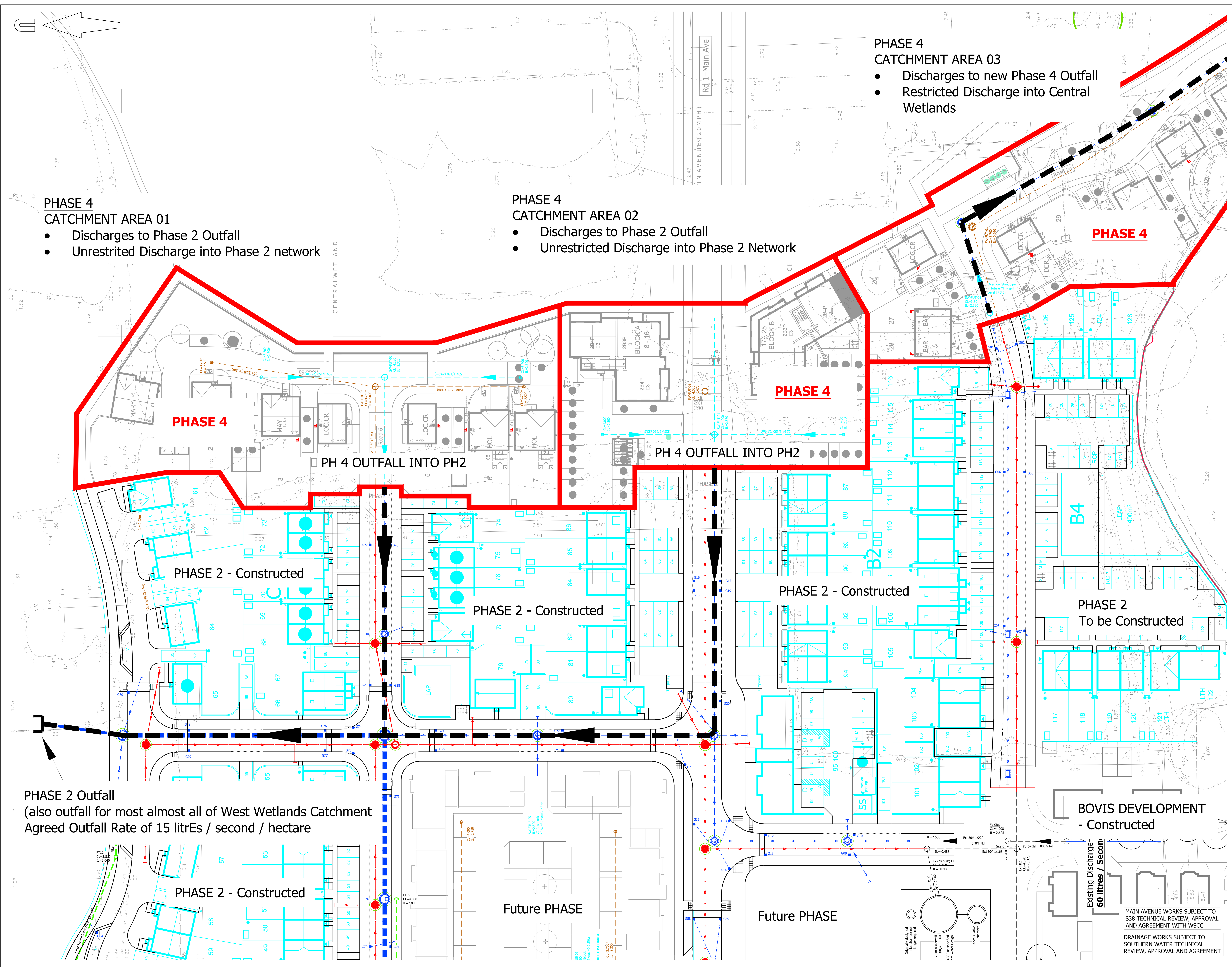
date FEBRUARY 2020	cad file 20.DWG
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title
**DRAINAGE AND LEVELS
GENERAL ARRANGEMENT DRAWING
(SHEET 3 OF 3)**

Mayer Brown Limited jobcode	suitability	revision P3
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drawing number
PHLITTLE P4-20-3

APPENDIX E: C1 & C2_Phase 2 & Phase 4 Interface



PHASE 4
CATCHMENT AREA 01

- Discharges to Phase 2 Outfall
- Unrestricted Discharge into Phase 2 network

PHASE 4
CATCHMENT AREA 02

- Discharges to Phase 2 Outfall
- Unrestricted Discharge into Phase 2 Network

PHASE 4
CATCHMENT AREA 03

- Discharges to new Phase 4 Outfall
- Restricted Discharge into Central Wetlands

A0 ORIGINAL

NOTES:

- This drawing is not to be scaled
- This drawing has been produced to show how Phase 4 surface water Drainage Catchments drain into the approved Phase 2 surface water and eventually into the main West of Wetlands outfall
- Most of Phase 2 has already been constructed and the Phase 2 existing sewers were originally designed to drain Catchments 01 & 02 of Phase 4

FOR INFORMATION

P1	Initial tender issue: (0/0)	SF	10/11/2017
rev.	amendment	checked	date

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Client
PERSIMMON HOMES THAMES VALLEY

Project
HAMPTON PARK, LITTLEMAPTON
PHASE 4

Scale
1:250

Drawn by
QJN

Checked by
SF

Date
JULY 2020

cad file
MBSK200702-1.DWG

Title
PHASE 4 SURFACE WATER DRAINAGE CATCHMENTS
IN RELATION TO EXISTING PHASE 2

Drawing number
MBSK200702-01

rev.
P1

APPENDIX F: C1 & C2_ICOSA Water S104 Technical Approval

TECHNICAL APPROVAL CERTIFICATE REV A



Technical Approval is hereby granted for 18-025 Toddington Lane, North Littlehampton in response to the application for a S104 Adoption under the Water Industry Act 1991.

Conditions to this technical approval are subject to the following:

- A pre-start site meeting should be held with Icosa Water and/or its appointed representative prior to construction or as soon as possible after approval is given if construction has already commenced.
- Any variations to layout or materials should be requested from Icosa Water and should only be constructed when confirmed in writing.
- Icosa Water reserve the right to withdraw or amend this technical approval should circumstances on site require it.

<i>Site details</i>	Toddington Lane, Littlehampton
<i>Developer</i>	Persimmon Homes
<i>Designer</i>	Mayer Brown
<i>Icosa Water Consultant</i>	David Antill
<i>Reviewed by</i>	David Antill
<i>Approval date</i>	27/09/19
<i>Signed (Icosa Water Consultant)</i>	
<i>Name</i>	David Antill
<i>Signed (Icosa Water)</i>	
<i>Name</i>	David Palmer

If you have any queries, please call: 0330 320 0762 or email: adoptions@icosawater.co.uk

Icosa Water Ltd
Sophia House
28 Cathedral Road
Cardiff
CF11 9LJ



Project Reference	18-025	
Project Name	Toddington Lane, North Littlehampton	
List of Issued Drawings		
Drawing Number/Reference	Drawing Title	Rev
Aqua Swirl (SDS Systems)	SDS Aqua-Swirl - 1800 Ø - AS-6	-
MicroDrainage Calcs	Foul Sewerage Design	01/03/2019
MicroDrainage Calcs	Proposed Storm Water Network 1in1yr	01/03/2019
MicroDrainage Calcs	Proposed Storm Water Network 1in30yr	01/03/2019
MicroDrainage Calcs	Proposed Storm Water Network 1in100yr+cc	01/03/2019
PHLITTLE-INT/MHS/FW/104	Foul Water Manhole Schedule	A1
PHLITTLE-INT/MHS/SW/104	Surface Water Manhole Schedule	A3
A/PHLITTLE-INT.10/S104-10-1	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 1 of 4 (Overview)	P3
A/PHLITTLE-INT.10/S104-10-2	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 2 of 4	P1
A/PHLITTLE-INT.10/S104-10-3	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 3 of 4	P3
A/PHLITTLE-INT.10/S104-10-4	Section 104 Drainage General Arrangement Surface and Foul Water – Sheet 4 of 4	P4
A/PHLITTLE-INT.10/S104-20-1	Section 104 Drainage Surface and Foul Water Long Sections – Sheet 1 of 2	P4
A/PHLITTLE-INT.10/S104-20-2	Section 104 Drainage Surface and Foul Water Long Sections – Sheet 2 of 2	P1
A/PHLITTLE-INT.10/S104-50-1	Section 104 Drainage Surface and Foul Water Location Plan	P1
S104-MB-01	Section 104 Drainage Construction Details	P1
S104-MB-02	Section 104 Drainage Construction Details – Attenuation Tank 1	P3
E198619_01_-	Attenuation Tank 1 Detail	B