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DRAFT

Drainage Statement

Proposed Commercial Development at

Highdown Farm, Ferring

On behalf of

Mr Michael J ones

June 2019

Document History and Status

Project Number 23202

Date	Version	Prepared By	Reviewed By	Approved By
17 June 2019	Draft 1.0	Martin Kempshall C Eng MICE	Stuart Magowan IEng MICE	Stuart Magowan IEng MICE

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1 Non Technical Summary

- 1.1 This Drainage Statement has been undertaken in accordance with the National Planning Policy Framework on behalf of Mr Michael J ones in support of a Planning Application for the construction of two new commercial units at Highdown Farm, Ferring.
- 1.2 This report is to be read in conjunction with all planning, architectural and other reports that accompany the Planning Application for the proposed development.
- 1.3 The proposed development will incorporate a sustainable drainage system, which will discharge surface water via infiltration to ground.
- 1.4 Water quality improvement will be provided to mitigate against any risk to any receiving waterbody.
- 1.5 Storage will be provided for all storm return periods up to and including the 1:100 year rainfall event with an additional 40% allowance to account for the predicted future effects of climate change.
- 1.6 There is no foul water infrastructure within the vicinity of the site. Foul water will be managed via a replacement cesspool as per the existing system.

2 Planning Policy Context

2.1 National Planning Policy Framework

2.1.1 The National Planning Policy Framework was updated in February 2019.

2.1.2 With regard to major developments the NPPF states that :major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

- a) take account of advice from the lead local flood authority;
- b) have appropriate proposed minimum operational standards;
- c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
- d) where possible, provide multifunctional benefits

2.1.3 Major development is defined as follows:

:For housing, development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more. For non-residential development it means additional floorspace of 1,000m² or more, or a site of 1 hectare or more, or as otherwise provided in the Town and Country Planning (Development Management Procedure) (England) Order 2015.

2.1.4 In accordance with the National Planning Policy Framework and the Town and Country Planning Order 2015 a SuDS system will be incorporated into the design. This will be designed in accordance with the Non-Statutory Technical Standards for SuDS, CIRIA C753 SuDS Manual Guidance and Approved Document H of the Building Regulations.

2.1.5 The proposed development is in Flood Zone 1 and as the main development site is less than 1ha in size a standalone Flood Risk Assessment is not required to support the Planning Application.

2.2 Local Planning Policy

2.2.1 The Arun Local Plan 2011-2031 was adopted on 18 July 2018.

2.2.2 The following policies are of specific relevance to this Drainage Statement.

2.2.3 Policy W DM3 Sustainable Urban Drainage Systems states that :to increase the levels of water capture and storage and improve water quality, all development must identify opportunities to incorporate a range of Sustainable Urban Drainage Systems (SUDS), appropriate to the size of development, at an early stage of the design process.

Proposals for both major and minor development proposals must incorporate SUDS within the private areas of the development in order to provide source control features to the overall SUDS design.

These features include:

- ¿ Green roofs
- ¿ Permeable driveways and parking
- ¿ Soakaways
- ¿ Water harvesting and storage features including water butts

Proposals for major development must also integrate SUDS within public open spaces and roads, reflecting discussion with the appropriate bodies. SUDS must therefore be integrated into the overall design of a development and must:

- a. Contribute positively to the appearance of the area, integrating access to allow maintenance of existing watercourses and the system.
- b. Effectively manage water (including its quality)
- c. Accommodate and enhance biodiversity by making connections to existing Green Infrastructure assets
- d. Provide amenity for local residents (ensuring a safe environment)
- e. Retain the existing drainage network of the site and the wider area,
- f. Be maintained in perpetuity, supported through a Maintenance and Management Plan/Regime, including its financing, agreed with the Local Planning Authority.

In order to ensure that SUDS discharge water from the development at the same or lesser rate, as prior to construction, developers must:

- f. (sic) Follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations and the SUDS manual produced by CIRIA.
- g. Undertake up to six months groundwater monitoring within the winter period.
- h. Undertake winter percolation testing in accordance with BRE365.
- i. The proposed drainage system must be designed to ensure that there is no flooding on a 1 in 30 year storm event.
- j. The design must also take account of the 1 in 100 year storm event plus 30% allowance for climate change, on stored volumes, to ensure that there is no

flooding of properties or the public highway or inundation of the foul sewerage system.

Any excess flows must be contained within the site boundary, and within designated storage areas.

2.3 Lead Local Flood Authority

2.3.1 West Sussex County Council became a Lead Local Flood Authority under the Flood and Water Management Act 2010 and was given a series of new responsibilities to coordinate the management of local flood risk.

2.3.2 As part of its role West Sussex County Council has commissioned and produced the following documents:

- 2 West Sussex LLFA Policy for the Management of Surface Water - Updated November 2018

2.3.3 The above documents have been reviewed in the preparation of this report.

2.4 Best Practice Guidance

2.4.1 CIRIA report C753 The SuDS Manual-v6 provides guidance on the redevelopment of brownfield sites. The aim for surface water runoff is to match greenfield runoff rates and volumes where reasonably achievable.

3 Existing Site

3.1 Site Location

3.1.1 The development site is located at Highdown Farm, Littlehampton Road, Ferring at Ordnance Survey reference TQ 096 037. The nearest postcode is BN12 6PE.



Image 1: Site Location

3.1.2 The site is bounded by commercial development to the north and south with open fields and farmland to the east and west.

3.1.3 A copy of the site location plan is located in Appendix 1 at the rear of this report.

3.2 Site Description

3.2.1 The site is approximately 830m² in area and currently comprises a single small single portacabin unit with car parking.

3.2.2 Existing ground levels are highest at the northern section of the site at approximately 14.4m AOD. The site falls towards its southern boundary to a level of approximately 11.3m AOD.

3.2.3 A copy of the existing site layout plan is located in Appendix 2 at the rear of this report.

3.3 Existing Drainage

- 3.3.1 Surface water currently discharges overland to the southwest corner of the site in an unrestricted manner. There is no known surface water infrastructure network in the area.
- 3.3.2 A plan of the existing impermeable area is located in Appendix 3 at the rear of this report.
- 3.3.3 Foul water from the portacabin and the development to the north discharge to a cesspool located beneath the car parking area.
- 3.3.4 There are no known public or private foul sewers within the vicinity of the site, or the immediate surrounding area.
- 3.3.5 A copy of the sewer records is located in Appendix 4 at the rear of this report.

3.4 Geology and Groundwater

- 3.4.1 British Geological Survey maps and borehole information confirm that the site is within an area underlain by river terrace deposits consisting of silty clay, gravels and flints, which is locally up to 3m in depth overlying chalk substrata.
- 3.4.2 Groundwater was encountered at a minimum depth of 10m below ground level within the chalk.
- 3.4.3 The online 'Magic Map' available from Defra confirms that the site is located above a major aquifer classified as having an intermediate vulnerability.
- 3.4.4 A copy of the geological borehole data is located in Appendix 5 at the rear of this report.

4 Development Proposals

4.1 Description

4.1.1 The development proposals are for the demolition of the existing portacabin and construction of two new B1 commercial unit and replacement car parking.

4.1.2 A copy of the proposed site layout plan is located in Appendix 6 at the rear of this report.

4.2 Drainage Strategy

4.2.1 CIRIA report C753 The SuDS Manual-v6 provides guidance on the redevelopment of brownfield sites. The aim for surface water runoff is to match greenfield runoff rates and volumes where reasonably achievable.

4.2.2 The preferred surface water drainage strategy should where possible be based on infiltration to ground.

4.2.3 The proposed surface water drainage strategy will be based on infiltration to ground with sufficient storage provided to accommodate a 1:100 year storm event including an additional 40% to account for the predicted effects of future climate change.

4.2.4 Pre-developed greenfield runoff rates have been established using the HR Wallingford tool for Greenfield runoff estimation.

Calculated by:
Site name: Highdown Farm
Site location: Farning

Site coordinates
Latitude: 50.82463° N
Longitude: 0.44432° W

This is an estimation of the greenfield runoff rates (l/s) that are needed to meet normal best practice criteria in line with Environment Agency guidance "Preliminary rainfall runoff management for developments", WFD/PRR/TR1/1 rev. 0 (2012) and the SuCR Manual, CPO (June, 2015). This estimation of greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Reference:
Date: 2016-09-17 11:48

Methodology	EH124
-------------	-------

Site characteristics		
Total site area (ha)	0.1	
Methodology		
Qbar estimation method	Calculate from SPR and SAAR	
SPR estimation method	Calculate from SOE type	
	Default	Entered
SOE type	2	2
HOST class	—	—
SPR/SPR+HOST	0.3	0.3
Hydrological characteristics		
	Default	Entered
SAAR (mm)	718	718
Hydrological region	7	7
Growth curve factor: 1 year	0.85	0.85
Growth curve factor: 30 year	2.3	2.3
Growth curve factor: 100 year	3.19	3.19

Notes:	
(1) Is $Q_{lim} < 2.0$ l/s/ha?	Normally limiting discharge rates which are less than 2.0 l/s/ha are set at 2.0 l/s/ha.
(2) Are flow rates < 5.0 l/s?	Where flow rates are less than 5.0 l/s consents are usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set in which case blockage work must be addressed by using appropriate drainage elements.
(3) Is $SPR/SPR+HOST \leq 0.3?$	Where groundwater levels are low enough the use of soakaways to avoid discharge effluents may be a requirement for disposal of surface water runoff.

Greenfield runoff rates		
	Default	Entered
Qbar (l/s)	0.18	0.18
1 in 1 year (l/s)	0.16	0.16
1 in 30 years (l/s)	0.43	0.43
1 in 100 years (l/s)	0.6	0.6

This report was produced using the greenfield runoff rates generated by this software and is not intended to be used for any other purpose. The use of this report is subject to the terms and conditions of the software license. The user of this report is responsible for ensuring that the data is accurate and that the results are used in accordance with the terms and conditions of the software license.

Image 2: Greenfield Runoff Calculation

4.2.5 Q_{bar} has been established at approximately 0.2l/s and the 1:100 year peak runoff 0.6l/s.

- 4.2.6 The equivalent greenfield runoff rates are 2l/s/ha and 6l/s/ha respectively.
- 4.2.7 The total impermeable area of the site is anticipated to be approximately 830m².
- 4.2.8 A plan of the proposed impermeable areas is located in Appendix 7 at the rear of this report.
- 4.2.9 Preliminary calculations have been prepared using FSR rainfall data for the site and based on a conservative infiltration rate of 5×10^{-6} m/s given the expected ground conditions at the site. Site investigations should be undertaken including infiltration testing to BRE Digest 365 requirements to inform the detailed design.
- 4.2.10 The revised strategy is to store and discharge all surface water runoff from the roofs and parking areas into the ground via an infiltration blanket beneath the car parking area.
- 4.2.11 A minimum 300mm deep voided subbase replacement system will be required beneath the car parking area providing 54m³ of storage. This area has an estimated half drain time of 711 minutes (12 hours).
- 4.2.12 The drainage proposals will be confirmed at detailed design stage subject to further site investigations and testing. If infiltration is found to be higher than initially identified the storage requirement will be reduced.
- 4.2.13 Copies of the Preliminary Drainage Strategy Plan together with the preliminary surface water calculations are located in Appendix 8 at the rear of this report.

4.3 Foul Water

- 4.3.1 Due to there being no foul water infrastructure within close proximity of the site the use of either a Package Treatment Plant, or a cesspool (tank) will be used to manage foul water from the site.
- 4.3.2 A Package Treatment Plant discharging to ground is preferential where viable. The installation of a Package Treatment Plant would require a bespoke permit from the Environment Agency and would be proposed where appropriate in discussion with the Environment Agency.
- 4.3.3 In addition to the proposed development, the foul provision for the site is required to receive the flows from two B8 commercial units to the north of the proposed development which is 500m² in area.
- 4.3.4 The daily onsite occupancy is determined as 42 persons as per the Homes and Communities Agency Employment Density Guide, 3rd Edition. Based on 42 daily occupants, the anticipated daily foul water discharge from the proposed site is

approximately 2,100 litres per day in accordance with British Water Flows and Loads 4.

4.3.5 Should a Package Treatment Plant prove unviable a 18,000 litre cesspool is proposed to be sited in the car park which would provide sufficient capacity for up to 9 days of occupancy. Given the space requirements for the cesspool this has been considered in the Drainage Strategy to demonstrate a worst-case scenario.

4.3.6 Copies of the Preliminary Drainage Strategy Plan are located in Appendix 8 at the rear of this report.

4.4 Water Quality

4.4.1 The proposed development is for commercial use. In accordance with CIRIA SuDS Manual 2015 (Report C753), the pollution hazard level for this type of development is between low and medium on the use/area of the site.

4.4.2 The surface water scheme will include mitigation to ensure that surface water is suitably treated and any pollution risk adequately managed prior to discharge.

4.4.3 Table 26.2 in Chapter 26 of CIRIA report C753 The SuDS Manual provides Pollution Hazard Indices for varying land types. Those of relevance to the development proposals are as follows:

Land Use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Commercial / Industrial roofs	Low	0.3	0.2	0.05
Commercial yards and delivery areas	Medium	0.7	0.6	0.7

Table 1: Pollution Hazard Indices

4.4.4 Where multiple drainage components are used in series the individual mitigation index of secondary and tertiary components is lowered by 50% due to reduced performance associated with primary treatment.

SuDS Type	Total suspended solids (TSS)	Metals	Hydro-carbons
Permeable pavement	0.7	0.6	0.7

Table 2: Pollution Mitigation Indices

4.4.5 The proposed use of permeable paving will meet the target treatment level required for runoff with moderate risk of pollution hazard thus demonstrating that the surface water drainage system for the site can be designed to adequately

mitigate against the risk of pollution. The subbase replacement system would be bedded on 100mm of voided subbase to provide an additional level of treatment before discharging into the ground.

- 4.4.6 An outline drainage maintenance schedule is located in Appendix 9 at the rear of this report.

4.5 Risk to Others

- 4.5.1 The proposed surface water drainage system will be designed to current standards incorporating SuDS elements providing treatment, attenuation and storage which will minimise runoff leaving the site during times of heavy rain.
- 4.5.2 Allowance has been made for a 40% increase in rainfall intensities which accords with the latest figures published by the Environment Agency and in accordance with the requirements under the National Planning Policy Framework.
- 4.5.3 The proposed drainage system will incorporate sufficient treatment prior to final discharge destination thus mitigating the risk of pollution from the site.
- 4.5.4 The risk of surface water flooding to others due to the development proposals is reduced and the resultant risk is negligible.
- 4.5.5 The expected weekly emptying of the cesspool will be managed under a formal agreement. The fitting of a high level alarm is proposed on the cesspool as an additional failsafe to warn the management company should the cesspool be nearing systems capacity.
- 4.5.6 The residual risk of sewer flooding from this development for the foreseeable future is therefore low.

5 Conclusions

- 5.1 The geology of the area is river terrace deposits overlying chalk and is expected to provide suitable percolation rates to accommodate an infiltration drainage system.
- 5.2 The proposed development will incorporate a sustainable drainage system, which will discharge surface water via infiltration to ground.
- 5.3 Preliminary calculations indicate that surface water runoff generated by the proposed development can be attenuated on site for all rainfall events up to the 1:100 year event including an allowance for climate change.
- 5.4 Water quality improvement will be provided to mitigate against any risk to any receiving waterbody.
- 5.5 All policy and best practice criteria with respect to site runoff rates have been achieved.
- 5.6 There is no foul water infrastructure within the vicinity of the site. Foul water will be managed via a replacement cesspool as per the existing system.

6 List of Appendices, Images and Tables

Appendix 1	Site Location Plan
Appendix 2	Existing Site Layout Plan
Appendix 3	Existing Impermeable Area
Appendix 4	Sewer Records
Appendix 5	BGS Borehole Records
Appendix 6	Proposed Site Layout Plan
Appendix 7	Proposed Impermeable Area
Appendix 8	Preliminary Drainage Strategy Plan and Calculations
Appendix 9	Drainage Maintenance Schedule
Image 1	Site Location
Table 1	Pollution Hazard Indices
Table 2	Pollution Mitigation Indices

Appendix 1

Site Location Plan



Appendix 2

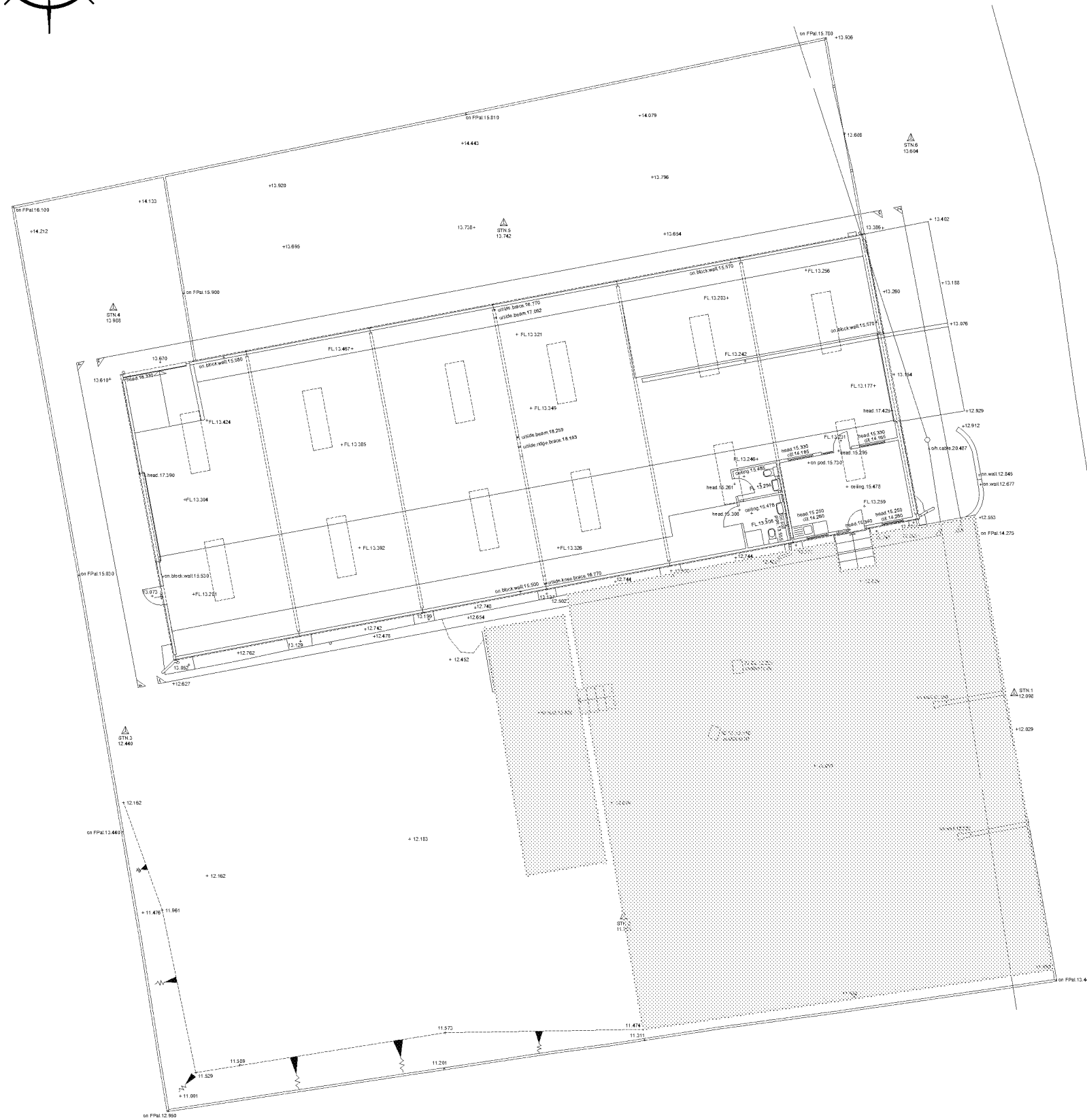
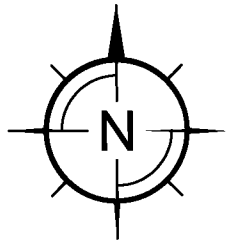
Existing Site Layout Plan



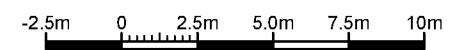
SCALE	1:200@A3	PROJECT, No.	23202
REPORT TYPE	DS	DWG. No.	02

Appendix 3

Existing Impermeable Area



Impermeable Areas = 487m²



TITLE	
Existing Impermeable Areas	
SCALE	1:250@A3
PROJECT No.	23202
REPORT TYPE	DS
DWG. No.	03

Appendix 4

Sewer Records

103917



103674

509393

LEGEND - MAINS

	Distribution Main / Communication pipe		Clockwise closing valve
	Trunk Main		Fire Hydrant
	Raw water main		Washout
	Non potable		Washout hydrant
	Abandoned main		Meter
	Proposed Main		Capped end
	Fire main		Emptying plug
	Non SWS		Stopcock
	Sluice valve		Leak Noise Correlator Survey Point
	Closed valve		Anode
	Air valve		Telemetry cable
	Butterfly valve		Access point / hatchbox
	Pressure reducing valve		
	Reflux valve		
	Motorised valve		

WARNING: BAC pipes are constructed of Bonded Asbestos Cement

MATERIALS

	Dialysis machine	Alkathene
	Break pressure tank	Cast iron
	Change node	Spun (grey) iron
	Pumping station	Concrete
	Booster station	Ductile iron
	Insertion Flow Meter Point	Bonded Asbestos Cement
	Water tower	Glass reinforced plastic
	Service reservoir	Glass reinforced epoxy
	Water Supply Works	(Unplasticised) Polyvinyl chloride
	Bore hole / Well	Polyethylene
	Intake	Steel
	Customer site	Concrete segments bolted
	Swab insertion point	Concrete segments unbolted
		Galvanised iron
		Ductile sleeve
		Concrete pre-stressed
		High performance polyethelene
		Unknown

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement

AK	Drawn by:	rohandas
CI	Scale:	1:1250
SI	Date:	13/06/2019
CO	The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd. accept no responsibility in the event of inaccuracy. The actual positions of pipes should be determined on site.	
DI		
BAC	Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved Licence No. WU 298530.	
GRP		
GRE		
PVC		
PE		
ST		
CSB		
CSU		
GI		
DS		
CPS		
HPE		
??		

O.S.Ref: TQ0903NE	
TITLE: 340950_Highdown Farm, Worthing	

509605

Appendix 5

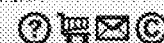
BGS Borehole Records



British
Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Geology of Britain viewer

Try the Beta version of our 3D Geology of Britain viewer



More BGS map viewers

Go to
Location

Switch
Basemap

Geology Transparency

Grid Ref: 509473, 104164

Borehole Scans

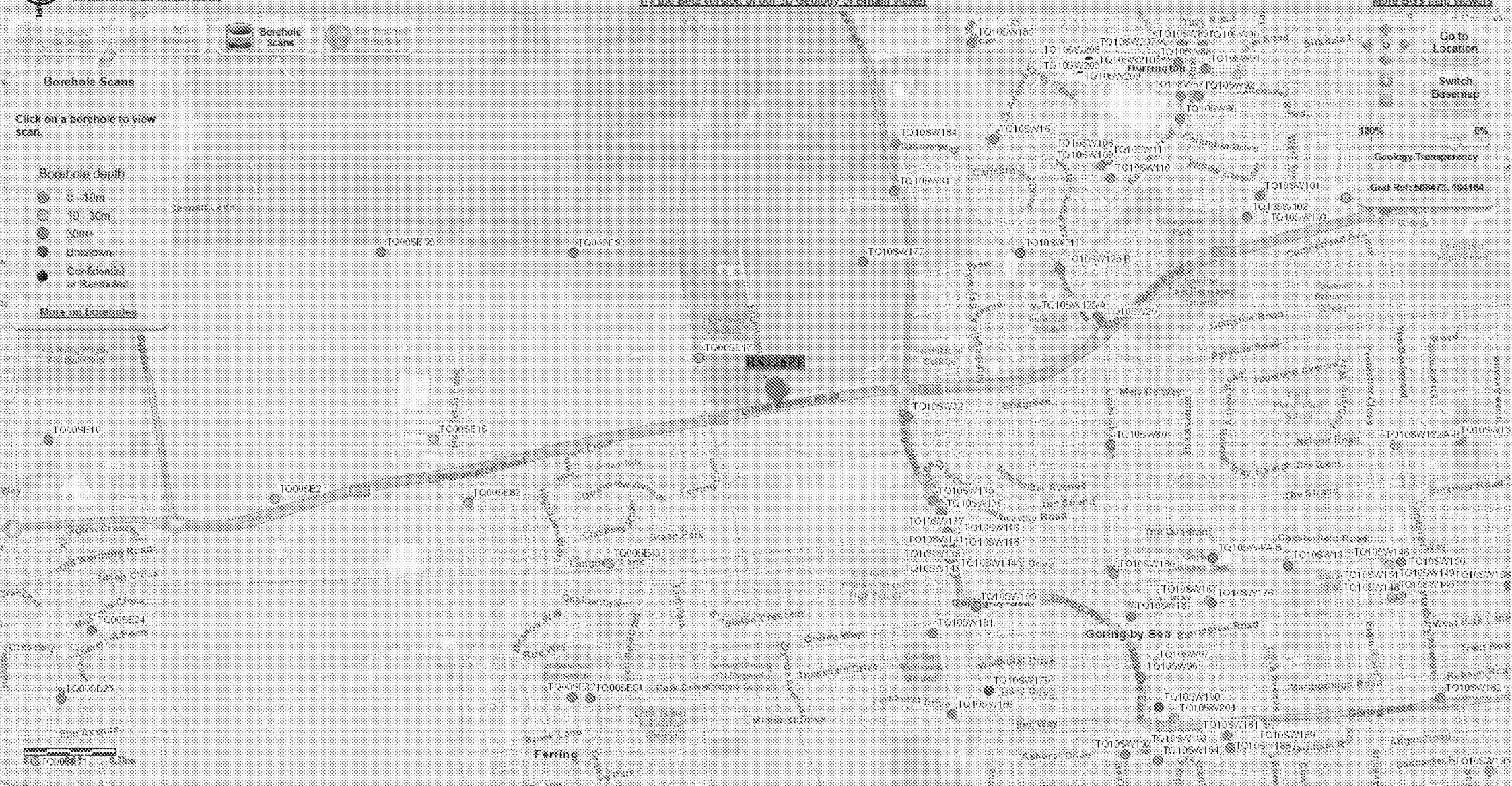
Click on a borehole to view
scan.

Borehole depth

- 0 - 10m
- 10 - 30m
- 30m+
- Unknown
- Confidential or Restricted

Notes on boreholes

Working Borehole
For Borehole



Scale 1:200000
0 0.25km

TQ 00 SE / 56

For Institute use only

GEOLOGICAL
CLASSIFICATION

NATURE OF STRATA

If measurements start below ground surface, state how far.

THICKNESS

DEPTH

Feet

Inches

Metres

Feet

Inches

Metre

Drift

Topsoil

1.0

1.0

Gravel

3.2

4.2

Upper Chalk

Chalk and flint

15.8

50.0

GLS F7/B7

(For Institute use only)

GEOLOGICAL
CLASSIFICATION

NATURE OF STRATA

If measurements start below
ground surface, state how far.

318/488

THICKNESS

DEPTH

Feet Inches Metres Feet Inches Metre

Top Soil

Top Soil

1 6 1.06 1 6 1.06

? Coombe Deposits

blay and flints

13 6 4.11 15 4.57

? Tertiary
blays.

Red and blue blay with particles of chalk

9 - 2.74 24 7.31

Blue blay

4 - 1.21 28 8.53

Brown and Red blay

2 - 0.60 30 9.14

Brown Sandy blay

5 - 1.52 35 10.66

British Geological Survey

Soft Putty chalk + flints

5 - 1.52 40 12.19

Putty chalk + flints

65 - 19.81 105 32.00

Chalk.

Putty chalk

13 - 3.96 118 35.96

Putty chalk + flints

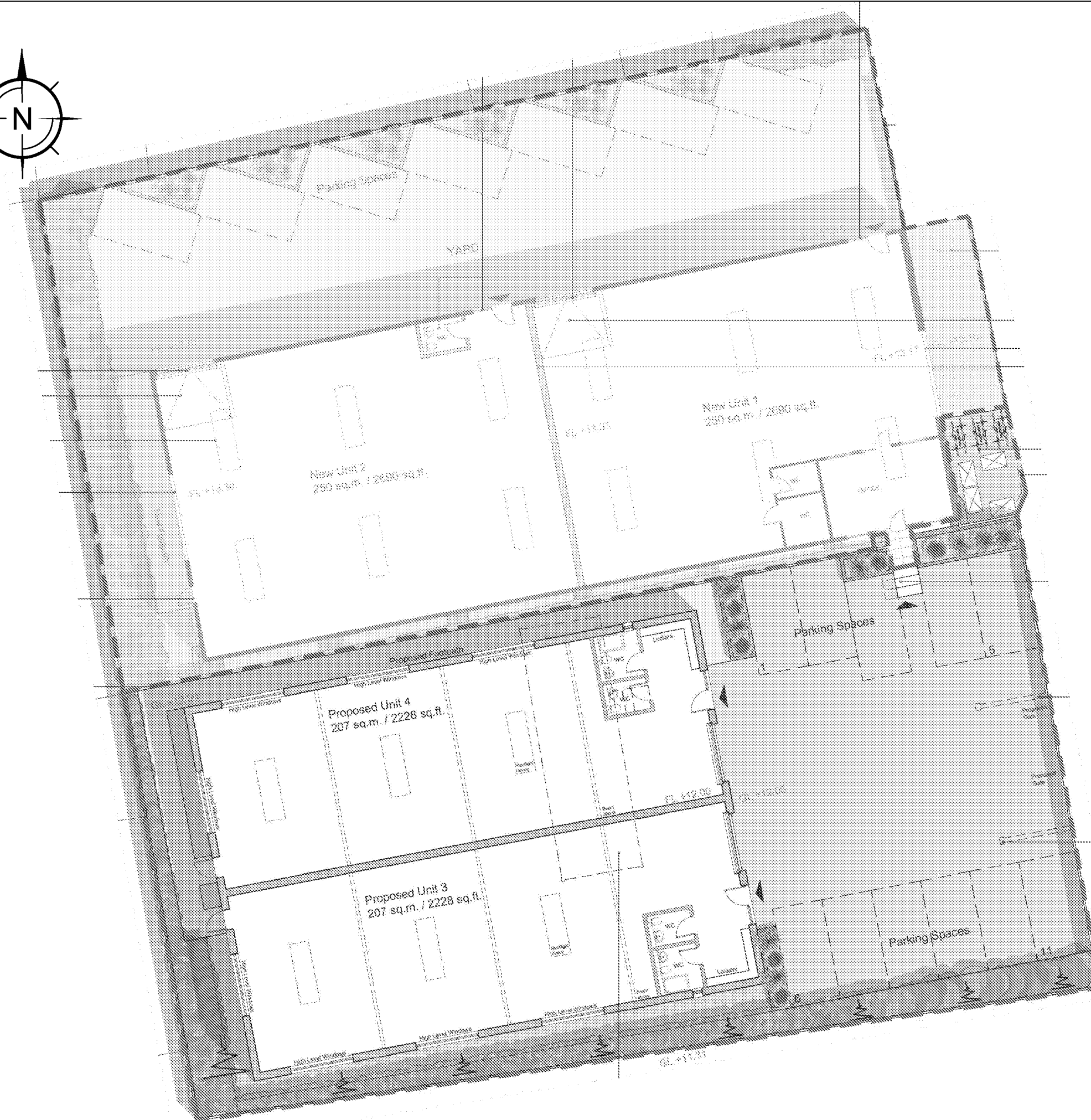
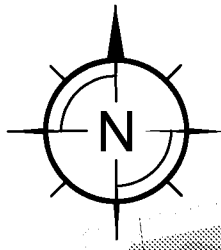
8 - 2.43 126 38.40

Chalk - some Putty chalk + flints

10 - 3.04 136 41.45

Appendix 6

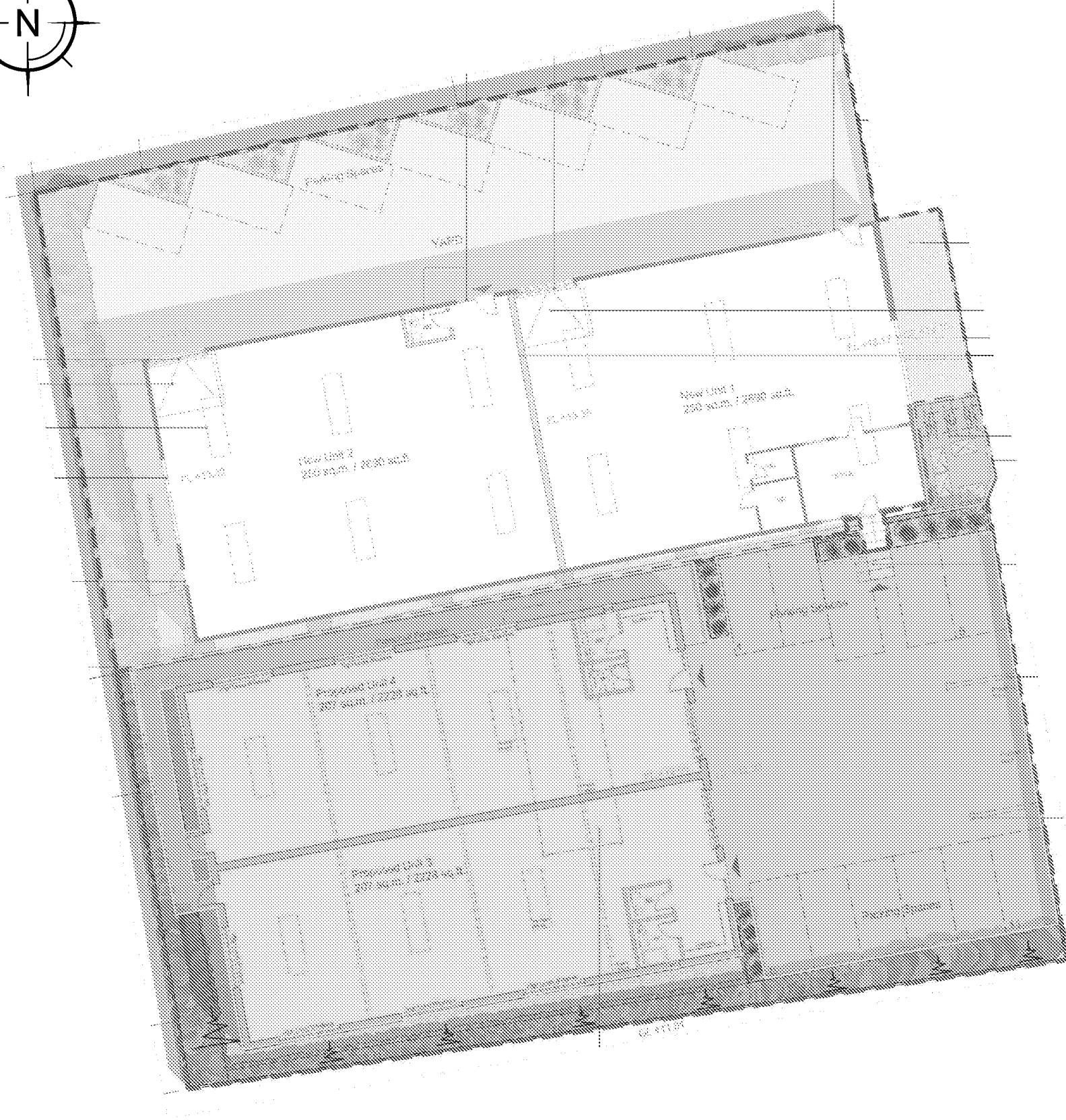
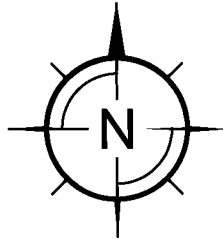
Proposed Site Layout Plan



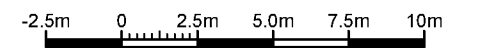
TITLE Proposed Site Layout			
SCALE 1:250@A3		PROJECT No. 23202	
REPORT TYPE DS		DRG. No. 04	

Appendix 7

Proposed Impermeable Area

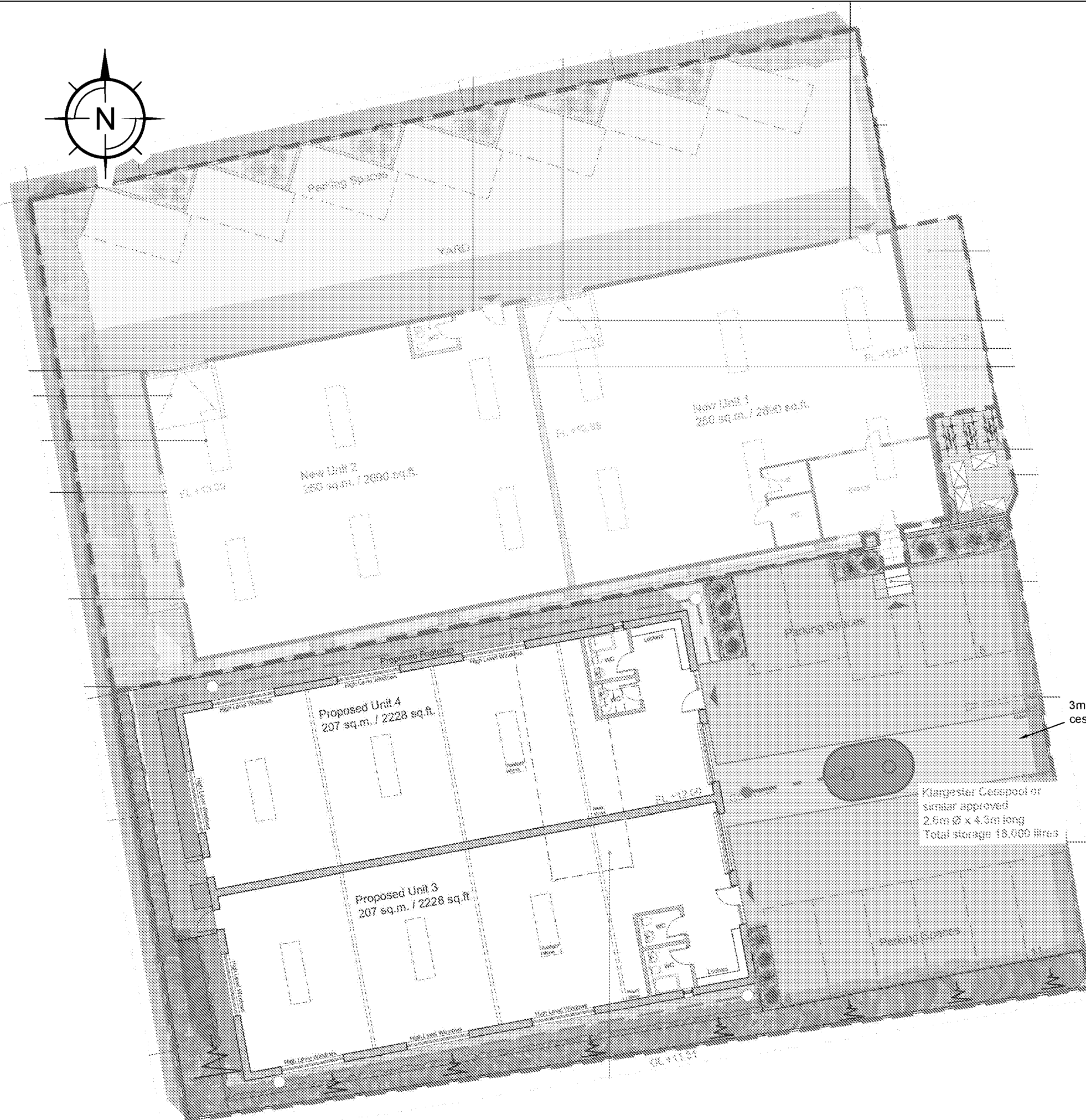
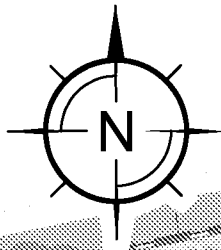


Impermeable Areas = 827m²

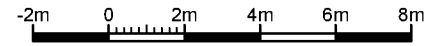


TITLE Proposed Impermeable Areas			
SCALE	1:250@A3	PROJECT No.	23202
REPORT TYPE	DS	DWG. No.	05

Appendix 8
Preliminary Drainage Strategy Plan
and Calculations



DRAINAGE KEY:	
Private Storm Drainage	
	Proposed Storm Drain
	Proposed Storm Manhole
	Permeable Surface with 300m Thick Permavoid Subbase Replacement or Similar
Private Foul Drainage	
	Proposed Foul Drain
	Proposed Foul Manhole
	Klargester Cesspool or Similar Approved



TITLE Preliminary Drainage Strategy	
SCALE 1:250@A3	PROJECT No. 23202
REPORT TYPE DS	DRG. No. 06

The Civil Engineering Practice				Page 1																																																																																																																																																																																																																			
11 Tungsten Building George Street Fishersgate BN41 1RA		Commercial Development Highdown Farm Ferring																																																																																																																																																																																																																					
Date 17/06/2019 File 1 IN 100 PLUS 40.SRCX		Designed by MK Checked by																																																																																																																																																																																																																					
Innovyze		Source Control 2017.1.2																																																																																																																																																																																																																					
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1440 min Winter	11.776	0.286	0.6	50.1	Flood Risk																																																																																																																																																																																														
2160 min Winter	11.754	0.264	0.6	44.8	Flood Risk																																																																																																																																																																																														
2880 min Winter	11.731	0.241	0.6	39.2	Flood Risk																																																																																																																																																																																														
4320 min Winter	11.690	0.200	0.6	29.1	Flood Risk																																																																																																																																																																																														
5760 min Winter	11.658	0.168	0.6	21.4	Flood Risk																																																																																																																																																																																														
7200 min Winter	11.640	0.150	0.6	17.0	Flood Risk																																																																																																																																																																																														
8640 min Winter	11.626	0.136	0.5	14.0	Flood Risk																																																																																																																																																																																														
10080 min Winter	11.614	0.124	0.5	11.7	Flood Risk																																																																																																																																																																																														
Storm Event	Rain (mm/hr)	Flooded Volume (mE)	Time-Peak (mins)																																																																																																																																																																																																
30 min Winter	87.611	0.0	37																																																																																																																																																																																																
60 min Winter	56.129	0.0	66																																																																																																																																																																																																
120 min Winter	34.675	0.0	124																																																																																																																																																																																																
180 min Winter	25.749	0.0	182																																																																																																																																																																																																
240 min Winter	20.687	0.0	240																																																																																																																																																																																																
360 min Winter	15.234	0.0	354																																																																																																																																																																																																
480 min Winter	12.237	0.0	468																																																																																																																																																																																																
600 min Winter	10.316	0.0	578																																																																																																																																																																																																
720 min Winter	8.967	0.0	684																																																																																																																																																																																																
960 min Winter	7.182	0.0	786																																																																																																																																																																																																
1440 min Winter	5.242	0.0	1084																																																																																																																																																																																																
2160 min Winter	3.818	0.0	1536																																																																																																																																																																																																
2880 min Winter	3.045	0.0	1960																																																																																																																																																																																																
4320 min Winter	2.209	0.0	2728																																																																																																																																																																																																
5760 min Winter	1.757	0.0	3408																																																																																																																																																																																																
7200 min Winter	1.472	0.0	4112																																																																																																																																																																																																
8640 min Winter	1.274	0.0	4840																																																																																																																																																																																																
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Appendix 9

Drainage Maintenance Schedule

Drainage Maintenance Schedule



The Civil Engineering Practice
11 Tungsten Building
George Street
Fishergate
Sussex
BN41 1RA

Project	Highdown Farm, Ferring
Project Number	23202

By Martin Kempshall

Date 17 June 2019

1 Indicative Schedule of Maintenance

- 1.1 Once appointed the Contractor will prepare a site specific method statement for the control of silt and other pollutants during construction. CIRIA Report C532, Control of water pollution from construction sites, provides further guidance on this.
- 1.2 The Contractor will maintain the proposed drainage system during construction and until the handing over of the site. Upon completion the maintenance will be passed on to the property owner.
- 1.3 The following maintenance schedule details the typical tasks to be undertaken at different intervals.

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Surface and foul water pipework - jetting / rodding	Every 2 years or as required
	Manage other vegetation and remove nuisance plants - aesthetics	As required
	Visual inspection of permeable paving for defects and settlement	Annually
	Empty cesspool as per maintenance agreement	Weekly or when alarm indicates
	Sweeping / brushing of permeable paving	Every 2 years
Corrective Maintenance	Repairs to access chambers / manhole covers	As required
	Replace any broken permeable blocks / surface, remedial works to any depressions or rutting	As required
	Inspect inlet, outlet from downpipe and gullies for blockages, standing water and clear	As required

Indicative Schedule of Maintenance for the Proposed Drainage System



Inspection / Action Required	Permeable Surface	Surface Water Pipework	Cesspool
After leaf fall in Autumn			
6 Months	V		
1 Year	V		
2 Years		V	
When alarm indicates			V

Drainage System Maintenance Summary