

Flood Risk Assessment

Sunnymeade North End Road Yapton BN18 0DL

Rev -

Reference **C1002**

Date **19.06.2026**

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-	Final v1	Issued for Approval	19.06.2026	RH	RH

1 SITE AND DEVELOPMENT OVERVIEW

DEVELOPMENT DESCRIPTION	EXISTING (PRE-DEVELOPMENT)	PROPOSED (POST-DEVELOPMENT)
Site Use	Garden associated with existing dwelling (report ref: existing site coverage)	Construction of 3no static caravans
Development Use	Greenfield (report ref: existing site use)	Residential (report ref: proposed site use)
Use Design Life		100 years
Number of Dwellings	-	3
EA Vulnerability Classification	Less Vulnerable (ref: existing site vulnerability)	More Vulnerable (ref: proposed site vulnerability)
Development Class		Minor
County Planning Authority	West Sussex County Council (ref: County Council)	
District Planning Authority	Arun District Council (ref: District Council)	
Local Sewer Authority	Southern Water (ref: Local Sewer Authority)	
SITE CATCHMENT CHARACTERISTICS	DESCRIPTION	SOURCE
River Management Catchment	Arun and Western Streams Management Catchment (report ref: River Basin Catchment)	https://environment.data.gov.uk/
KEY FLOOD RISK AND DATA SOURCES	DATA TYPE	SOURCE
EA Fluvial and Tidal Planning Data	UK Government Flood Maps for Planning (ref: FMP)	https://flood-map-for-planning.service.gov.uk/
EA Surface Water Data	DEFRA Risk of Flooding from Surface Water Sources GIS Data (ref: RoFSW)	https://environment.data.gov.uk/DefraDataDownload/?Mode=rofsw
EA Long term Flood Risk Environment Agency Product 4/5 Data	UK Government Long term Flood Risk Maps (ref: LTFRM)	https://www.gov.uk/check-long-term-flood-risk
Historic Flood Risk Data	DEFRA Historic Flood Outlines GIS Data	EA Detailed Flood Model https://environment.data.gov.uk/DefraDataDownload/?mapService=EA/HistoricFloodMap&Mode=satial
Strategic Flood Risk Assessment Data	Arun (ref SFRA)	Council Website
Local Flood Risk Assessment Data	(refer to SFRA)	Council Website
Topographic Information	DEFRA Opensource LIDAR Data and Survey	https://environment.data.gov.uk/DefraDataDownload/?Mode=survey
DESIGNATION	FLOOD RISK DESIGNATION	NOTE
EA/LLFA Designated Flood Zone	Flood Zone 3 – High Risk	*Designation based on highest flood risk between River, Sea or Surface Water - Refer Section 1: Table 2
Sea Flood Risk Present	Very Low	Refer Section 1: Table 2
River Flood Risk Present	Very Low	Refer Section 1: Table 2
Surface Water Flood Risk Present	High	Refer Section 1: Table 2

TABLE OF CONTENTS

1	SITE AND DEVELOPMENT OVERVIEW	2
	TABLE OF CONTENTS	3
2	INTRODUCTION	4
	DEVELOPMENT PROPOSALS	4
	FLOOD RISK ASSESSMENT SCOPE	4
	FLOOD RISK VULNERABILITY	5
3	FLOOD RISK ASSESSMENT SCOPE	6
	APPLICABILITY OF THE SEQUENTIAL TEST	7
	CONSIDERATION OF FLOOD DEFENCES AND THE SEQUENTIAL TEST	8
	ENVIRONMENT AGENCY FLOOD RISK DESIGNATION	9
4	LOCAL FEATURES	12
	RIVERS AND WATERCOURSES	12
	TOPOGRAPHY	12
	GEOLOGY & HYDROGEOLOGY	13
	FLOOD DEFENCES	14
5	CLIMATE CHANGE	15
	INCREASES IN SURFACE WATER FLOODING AND RAINFALL ALLOWANCES	15
6	SOURCES OF FLOOD RISK	16
	PLUVIAL (SURFACE WATER)	16
	HISTORICAL, SEWERS AND DRAINAGE	18
	GROUNDWATER	19
	RESERVOIR	21
	RESIDUAL RISKS	21
	OFFSITE IMPACTS OF DEVELOPMENT	22
7	BUILDING MATERIAL MITIGATIONS.....	24
8	EMERGENCY ACCESS AND EGRESS.....	26
9	FLOOD EVACUATION PLANNING	28
	FLOOD HAZARD PREVENTION	28
	WARNING PROCEDURES	28
	THE EVACUATION PROCEDURE	28
	SAFE REFUGE PROCEDURES	29
10	FLOOD MITIGATION MEASURES.....	30
11	CONCLUSION.....	31
	APPENDIX 1 – ARCHITECTURAL PROPOSALS	33
	APPENDIX 2 – SITE SURVEY	34
	APPENDIX 3 – FLOOD STORAGE COMPENSATION (FSC) DRAWINGS	35
	APPENDIX 4 – FLOOD EVACUATION MANAGEMENT PLAN	36

2 INTRODUCTION

- 2.1 The following report is a Phase 1 Flood Risk Assessment (FRA) for the development proposals at Sunnymead Farm, North End Road, Yapton, BN18 0DL (see site location map, Figure 1).
- 2.2 This assessment is required under the National Planning Policy Framework (NPPF) and Local and District Councils given the location, scale and associated flood risks.



Figure 1 - Site Location Plan (site bordered red) Source: Location Map

- 2.3 This FRA has been written in general accordance with the National Planning Policy Framework (NPPF) and its Technical Guidance, Environment Agency (EA) Standing Advice, LFRMS, County SFRA and associated guidance. This FRA has relied upon publicly available information and data provided from the EA (where relevant). The interpretation of this data has been undertaken with the understand of its accuracy and to a detail deemed suitable for this development type, location and relevant flood risk.

DEVELOPMENT PROPOSALS

- 2.4 The development proposals are for a hardstanding and access track and the creation of a residential caravan site with 3 No plots with associated parking, landscaping and facilities (resubmission following Y/57/24/PL). Architectural proposals are included in Appendix 1.

FLOOD RISK ASSESSMENT SCOPE

- 2.5 The purpose of this FRA is in direct response to the ADC Engineers Comments Regarding Surface Water Drainage (reference Y/24/26/PL), requiring further detailed assessment of surface water flood risk. As such this FRA has not considered flood risk from River and Seas further, as it is confirmed that the site has been considered to be at low risk of flooding from this source.
- 2.6 This FRA is to inform the feasibility and appropriateness of the proposals and to ensure the development proposals incorporate flood resilient measures appropriate to its flood risk.
- 2.7 It should be noted, where up to date flood risk or climate change models are not available, best efforts have been made to assess these risks and extrapolate the available data where necessary. However, this approach may require

further detailed modelling if deemed necessary by the reviewing authorities. Detailed hydraulic modelling is deemed outside the scope of this report.

FLOOD RISK VULNERABILITY

- 2.8 This FRA has been undertaken with due regard to the statutory requirements of the NPPF and with reference to the Planning Practice Guidance (PPG) in relation to development and flood risk. This FRA has been undertaken to inform on the current flood risk to the site. Therefore, this FRA aims to ensure that the development proposals consider the site-specific flood risk and to avoid inappropriate development in areas potentially at risk of flooding.
- 2.9 Annex 3 of the NPPF Flood Risk Vulnerability Classification provides guidance on assigning development vulnerability. A summary of this information is provided in Table 1.

Table 1 – Extract from Annex 3 of the National Planning Policy Framework and Table 2: Flood risk vulnerability classification of PPG detailing Flood Risk Vulnerability Classification by use. (Existing Site Classification is Shaded Gray, Proposed Site specific classification shaded blue).

ESSENTIAL INFRASTRUCTURE	HIGHLY VULNERABLE	MORE VULNERABLE	LESS VULNERABLE	WATER-COMPATIBLE
Essential transport infrastructure	Police and ambulance stations; fire stations and telecom installations	Hospitals	Police, ambulance and fire stations which are not required to be operational during flooding.	Flood control infrastructure.
Essential utility infrastructure which has to be located in a flood risk area for operational reasons	Emergency dispersal points.	Residential institutions such as residential care homes, prisons and hostels.	Buildings used for commercial purposes and of a non-residential nature	Water transmission infrastructure and pumping stations.
Wind turbines.	Basement dwellings.	Buildings used for dwelling houses and sleeping, drinking establishments	Land and buildings used for agriculture and forestry.	Sewage transmission infrastructure and pumping stations.
Solar farms.	Caravans, mobile homes and park homes intended for permanent residential use.	Non-residential uses for health services, nurseries and educational uses	Waste treatment (except landfill* and hazardous waste facilities).	Sand and gravel working.
	Installations requiring hazardous substances consent.	Landfill* and sites used for waste management facilities for hazardous waste.	Minerals working and processing (except for sand and gravel working).	Docks, marinas and wharves and Navigation facilities.
		Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.	Water treatment and Sewage treatment works which do not need to remain operational during times of flood.	Ministry of Defence installations.

- 2.10 The site is presently considered 'Less Vulnerable' in accordance with Table 1 and the NPPF.
- 2.11 The development proposals are considered 'More Vulnerable' (as confirmed by the LPA).

3 FLOOD RISK ASSESSMENT SCOPE

- 3.1 Flood risk as defined by the NPPF, is a combination of the probability and the potential consequences of flooding. Areas at risk of flooding are those at risk of flooding from any source, now or in the future. Sources include rivers and the sea, direct rainfall on the ground surface, rising groundwater, overwhelmed sewers and drainage systems, reservoirs, canals and lakes and other artificial sources. Flood risk also accounts for the interactions between these different sources. This term is key to the application of the presumption in favour of sustainable development in paragraph 11 of the National Planning Policy Framework (NPPF).
- 3.2 The NPPF requires flood risk to be considered on all sites, however more detailed site-specific FRA's are required when one or more of the following criteria apply to the site:
- Where a site is affected by the **Design Flood Event** (DFE) from any source (typically the 1% AEP) for all proposals of any new development (including minor development and change of use); or
 - Greater than 1 ha in size and located in Flood Zone 1; or
 - Located in Flood Zone 1 where there are critical drainage problems or within a designated Critical Drainage Area (CDA) as notified to the LPA by the Environment Agency; or
 - Subject to a change of use to a higher vulnerability classification which may be subject to other sources of flooding; or
 - A Major planning application (i.e. more than 10 residential dwellings).
- 3.3 The NPPF designates that the '**Design Flood Event**' (DFE) is used to assess the suitability of a development proposal against the criteria of the NPPF. The design flood, is a flood event of a given annual flood probability, but is generally taken as:
- River flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year), typically shown as Flood Zone 3a as designated on the EA's Flood Map for Planning; or
 - Tidal flooding with a 0.5% annual probability (1 in 200 chance each year), typically shown as Flood Zone 3a as designated on the EA's Flood Map for Planning; or
 - Surface water flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year), typically shown as the Medium Risk of Surface Water flooding as designated on the EA's Long Term Flood Risk mapping,
- 3.4 In addition to assessing present day risk, the DFE also must be assessed to include and appropriate allowance for climate change (refer to Section 0 for climate change allowances) based on the site's geographical location, vulnerability and design life.
- 3.5 For the purpose of this FRA, the worst case DFE (whether this be from tidal, river or surface water sources), has been used to steer the recommendations of this report. Consideration of extreme events above that of the DFE have not been considered further beyond identifying these as residual risks.
- 3.6 Table 1 of the NPPF provides definitions of the Flood Zones, from low to high probability of river and sea flooding and also in regards to surface water flood risk. These Flood Zone Classification for the purpose of this FRA are:
- Flood Zone 1 - land assessed as having a less than a 1 in 1,000 annual probability (<0.1%);
 - Flood Zone 2 - land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river (1% – 0.1%), 1:100 year or greater of surface water flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year;
 - Flood Zone 3 - land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year. Flood Zone 3b is land have greater than 1 in 20 to 1 in 30 year annual probability of flooding.

3.7 Following an assessment from the various sources of flood risk for the DFE, this site-specific FRA has applied the key principles for decision making when flood risk is a consideration and includes in order of importance:

1. **Avoid** – This is to physically locating the development proposals to areas of lowest flood risk within the site and/or determined how to vertically place the proposals to such that more vulnerable uses are positioned above the design flood level (such as raising floor levels or placing more vulnerable uses on upper levels). Developers should refer to the BS 85500:2012-Flood resistant and resilient construction. Guide to improving the flood performance of buildings for applicable strategies);
2. **Control** - Planning authorities and developers can investigate measures to control the risk of flooding affecting the site (this may be through flood defences, flood gates, flood storage or other engineered solutions such as SUDS). This is rarely applied at the site level, and is mostly address through strategic and county level flood defence strategies. At this site level, typically this will be through applying a Water Exclusion or Water Entry strategy when designing a building or space.
3. **Mitigate** – Is the use of flood resistance and resilience measures to address any residual risks remaining after the use of the avoidance and control measures described above. Passive measures should be prioritised over active measures as they are likely to be more effective and more reliable. Flood Resilience is an approach to building design which aims to reduce flood damage and speed recovery and reoccupation following a flood. It uses a combination of flood resistance and recovery measures (referred to here as resilience measures), and is described in the industry-developed CIRIA Property Flood Resilience Code of Practice, which provides advice for both new-build and retrofit.
4. **Managing Residual Risk** – this will usually involve ensuring either safe access and egress is available from the safe in a DFE, Flood Warning Systems/Evacuation Plans are in place, safe refuge is on site during a DFE, the building is designed to account for flood loadings etc.
5. **Flood Risk is not increased elsewhere** – assuming all the above items can be address, it is critical that the development does not increase flood risk elsewhere as a result. Typically this is addressed by ensuring flood waters are not displaced (in surface water or river flood affected areas, the loss of floodplain storage is less likely to be a concern in areas benefitting from appropriate flood risk management infrastructure or where the source of flood risk is **solely** tidal.) or appropriate hydraulic modelling is provided in support of an application to demonstrate that flood risk is not increased outside of a site (such as through on site flood compensation or detailed site specific hydraulic modelling).

3.8 It should be noted, where up-to date flood risk or climate change models are not available, best efforts have been made to assess these risks and extrapolate the available data where necessary. However, this approach may require further detailed modelling if deemed necessary by the reviewing authorities. Detailed hydraulic modelling is deemed outside the scope of this report.

APPLICABILITY OF THE SEQUENTIAL TEST

- 3.9 The Sequential Test is the risk-based mechanism set out in the NPPF and Planning Practice Guidance for steering new development towards areas with the lowest probability of flooding. Its applicability depends on the Flood Zone of the site, the vulnerability classification of the proposed use, and the nature of the planning application.
- 3.10 The Sequential Test is required where the site lies within Flood Zone 2 or Flood Zone 3 on the EA Flood Map for Planning, or where the site lies in Flood Zone 1 but is identified by the Strategic Flood Risk Assessment (SFRA) as being at risk from other sources of flooding such as surface water, groundwater, sewers or reservoirs. It is also required where the development proposes a use of a higher vulnerability classification than is permitted in the Flood Zone without an Exception Test, and for plan-making where the Local Planning Authority is allocating new sites.
- 3.11 The Sequential Test is not required where the site lies wholly within Flood Zone 1 and the SFRA does not identify the site as being at risk from other sources of flooding, where the application is for a minor development or change of use as defined in the PPG (including householder extensions, non-residential extensions of less than 250 square

metres and most changes of use that do not involve a more vulnerable use), where the development is Water Compatible in any Flood Zone, or where the site has already been allocated for the proposed use through a plan-making process that has itself applied the Sequential Test.

- 3.12 Where the Sequential Test is passed but the proposed use and Flood Zone combination still requires further justification under PPG Table 3, the Exception Test must also be applied. The Exception Test has two parts: the development must deliver wider sustainability benefits that outweigh the flood risk, and a site-specific FRA must demonstrate that the development will be safe for its lifetime, will not increase flood risk elsewhere and, where possible, will reduce flood risk overall.

Surface Water Flood Risk Exemption to the Sequential Test

- 3.13 Where a site lies within Flood Zone 1 and the SFRA does not identify the site as being at risk from surface water (or from groundwater, sewers or reservoirs), the Sequential Test is not required, and surface water risk alone does not trigger it. The proposal is addressed through a proportionate FRA (where one is required) and an appropriate Sustainable Drainage Systems (SuDS) strategy.
- 3.14 However, where a site lies within Flood Zone 1 but the SFRA (or other reasonably available evidence, most commonly the EA Risk of Flooding from Surface Water (RoFSW) mapping) identifies the site as being at risk from surface water flooding, the NPPF and PPG require that a risk-based approach to be applied, ensuring that the proposed use can be made safe (including access and egress), and there is no adverse impact on external flood risk. Therefore, when required the proposals may be required to undertake additional hydraulic modelling (considered outside of the scope of this FRA) that to demonstrate there is no external adverse flood impacts as a result of development.
- 3.15 For the purpose of this assessment, the application of the Sequential Test has been broken down into three levels. Passing the Sequential Test at the strategic level is a weighting of the risks versus benefit of a development against a wider criterion (such as meeting other sustainability targets, housing needs or other strategic planning goals) than just purely avoiding flood risk issues. However, the Sequential Test can also be applied at the site level, where development is steered towards lower areas of flood risk within a site boundary, and is much more objective in its assessment. For the purpose of this FRA, the assessment 'Level' of the Sequential Test are considered to be:

Level 1 - At the high-level, this test is first implemented by local planning authorities (LPA) at the strategic planning scale. The Sequential Test is applied to steer local planning policy by directing particularly vulnerable new developments (e.g., residential, hospitals, mobile homes etc.) outside of the floodplain and for designating new land uses and future development areas.

Level 2 - At the second instance, the Sequential Test is implemented for a specific development at the request of the LPA to assess other sites within an area defined by the LPA, this type of Sequential Test is present where there is a significant conflict between a proposed development and flood risk.

Level 3 - The third instance is where the Sequential Test is applied with the confines of the site, namely by steering development proposals to **avoid** areas of flood risk within a site itself.

- 3.16 Application of the first and second level of the Sequential Test is deemed outside the scope of this report.

CONSIDERATION OF FLOOD DEFENCES AND THE SEQUENTIAL TEST

- 3.17 The EA's Flood Map for Planning shows flood risk on an undefended basis, meaning that the mapped Flood Zones deliberately ignore the presence of any flood defences and represent the worst-case extent of flooding that could occur if defences did not exist or failed. This approach provides a consistent and conservative baseline for applying the Sequential Test across all sites.
- 3.18 As a result, a site that is physically protected by flood defences will still be classified as Flood Zone 2 or Flood Zone 3 on the Flood Map for Planning if the underlying (undefended) probability of flooding is greater than 0.1% annually. The Sequential Test is therefore always applied on the undefended Flood Zone classification, and the presence of

defences cannot be used to place a site into a lower Flood Zone or to avoid the Sequential Test. Where a sequentially preferable site is reasonably available, development at a defended but higher-risk site would ordinarily be refused.

- 3.19 Flood defences are legitimately considered at the Exception Test and FRA stage, where they form part of the evidence base for demonstrating that a development can be made safe for its lifetime without increasing flood risk elsewhere. The FRA considers residual risk from overtopping in events that exceed the defence's Standard of Protection, residual risk from breach or failure, the defence's type, crest level and condition (drawn from the EA AIMS dataset), its ownership and maintenance regime, its remaining service life relative to the development's design life, and the relevant Catchment Flood Management Plan or Shoreline Management Plan policy (for example Hold the Line versus Managed Realignment or No Active Intervention).
- 3.20 Even where defences are present and in good condition, they are treated as a factor within the FRA rather than as a determinative consideration. The assessment must demonstrate that finished floor levels, safe access and egress, flood-resistant and resilient construction, emergency planning and, where relevant, compensatory floodplain storage, together provide safety in residual (defended plus climate change, overtopping and breach) scenarios. Defences provide protection up to their design standard; beyond that standard the development itself must be designed to be safe.
- 3.21 Where a site lies wholly within Flood Zone 1 and is not reliant on defences for its flood-risk performance, the Sequential Test is passed at Flood Zone 1 and the Exception Test is not engaged. The considerations above are included for completeness and to evidence the policy framework that has informed this assessment.

ENVIRONMENT AGENCY FLOOD RISK DESIGNATION

- 3.22 Table 2 below presents a helpful guide in identifying the suitability of a site prior to applying Level 1 and 2 of the Sequential Tests and identifies when the Exception Test is required.

Table 2 - The Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table as specified by NPPF. Shaded cells denote the proposed re-development. Please note: ✓ means development is appropriate; x means the development should not be permitted and should be subject to a full sequential test. Refer to Table 2 for selected Flood Zone Designation

FLOOD RISK VULNERABILITY CLASSIFICATION		ESSENTIAL INFRASTRUCTURE	WATER COMPATIBLE	HIGHLY VULNERABLE	MORE VULNERABLE	LESS VULNERABLE
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test Required	✓	✓
	Zone 3a	Exception Test Required	✓	x	Exception Test Required	✓
	Zone 3b Functional Floodplain	Exception Test Required	✓	x	x	x

- 3.23 The development proposals have sequentially located all static caravans to areas at low risk of flooding within the site (although it should be noted, Flood Zone 1 areas have been created by engineering ground levels to create areas outside of the DFE). Although there are areas of Flood Zone 3, no residential uses will be placed in these zones. Therefore, based on the principles above, a development of this nature is considered appropriate and acceptable and full application of the Sequential Test is not deemed necessary at this time. Therefore, this FRA presents the findings of the Exception Test and recommendations for incorporation of flood resilient measures to improve long term flood resilience of the proposals. The following sections undertakes further analysis of the data available from the Local and District Council and EA data sets relating to flooding from a number of sources.
- 3.24 Table 3 summarises the sites primary flood risk classifications and the source for the DFE. This designation is based on the EA's Flood Maps for Planning (FMfP) which incorporates the Risk of Flooding from Rivers and Sea - Climate Change (RoFRS) (extract provided in Figure 2) and the EA's Long Term Flood Risk Maps (LTFRM): Risk of Flooding from Surface Water – Climate Change (RoFSW) (extract provided in Figure 3). These maps indicate flood extents and depth, further assessment in the proceeding sections review flood hazard from each associated source, and

only where flood hazard exceeds acceptable thresholds is flood risk considered unsuitable for purposes of development.

- 3.25 Other sources of flooding have been considered in Section 6 below (such as groundwater and sewer flooding), but these are typically considered to be 'minor' sources of flood risk.

Table 3 - Summarises the overall Flood Zone designation based on the highest rated flood risk from either rivers and sea or surface water.

FLOOD ZONE AND SOURCE IDENTIFICATION SUMMARY			
	FLOOD ZONES AFFECTING THE SITE		DOMINANT SOURCE FOR THE DESIGN FLOOD EVENT (DFE)
	Flood Zone 2 (medium risk)	Flood Zone 3 (high risk)	Source
River	No	No	Surface Water
Sea	No	No	
Surface Water	Yes (Partial)	Yes (Partial)	

**Flood Zone Designation for assessment is based on the highest flood risk from river, sea or surface water flooding taken from EA's Flood Map for Planning and EA's RoFSW*

- 3.26 Based on the EA's Flood Maps for Planning (FMfP) data, the flooding shown within the site is from surface water sources only. The FMfP data shows that the site is at low risk of flooding from River and Seas, as such flood risk from River and Seas is not considered further
- 3.27 The surface water flooding is driven by overland flows being directed from higher ground to the south, east and west. Primarily, surface flows enter the site along North End Road and the western boundary, then flow into and pond within the site, centred on the localised depression close to the western boundary.

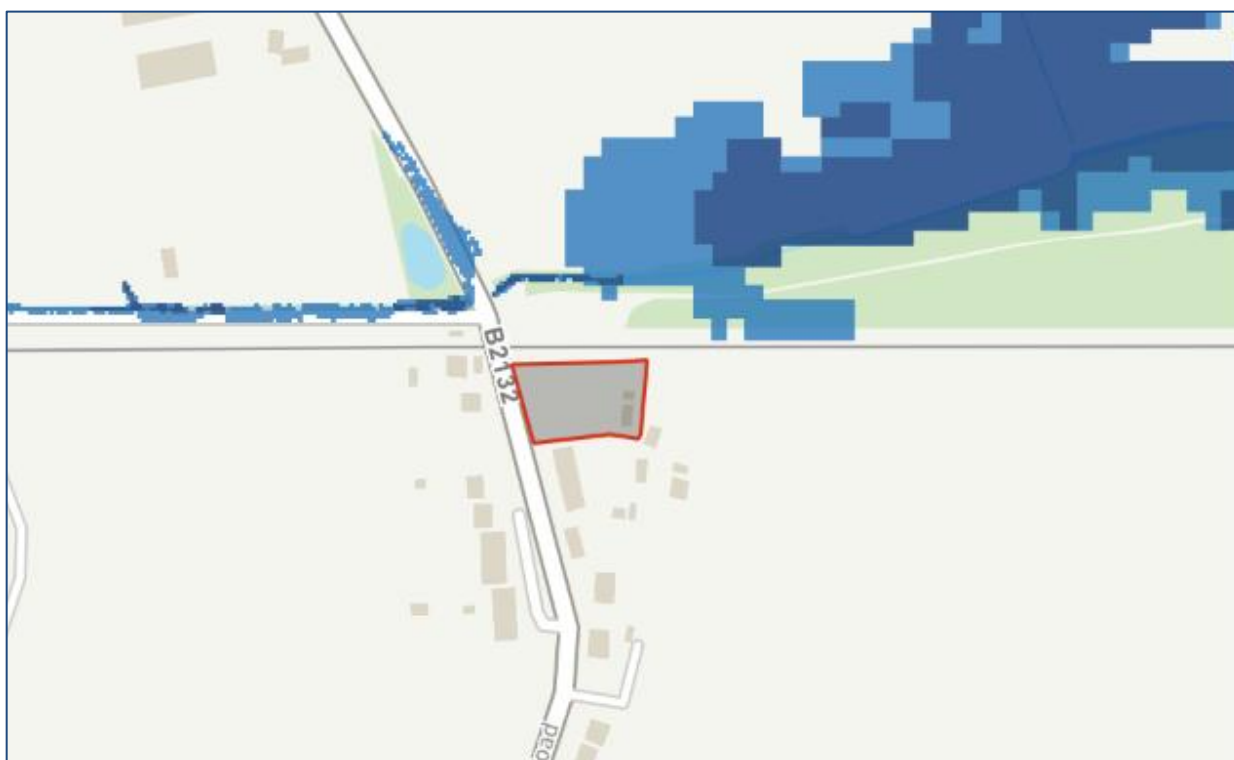


Figure 2 extract from EA Flood Maps for Planning (FMfP) (Source: DEFRA)

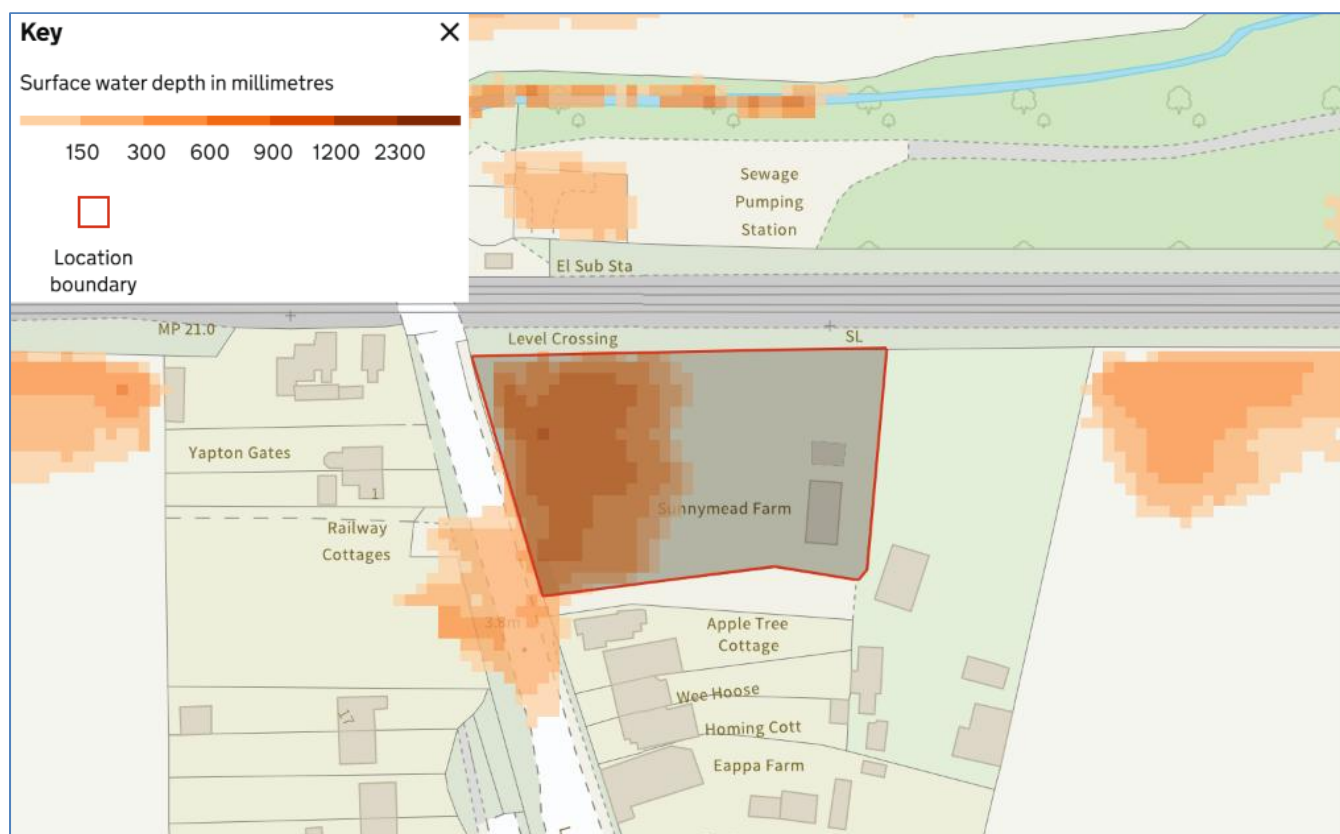


Figure 3 - extract from the FMfP Risk of Flooding Surface Water (RoFSW) 1 in 100 year plus climate flood extents and depths

4 LOCAL FEATURES

RIVERS AND WATERCOURSES

- 4.1 The site lies within the low-lying coastal plain of West Sussex, a landscape characterised by an extensive network of drainage ditches, rhynes, and managed watercourses in addition to the more significant rivers draining the South Downs catchment to the sea.
- 4.2 The principal river in the wider area is the River Arun, which flows in a broadly southerly direction to its outfall at Littlehampton. The River Arun is a main river designated and managed by the Environment Agency. Whilst the Arun does not directly influence the site, its catchment hydrology and tidal influences contribute to the regional groundwater and drainage context of the coastal plain.
- 4.3 The site is situated within a landscape served by a network of ordinary watercourses and field drainage ditches, maintenance of which falls to the relevant Internal Drainage Board (IDB) and Arun District Council as the Lead Local Flood Authority (LLFA). The coastal plain in the Yapton area is low-lying and relies heavily on engineered drainage systems to manage surface water and maintain agricultural land and residential areas free from inundation.
- 4.4 The underlying geology is generally chalk and free draining, both containing localised aquifers but also facilitate good surface drainage.
- 4.5 The topographic survey does not identify any open watercourse within or immediately adjacent to the application site boundary. There is no indication on the survey drawing of any named ditch, drain, or culverted watercourse crossing the site. The site boundaries are defined by North End Road (B2132) to the west and by existing residential and rural land uses to the north, east, and south.

TOPOGRAPHY

- 4.6 The site is broadly low-lying and gently undulating, with ground levels rising gradually from south-west to north-east and east. The lowest recorded spot levels are found along the south-western boundary adjacent to North End Road, with levels ranging from approximately 2.90m AOD to 3.78m AOD in this area. The carriageway of North End Road itself (B2132) carries a recorded level of approximately 3.70m AOD at the site frontage, rising up as you proceed north and or south along North End Road. The site effectively sits within depression in the natural landscape.
- 4.7 Ground levels across the central and northern portions of the site are generally in the range of 3.90m to 4.50m AOD, with localised higher levels of up to approximately 5.18m AOD recorded toward the eastern boundary. The north-eastern corner of the site, where an area of overgrown vegetation is noted as inaccessible, indicates levels of around 4.00m to 5.00m AOD. The eastern boundary adjacent to an existing residential curtilage records levels reaching approximately 5.05m to 5.25m AOD.
- 4.8 In the vicinity of the existing built structures — a greenhouse recorded at approximately 3.54m AOD — ground levels are relatively flat, in the range of 3.43m to 3.78m AOD. The swimming pool area is set at approximately 4.33m to 4.45m AOD, with the jacuzzi recorded at 4.43m AOD. The existing pump and pool infrastructure are set at around 4.36m to 4.45m AOD.
- 4.9 Figure 4 below provides an extract from the Survey, with a copy included in Appendix 1.

GEOLOGY & HYDROGEOLOGY

- 13

- 0.40 to 1.90 mbgl: Brown, slightly gravelly, silty CLAY; gravel is fine to medium, sub-rounded to angular flint and chalk.
 - 1.90 to 4.00 mbgl: Off-white CHALK.
 - Groundwater was struck at 3.40 mbgl at the time of drilling.
- 4.13 Both boreholes confirm a consistent geological profile across the site comprising a thin topsoil over a variable-thickness silty clay strata (likely representing superficial Quaternary or reworked deposits), underlain by Chalk bedrock. The depth to Chalk in BH01 (at 1.05 mbgl) is shallower than in BH02 (at 1.90 mbgl), suggesting some variability in superficial deposit thickness across the site.
- 4.14 Aqua Callidus Consulting refer to a previous ground investigation carried out by Southern Testing in November 2018 in connection with the earlier planning application Y/57/21/PL at the same site. Although the current applicant does not hold the rights to that report, its findings have been reviewed and provide additional context.
- 4.15 The 2018 investigation involved the installation of four boreholes — two at a lower level and two at an upper level across the site. The lower-level wells recorded groundwater levels at 2.3 mbgl and 1.87 mbgl, broadly consistent with the shallow groundwater encountered in the November 2025 investigation when considered alongside seasonal variation. The upper-level boreholes recorded no groundwater to a depth of 3.0 mbgl, indicating a degree of topographic and hydrogeological variability across the site. Infiltration testing was conducted as part of the 2018 investigation, using a falling head test methodology within the 3m deep boreholes; however, results were variable and are noted by Aqua Callidus as not being considered reliable for design purposes without further BRE 365 testing.
- 4.16 The geology at Sunnymeade Farm is characterised by a shallow superficial sequence of silty clay and gravel overlying Chalk bedrock. The Chalk is encountered at depths ranging from approximately 1.05 mbgl to 1.90 mbgl. The Chalk is understood to be a principal aquifer and is known to be present at depth across this part of West Sussex, consistent with the regional geology of the coastal plain. Groundwater is present within the Chalk at approximately 3.10 mbgl to 3.40 mbgl as encountered in November 2025, with shallower levels of 1.87 mbgl to 2.30 mbgl recorded in the lower parts of the site in the 2018 investigation and therefore representing a reasonable upper bound for design purposes.

FLOOD DEFENCES

- 4.17 The Environment Agency releases a range of flood asset information as Open Data through their AIMS Defence (Spatial Flood Defences) GIS mapping. They are the only comprehensive and up-to-date group of datasets in England that show flood defences currently owned, managed or inspected by the EA.
- 4.18 The EA data confirms there are no flood defences within the vicinity of the site.

5 CLIMATE CHANGE

- 5.1 In 2022, the EA issued updated guidance on the impacts of climate change on flood risk in the UKCP18 to support the NPPF. This guidance sets out that peak rainfall intensity, sea level, peak river flow; offshore wind speed and extreme wave heights are all expected to increase in the future as a result of climate change.
- 5.2 The guidance acknowledges that in relation to certain factors there is considerable uncertainty with respect to the absolute level of change that is likely to occur. As such, in these instances, the guidance provides estimates of possible changes that reflect a range of different emission scenarios (Table 4).

Table 4 - Extract from NPPF designating Flood Risk Climate Change Allowances by Flood Zone and Use. The developments required climate change probability scenario is highlighted blue

FLOOD ZONE	ESSENTIAL INFRASTRUCTURE	HIGHLY VULNERABLE	MORE VULNERABLE	LESS VULNERABLE	WATER COMPTABLE
1/2	Higher Central and Upper End	Higher Central and Upper End	Central and Higher Central	Central	None of these allowances
3a	Upper End	Development should not be permitted	Higher Central and Upper End	Central and Higher Central	Central
3b	Upper End	Development should not be permitted	Development should not be permitted	Development should not be permitted	Central

INCREASES IN SURFACE WATER FLOODING AND RAINFALL ALLOWANCES

- 5.3 When considering climate change impacts to surface water (pluvial) flooding, The DEFRA peak climate change rainfall allowances detail predicted rainfall increase due to climate change in different regions around England. For all developments with a design epoch up to (and presently beyond) 2070, the NPPF states developments should adopt the Upper End and Central allowances. The site-specific climate change allowances based on the DEFRA data is summarised in Table 5 below and should also be adopted for the purposes of surface water drainage design.

Table 5 - Summary of Table 2: peak rainfall intensity allowance in small catchments (less than 5km²) or urban drainage

Design Epoch	3.3% Annual Exceedance Probability Event	1% Annual Exceedance Probability Event
2070s	40%	40%

- 5.4 The EA, through their RoFSW Climate Change mapping, presents the risk which takes account for climate change in the near term up to 2125 and based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5 associated with the Central Allowance. This data can be considered suitable for assessing short to long term development and understanding the sensitivity of a catchment to increases in rainfall.
- 5.5 All Councils considers the implementation of SuDS as an essential element of reducing future flood risk to both the site and its surroundings. Indeed, reducing the rate of discharge from sites is one of the most effective ways of reducing and managing flood risk. SuDS can effectively be used to minimise the potential increase of risk to the property and users in the future. In accordance with the NPPF, the sites surface water drainage should account for minimum 45% climate change allowance to site rainfall profiles, to ensure climate change is appropriately considered.

6 SOURCES OF FLOOD RISK

- 6.1 In order to assist the implementation of the Governments NPPF, the EA has undertaken national scale flood risk mapping. This mapping considers a range of sources including flooding from rivers, sea, surface water and reservoir breach. Furthermore, each Council produces a Strategic (county scale) Flood Risk Assessments (SFRA) that aim to specifically identify local flood risk issues (such as critical drainage areas and local groundwater flooding).
- 6.2 As all developments are required to assess climate change impacts at the end of a developments design life cycle, this FRA has only reviewed future flood risk as the determining DFE.

PLUVIAL (SURFACE WATER)

- 6.3 Surface water flooding is the term applied to flooding when intense rainfall overwhelms the ability of the land to infiltrate water, or in urban areas for the sewers and road drains to drain the water away, resulting in surface water runoff and consequent flooding. It is a particular problem in urban areas where the excess water will often travel along streets and paths, between and through buildings and across open space.
- 6.4 RoFSW is created by combining best available flood models, including locally produced detailed flood model information from LLFA's, and national flood modelling. These are used to generate the probability of flood risk for each 2m grid square of land, with the aim of using the best available flood risk information in any one location. The RoFSW maps are built off remotely sensed LiDAR data instead of site-specific topography. This LiDAR data has been edited to remove buildings, trees and other features to produce a terrain profile. As a result, this editing process results in a slightly un-even surface profile, which can result in the production of small depressions that fill with water but in reality, is not at risk of surface water flooding. As such when surface water flooding is isolated, it not considered to pose a risk to a development as these areas can be managed within the confines of the site. This should be considered where very localised areas of flooding are evident and are independent of wider surface water flood flows and routes.
- 6.5 Figure 3 shows the EA's Long-Term Risk of Flooding from Surface Water (RoFSW) map for the yearly chance of flooding between 2060 and 2125. This dataset presents the risk which takes account for climate change in the near term up to 2125 and based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5 associated with the Central Allowance. For developments with a design life up to the year 2125, this data is considered suitable to assess surface water flood risk.
- 6.6 RoFSW is a probabilistic product, meaning that it shows the overall risk, rather than the risk associated with a specific event or scenario. In externally published versions of this dataset, risk is displayed as one of four likelihood bandings:
 - ⇒ High - greater than or equal to 3.3% chance in any given year (1 in 30)
 - ⇒ Medium - less than 3.3% (1 in 30) but greater than or equal to 1% (1 in 100) chance in any given year
 - ⇒ Low - less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1000) chance in any given year
 - ⇒ Very Low - less than 0.1% (1 in 1000) chance in any given year
- 6.7 For most development, the surface water DFE is equivalent to the 1% AEP or Medium Risk event plus an allowance for climate change.
- 6.8 To assess surface water flood risk to the site and proposed use, an assessment of flood depth from 0.2m up to 0.6m has been assessed. Flood depths less than 0.2m are generally considered low risk and posing very low hazard, with flood depths greater than 0.6m considered 'unsafe' and as such a 0.6m flood depth is considered the threshold for this assessment
- 6.9 Figure 5 shows surface water flood depths for the high-risk event with Figure 6 showing the surface water flood extents in the medium risk event, the DFE.

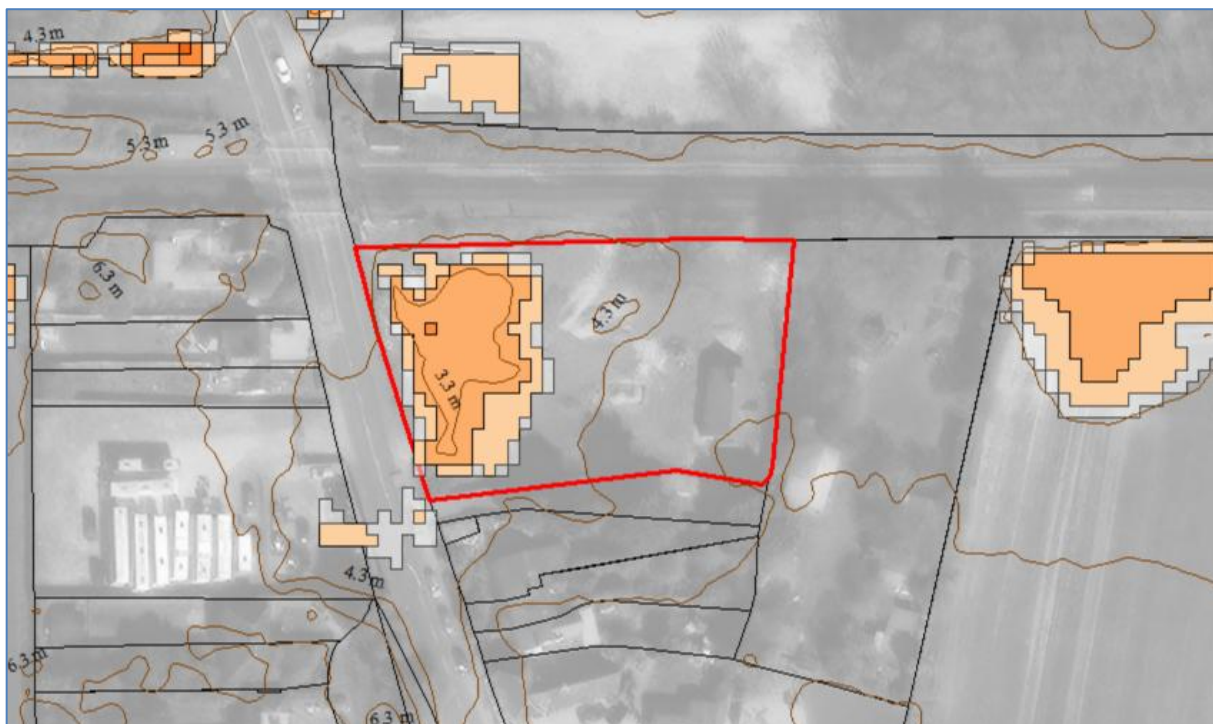


Figure 5 - extract from FMfP RoFSW maps for the Yearly chance of flooding between 2060 and 2125, 1 in 30 year event, site bordered red.

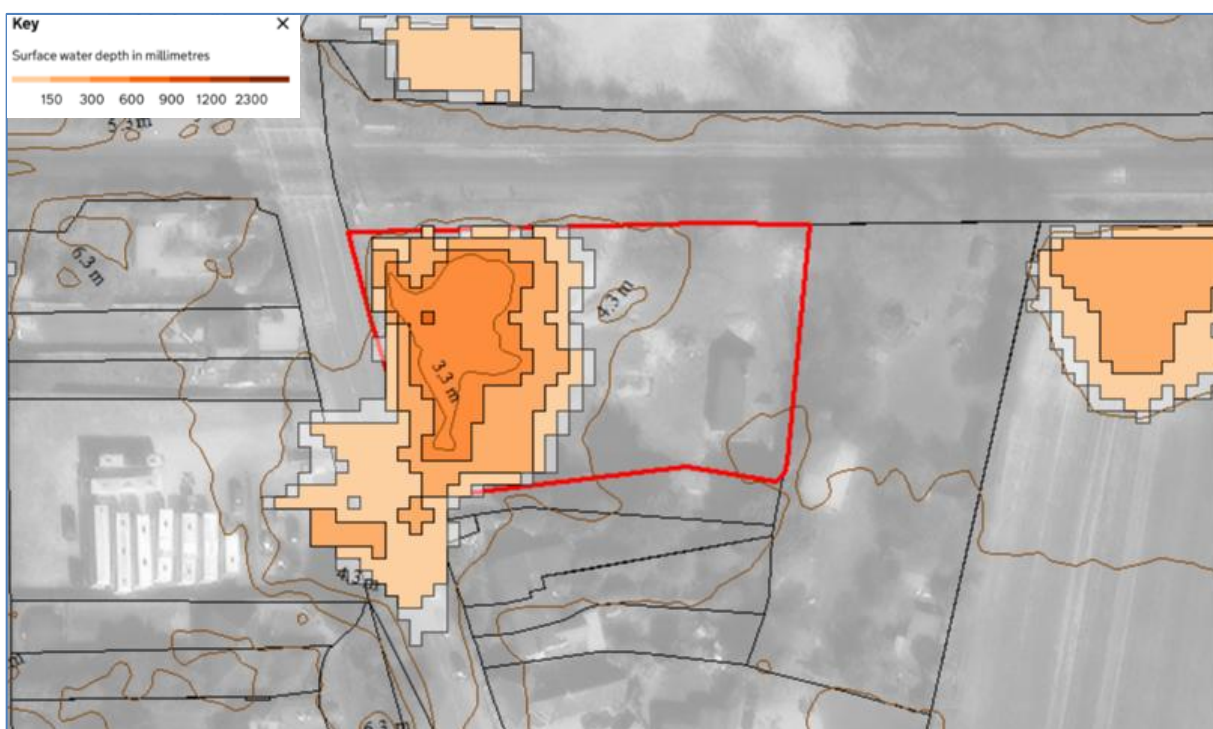


Figure 6 - extract from FMfP RoFSW maps for the Yearly chance of flooding between 2060 and 2125, 1 in 100 year event, site bordered red.

- 6.10 To determine the DFL for the site, a review of the surface water flood extents in the DFE against the LIDAR used to model the RoFSW has been undertaken. Because the surface water flooding at the site is caused by runoff flowing into the site from the south, east and west (where it then ponds before naturally draining down into the underlying chalk), it is possible to estimate the flood level that may occur within site as the water ponds.
- 6.11 By looking at the contour level that the flood water reaches too, a DFL can be calculated. Figure 7 below shows the DFL aligns with 3.9m contour (highlighted in green). As can be seen, the flood extents approximately extend and

follow this contour where within the site boundary. Therefore, adopting a DFL of 3.9mAOD can be considered suitable for determining minimum FFLs and setting a DFL for undertaken flood storage compensation design.

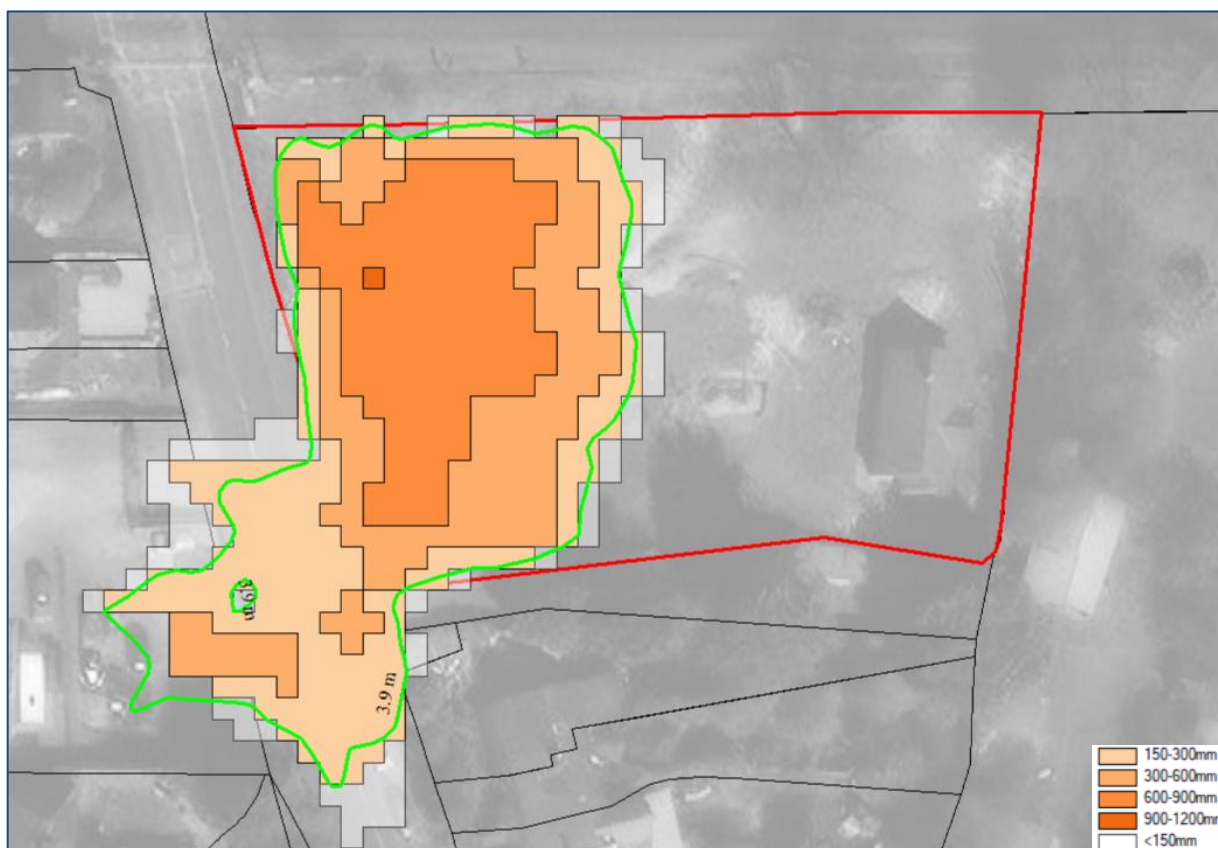


Figure 7 - showing flood extents in the DFE (1 in 100 year plus climate change), site boundary red, 3.9m contour green line

HISTORICAL, SEWERS AND DRAINAGE

- 6.12 A common source of flooding is a result of sewer or other drainage infrastructure becoming surcharged and flooding.
- 6.13 The SFRA does not directly present any records relating to sewer flooding directly impacting the site
- 6.14 The EA have confirmed that there are no historical records of flooding affecting the site directly.
- 6.15 There have been no other noted flood events specifically at the site, however this does not directly indicate that the site has not flooded in the past or may flood in the future.
- 6.16 Therefore, it is considered the risk of sewer flooding to the site is considered low, assuming that any new development flows include appropriate protective measures to manage runoff and not increase the risk of sewer flooding.

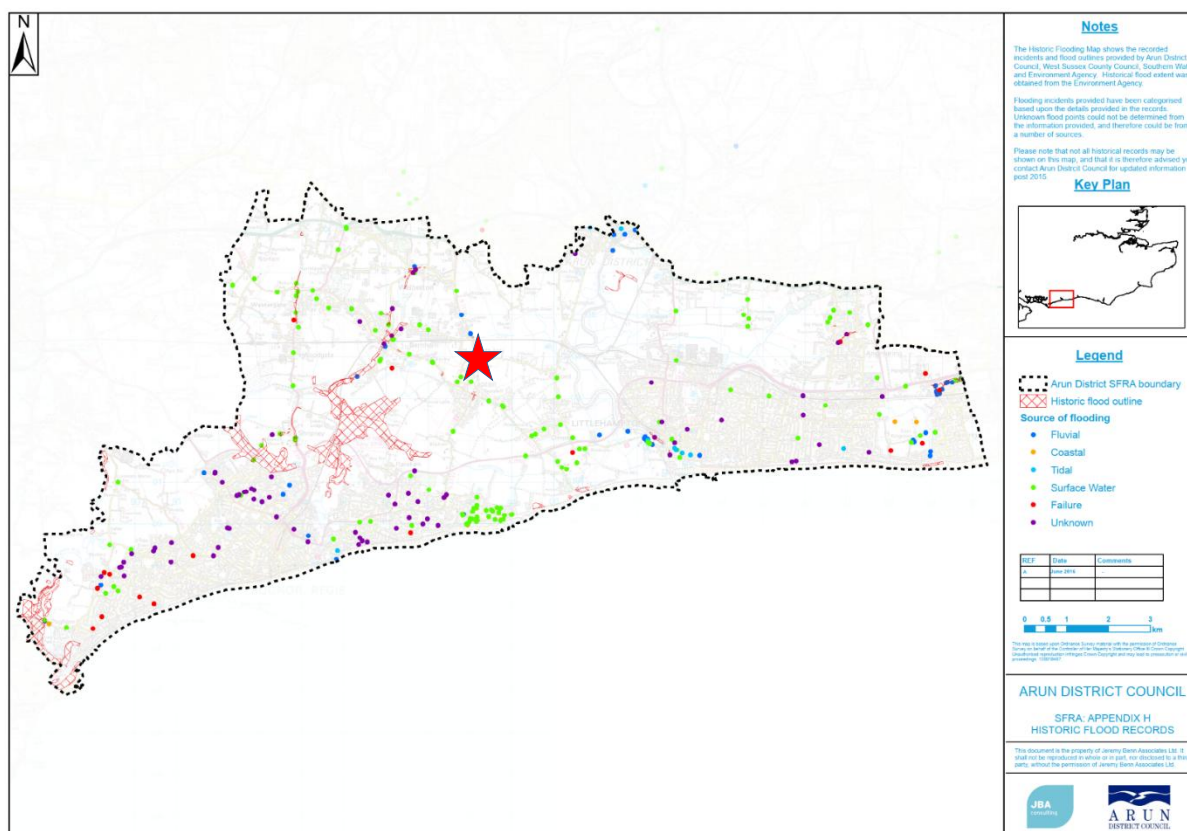


Figure 8 - extract from SFRA Appendix B - Historical Flooding (star marks approximate site location).

GROUNDWATER

- 6.17 Groundwater flooding is the emergence of groundwater at the ground surface or into subsurface voids arising as a result of:
- ⇒ abnormally high groundwater heads or flows;
 - ⇒ the introduction of an obstruction to groundwater flow; or
 - ⇒ the rebound of previously depressed groundwater levels.
- 6.18 Groundwater flooding usually occurs following a prolonged period of low intensity rainfall. As groundwater flow is much slower than surface flow, the flooding may not recede for long periods of time, typically weeks or even months. It is important to recognise the risk of groundwater flooding is typically highly variable and heavily dependent upon local geology, topography and weather conditions, as well as local abstraction regimes. Groundwater flooding is hard to predict and challenging to mitigate.
- 6.19 Groundwater susceptibility maps are typically designed for planners, identifying areas where groundwater flooding might be an issue. The computer models used to classify areas produces maps with a pixel size of approximately 50 metres. Because of this coarse resolution it is possible that the actual susceptibility at your property may be different due to small-scale variations in rock and soil type and local landscape. It is important to note that Susceptibility is not the same as risk. These maps show where there is the potential for groundwater flooding but do not give any indication of the probability that it will occur.
- 6.20 The site data shows that groundwater levels are likely more than 1.8mbgl, with the SFRA showing that the site is an area of moderate risk of groundwater flooding (see Figure 9). However, given that the groundwater monitoring indicated groundwater levels more than 1.8mbgl, the data would still suggest that overall groundwater flood risk is likely to be low to the site.

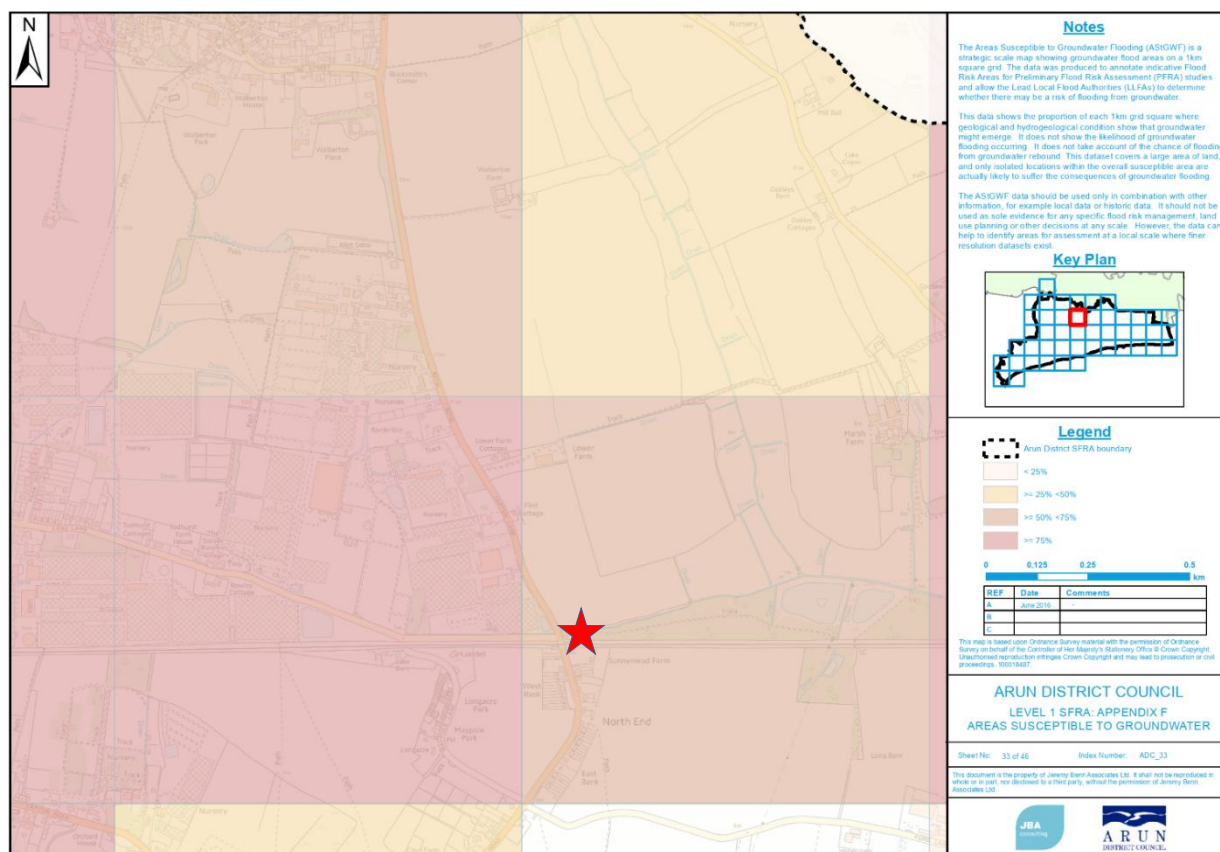


Figure 9 extract from SFRA Groundwater flood map risks (star marks approximate site location).

6.21 Therefore, although information from the maps can be used to highlight an area at risk, it is not designed to be used as a sole indicator of groundwater flooding susceptibility and risk at individual properties. The BGS and SFRA recommend the following for assessing site specific risk:

1. Review BGS geological maps or and BGS (or site specific) borehole records for information on water strikes and groundwater levels. Where underlying geology of is sufficiently permeable, this may allow groundwater to rise more freely and frequently
2. Review the RoFSW mapping, should groundwater emerge at surface, its flow path can be estimated by looking at the RoFSW mapping. However, it should be noted that groundwater flows at surface are a lot lower than surface water runoff events, however groundwater flows may occur over a longer period. Therefore, the risk event assessed for the DFE for groundwater flooding is the high-risk surface water event (or the 1 in 30 year event).
3. Review historical records and SFRA mapping, for example, if a specific property has experienced groundwater related flood risk in the past. This is often the best indicator of site-specific risk for groundwater flooding and can carry the most weighting in assess risk.

6.22 Table 6 below provides a summary of groundwater flood risk indicators as advised by the BGS. It is considered that if any of these risk indicators are negative (or not present), then the overall risk of groundwater emergence is likely to be low. However, this would not mean that groundwater may not pose a risk to lower ground floor uses if groundwater is recorded within 1m of the lowest level of the building. In which, the building design should account for groundwater being present and account for this in the construction and waterproofing of the building.

Table 6 - Summary of groundwater flood risk indicators to the site

GROUNDWATER FLOOD RISK SUMMARY		
Data Source	Risk Indicator	Risk Present
BGS Geological Maps	Is the underlying geology permeable (such as gravels and sands) and may allow free flow of groundwater	Yes
BGS/Site Borehole Data	Is the depth to Groundwater less than 1m	No
Surface Water Flood Risk	Is there surface water flood risk present in the high-risk 1 in 30 year event	Yes
Historical Records	Does the SFRA include any records of groundwater flooding occurring at the site	No
SUMMARY OF GROUNDWATER FLOOD RISK		LOW

- 6.23 The potential effects of climate change on groundwater levels are uncertain. Greater seasonality in groundwater level fluctuation is a potential outcome under a pattern of higher winter rainfall and less summer rainfall. Broad predictions of the impacts of climate change on groundwater levels are difficult to make at the present time

RESERVOIR

- 6.24 Reservoir flooding is very different from other forms of flooding. It may happen with little or no warning and evacuation will need to happen immediately. The likelihood of such flooding is difficult to estimate, but it is less likely than flooding from rivers or surface water. It may not be possible to seek refuge upstairs from floodwater as buildings could be unsafe or unstable due to the force of water from the reservoir breach or failure. The risk of inundation to the study area as a result of reservoir breach or failure of a number of reservoirs within the area was assessed as part of the National Inundation Reservoir Mapping (NIRIM) study.
- 6.25 The EA has undertaken failure scenarios of the UK reservoirs and summarised these extents through their Long-Term Flood Risk Maps for Reservoir Flooding. This data shows the individual flood extents for all large, raised reservoirs in the event that they were to fail and release the water held on a “wet day” when local rivers had already overflowed their banks. Flood extents are not included for smaller reservoirs or for reservoirs commissioned after the reservoir modelling programme began in October 2016
- 6.26 It represents a prediction of a credible worst-case scenario, however it’s unlikely that any actual flood would be this large. The data gives no indication of likelihood or probability of reservoir flooding. The EA data shows that the site is in not in a reservoir flood risk area.
- 6.27 A number of mitigation measures have been proposed below in Section 5 in order to minimise/mitigate flood risk from the above sources.

RESIDUAL RISKS

- 6.28 Residual risks are those remaining after applying the sequential approach to the location of development and taking mitigating actions. Examples of residual flood risk include:
- the failure of flood management infrastructure such as a breach of a raised flood defence, blockage of a surface water conveyance system, overtopping of an upstream storage area, or failure of a pumped drainage system;
 - failure of a reservoir, or;
 - a severe flood event that exceeds a flood management design standard, such as a flood that overtops a raised flood defence, or an intense rainfall event which the drainage system cannot cope with.
- 6.29 Given that the site is not located behind flood defences or in a reservoir failure area, the primary risk to the site is residual failure of onsite drainage or an extreme exceedance event from surface water flooding.

OFFSITE IMPACTS OF DEVELOPMENT

- 6.30 In accordance with Paragraph 167 of the *National Planning Policy Framework (NPPF)*, development should ensure that it “does not increase flood risk elsewhere” and should “manage residual risks of flooding by ensuring safe access and escape routes are included where appropriate, and any residual risk is safely managed.” The proposed development has been designed and assessed to ensure full compliance with these requirements.
- 6.31 The assessment confirms that post-development runoff rates will be limited to existing greenfield discharge rates, in line with *Planning Practice Guidance: Flood Risk and Coastal Change* (Reference ID: 7-050-20220825). The Sustainable drainage measures have been incorporated to attenuate stormwater on-site for all events up to and including the 1 in 100 year + climate change allowance, ensuring no increase in the volume or rate of surface water leaving the site.
- 6.32 The information request has requested flood storage compensation to adopt the level for level, volume for volume flood storage compensation (FSC) design. However, this methodology is only applicable to fluvial flood plain assessments where to facilitate the flow in and out of a flood plain is maintained. Whereas, for surface water flood risk, particularly at the end of an overland flow path and where surface water flows finish in a pond, lake or land depression (as is the case on this site), it is only critical to ensure that overland flows can continue to flow into the area unobstructed, while ensuring that post development, the same amount of water can be stored within the site below the maximum design flood level (DFL), as flood waters are not required to flow back out of the area. As such, the FSC has been undertaken to ensure there is no net loss of flood plain storage below the DFL, and will continue to allow surface water to pond and then drain down naturally into the ground (as per existing). Ground levels at the site boundary along the western boundary, where surface waters flow into the site, have been kept as existing (to ensure overland flows can freely drain into the site and will be prevented from leaving the site below the DFL).
- 6.33 Appendix 3 includes the proposed FSC plans. These show the following:
- Pre-dev flood storage availability = 566.34m³
 - Post-dev flood storage availability = 589.10m³
- 6.34 The proposed flood storage will provide an additional 23m³ of flood plain storage at the site, improving and reducing the likely scale and extent that North End Road may flood.
- 6.35 The caravans should have an FFL 600mm above the DFL or 4.5mAOD. This would protect the dwellings from flooding in extreme events such as the 1 in 1000 year event (which is expected to reach approximately 4.4mAOD in the 1 in 1000 year event plus climate change).
- 6.36 In addition to ensuring that net flood storage is maintained, the engineered ground levels have been designed to facilitate both the SuDS systems, and the proposed static caravans are wholly above the DFL.
- 6.37 By re-configuring the site levels, an emergency access and egress footpath along the site's northern boundary can be provided (should the vehicle access be inundated), this is highlighted in Appendix 4.
- 6.38 Furthermore, as required by NPPF Paragraph 159 and PPG guidance, the design ensures that flood risk will not be transferred to adjacent land or downstream receptors by providing FSC and SUDS. The development proposals will not displace existing flood plain volumes or intercept existing surface water overland flow paths as demonstrated through the FSC drawings.
- 6.39 The proposed drainage strategy will be required to operate effectively during extreme events, preventing exceedance flows from leaving the site in an uncontrolled manner.
- 6.40 The development therefore satisfies the NPPF and PPG policy tests by:
- ⇒ Managing runoff on-site through appropriately designed attenuation and discharge control;
 - ⇒ Incorporating exceedance routing to direct flows away from vulnerable receptors;
 - ⇒ Ensuring no increase in flood risk to third-party land under current or future climate scenarios.

⇒ Refer to Section 8 for demonstration of “safe” access and egress.

- 6.41 To prevent flooding from failure of the local urban drainage system, regular maintenance should be undertaken of the gullies, sewers and laterals within, and in the vicinity of, the site.
- 6.42 The long-term maintenance of the surface water sewers and surface drainage within the site will be the responsibility of the developer, landowner or a management company which may be set up to maintain the site.

7 BUILDING MATERIAL MITIGATIONS

7.1 The final step in the flood risk management hierarchy is to mitigate through building design. NPPF considers this as the least preferred option and should not be used in place of the sequential approach to land use planning on a site. The Department for Communities and Local Government has published guidance on improving the flood performance of new buildings. The guide identifies a hierarchy of building design which fits within step 5 of the flood risk management hierarchy of NPPF (assess, avoid, substitute, control and mitigate). This is set out below:

- ⇒ **Flood avoidance:** Constructing a building and its surrounds (at site level) to avoid it being flooded (e.g. by raising it above the flood level).
- ⇒ **Flood resistance:** Constructing a building in such a way to prevent flood water entering the building and damaging its fabric.
- ⇒ **Flood resilience:** Constructing a building in such a way that although flood water may enter the building its impact is reduced (i.e. no permanent damage is caused, structural integrity is maintained and drying and cleaning are facilitated).
- ⇒ **Flood repairable:** Constructing a building in such a way that although flood water enters a building, elements that are damaged by flood water can be easily repaired or replaced.

7.2 The EA Guidance on Flood Risk Assessment: Local Planning Authorities sets out to help the designer determine the best option or design strategy for flood management at the building site level, based on knowledge of basic flood parameters (e.g. depth, duration and frequency). Depending on these parameters (in particular depth) and after utilising options for flood avoidance at site level, designers may opt for a water exclusion strategy or a water entry strategy, as illustrated in Figure 10.

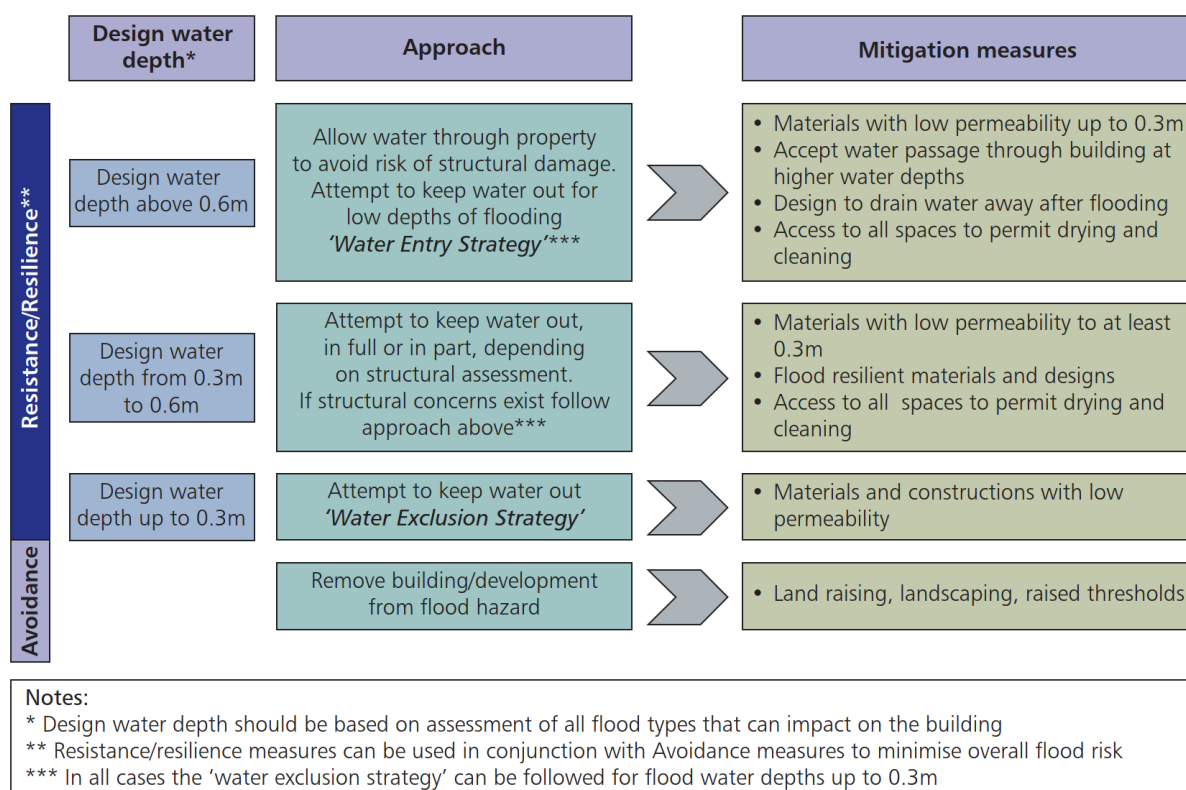


Figure 10 - Flexible and risk averse approaches to flood risk management and safe development (source: Figure taken from "Improving the Flood Performance of New Buildings – Flood Resilient Construction")

7.3 The adoption of either Water Exclusion or Water Entry is based on the expected flood depth that may affect a building or site. These are summarised below:

- ⇒ **Water exclusion strategy** is when the emphasis is placed on minimising water entry whilst maintaining structural integrity, and on using materials and construction techniques to facilitate drying and cleaning. This strategy is favoured when low flood water depths are involved (not more than 0.3m). According to the definitions adopted in this Guidance, this strategy can be considered as a resistance measure but it is part of the aim to achieve overall building resilience
- ⇒ **Water entry strategy** is when the emphasis is placed on allowing water into the building, facilitating draining and consequent drying. Standard masonry buildings are at significant risk of structural damage if there is a water level difference between outside and inside of about 0.6m or more. This strategy is therefore favoured when high flood water depths are involved (greater than 0.6m) by utilising resilient materials, and construction methods.
- ⇒ **Flood resistant measures** are incorporated where it is considered feasible to prevent floodwater entering the building, and take the form of flood barriers. Many flood resistant products/barriers are only suitable to typical maximum height being 0.68m, before the risk of structural damage is incurred. As this is a historic structure with limited scope for structural reinforcement.
- ⇒ **Flood resilient measures** are incorporated where it is accepted that, in severe flood events, water may enter parts of the building so it is necessary to ensure the building will remain useable after the floodwater has receded and the area has been cleaned. Therefore, materials should be incorporated that retain their structural integrity and have good drying and cleaning properties or are waterproof, and services and sockets etc. are located as high as practical to minimise flood damage.

7.4 Given the primary risk is related to surface water flooding most likely from an exceedance event or failure of onsite drainage, it is considered that some key principles of the **Water Exclusion Strategy** should be adopted for the buildings on the site. Some simple construction measures can greatly protect buildings during such an event without incurring large additional construction costs. Some recommendations include:

- The route of all electrical services will run from ceilings at ground floor (where possible), down toward sockets;
- All plumbing insulation to be of closed-cell design;
- The caravans to have an FFL at no lower than 4.5mAOD (600mm above the DFL).
- Non-return valves to be fitted to all drain and sewer outlets;
- External ground levels are graded to direct exceedance runoff around buildings and building thresholds.

7.5 Further detail can be found at <https://assets.publishing.service.gov.uk/> and within BS 85500:2025-Flood resistant and resilient construction. Guide to improving the flood performance of buildings for applicable strategies.

8 EMERGENCY ACCESS AND EGRESS

- 8.1 Under the UK National Planning Policy Framework (NPPF) and its supporting Planning Practice Guidance (PPG), residential development must ensure that safe access and egress is provided during flood events. The key points regarding flood-free or safe access and egress are as follows:

1. Policy Requirements – NPPF & PPG

Paragraph 167 of the NPPF states that new development should be planned to avoid increased vulnerability to the range of impacts arising from flood risk, and where development is necessary in areas at risk of flooding:

"...it should be made safe for its lifetime without increasing flood risk elsewhere."

- This includes ensuring that safe access and escape routes are included as part of a flood risk assessment (FRA). The PPG elaborates that safe access and egress must be:

"...provided to enable the occupants of the development to reach a place of safety during a design flood event."

2. Definition of "Safe" Access and Egress

The PPG identifies three key principles for access/egress:

- Access and egress should be safe for all users, including the most vulnerable (e.g. elderly, disabled).
- Safe pedestrian access is the minimum requirement.
- Routes should remain operational and not become inaccessible or hazardous during a design flood event (typically the 1% AEP or 1 in 100-year flood + climate change allowance).

3. Depth, Velocity, and Hazard Thresholds

The PPG refers to the Environment Agency's flood hazard matrix (Table 13.1 of FD2320), where safe pedestrian access is generally considered to be:

- Flood depth < 0.3 metres
- Velocity < 0.5 m/s
- Hazard rating < 0.75 (Very low hazard)

If flood conditions exceed these thresholds, evacuation must occur before flooding, or dry/raised routes must be available.

4. Location and Route Criteria

Safe access/egress must connect to dry land or a safe refuge, typically beyond the 1% AEP + CC flood outline (Flood Zone 1). Therefore, to comply with the NPPF, all occupants should be able to make their way, unassisted by the Emergency Services, to dry land. This is known as 'safe access to dry land' and does not have to be dry, just not *hazardous* at the peak of the predicted critical 1% (1 in 100 year) plus climate change storm.

- 8.2 Table 13.1 of FD2320 shows the maximum depths/velocity combinations that are safe for 3 categories of user (occupant). The methodology for calculating "Flood Hazard" is reproduced below according to the methodology stated within the "Supplementary Note on Flood Hazard Ratings and Thresholds for Development Planning and Control Purposes – Clarification of the Table 13.1 of FD2320/TR2 and Figure 3.2 of FD2321/TR1".
- 8.3 For an access/egress route to be acceptable under the NPPF, the combination of flood depths, velocities and debris must be analysed with an acceptable level of hazard being no more than 0.75.

- 8.4 Figure 11 below illustrates a proposed evacuation route based on the proposed ground levels and FSC strategy. The proposed of evacuation onto North End Road at the location shown is indicated to be at very low risk flooding. The emergency access and egress route shown (in green arrows) below, is 1.5m wide footpath raised above the DFL.



Figure 11 – showing surface water flood extents in the DFE, and the proposed access/egress route away from the static caravans onto North End Road.

- 8.5 Appendix 4 includes a Flood Evacuation Plan should the normal access route be flood affected.
- 8.6 This mapping demonstrates that there is safe access and egress from the site onto a public road (should this be required). If access from site is ever impacted by flooding, the static caravans are shown to be on land at very low risk of flooding from all sources and therefore safe refuge is likely to be possible within the caravans.

9 FLOOD EVACUATION PLANNING

- 9.1 If in the worst-case scenario, flooding has begun and depths appear anywhere along the escape routes appear to be greater than 25cm, it is advised that the occupants seek refuge within the dwelling on the first floor.
- 9.2 The Environment Agency usually issues a flood alert between 2 and 12 hours before flooding. Flood alerts are usually issued during waking hours where possible.

FLOOD HAZARD PREVENTION

- 9.3 It is recommended that the residential occupants are aware of the emergency procedures and local evacuation and contact points.
- 9.4 Each occupant of the site should be made fully aware of the flood risks and made aware of the required evacuation route away from the site and to Flood Zone 1.
- 9.5 Each occupant **MUST** be registered for flood alerts and warnings.

WARNING PROCEDURES

- 9.6 This section contains general information on the types of flood warning available to site owners and occupants, as well as suggested actions in the event of these warnings being enacted.
- 9.7 The EA operates a 24-hour telephone service on 0345 988 1188 that provides frequently updated flood warnings and associated floodplain information.
- 9.8 The site owner(s) **MUST** register for this service. It is advised that all residents/occupants and also register for this service, as site owner(s) may not be on site at the time of a flood event. It is the responsibility of the site owner to make this service available to all users.
- 9.9 Further information can be found on www.environment-agency.gov.uk/floodline and <https://www.iow.gov.uk/keep-the-island-safe/severe-weather/flooding/>. Floodline Warnings Direct is a free service operated by the EA that provides flood warnings direct to occupants by telephone, mobile phone, fax or pager.
- 9.10 It is the responsibility of the site owner(s) to keep the evacuation routes and areas of safe refuge known to all occupants and clear at all times.
- 9.11 Upon receipt of a flood warning, and following liaison and agreement with the Emergency Services, the site should be evacuated.
- 9.12 All occupants should be advised not to return to the site until the site is deemed to be safe for return by the Emergency Services / EA. If flood waters have receded the site can be accessed provided it is safe to do so.
- 9.13 Site owners will be responsible for informing future occupants and site owners of the risk posed from flooding.

THE EVACUATION PROCEDURE

- 9.14 It is the property owner's responsibility to liaise with the Emergency Services in relation to the decision to evacuate all occupants.
- 9.15 The Emergency Services will become the lead agencies in respect to the flood incident. Emergency Services will lead on the decision to evacuate and any subsequent evacuation of the development. The site owner(s) will be responsible for making contact with all occupants and site users as required during an evacuation event.
- 9.16 Once the decision to evacuate has been made, it is the site owner's responsibility to make contact with occupants as required during an evacuation event. If any occupants cannot or will not evacuate the Emergency Services are required to be informed immediately.

- 9.17 The residents should continue to liaise with the Emergency Services and Emergency Planners throughout the evacuation procedure and will report to them once the evacuation has been successful so as to avoid unnecessary strain on the resources of the Emergency Services.
- 9.18 If feasible, occupants should inform supervisors, close relatives and friends of their safe evacuation, this will also help avoid unnecessary strain on the resources of the Emergency Services.
- 9.19 As flood hazard is a combination of the depth and velocity of floodwater, evacuees should **not** enter floodwater unless:
- Emergency Services are present as part of an assisted / supervised evacuation,
 - **or if the depths are below 25cm before evacuating.**
- 9.20 The Emergency Services, including but not limited to the Police and the Fire Brigade will be the lead agencies in respect of flood evacuation.
- 9.21 Evacuees should ensure that their chosen action and route is suitable to all members of their party (i.e. the elderly, very young, or disabled).

SAFE REFUGE PROCEDURES

- 9.22 Safe refuge is considered a last resort but is available within the static caravans (as FFLs are designed to be above the DFE). Safe refuge is advised when flood waters are perceived to be deeper than 250mm (25cm) along a proposed access route (unless directed by emergency services), and instead occupants should seek safe refuge within the building.
- 9.23 To facilitate making an informed decision during a flooding event, it is recommended that the site owners/ occupants sign up to the EA flood alert service and monitor weather reports as per the EA guidance.

10 FLOOD MITIGATION MEASURES

- 10.1 The proposals allow the opportunity to improve flood resilience of the site by incorporating a number of flood mitigation measures, both through the incorporation of flood resilient building materials, surface water drainage improvements and signing up to the EA Flood Warning/Alert System.
- 10.2 Table 7 presents the key flood mitigation measures based the critical DFE on the NPPF and PPG decision making principles:

Table 7 - Key Decision Making principles and measures applied to avoid, control, mitigate, and manage flood risk

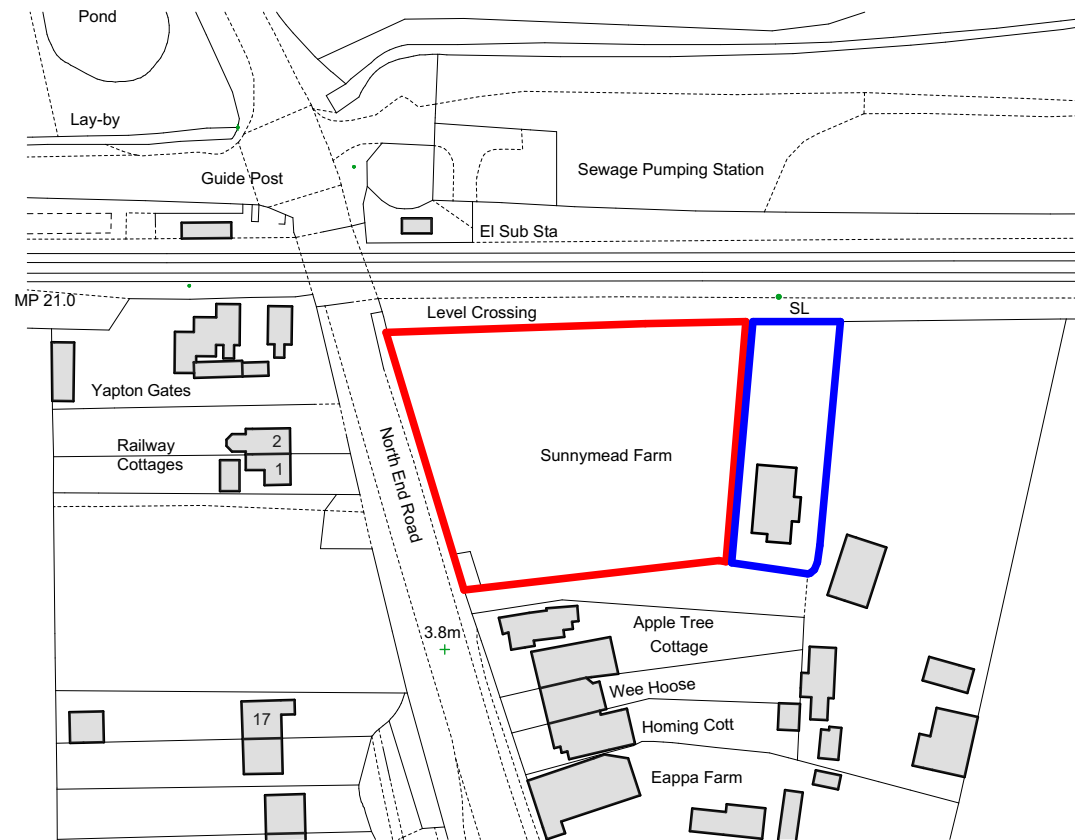
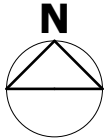
DECISION MAKING: ORDER OF PRIORITY	PROPOSED MEASURES
1. Avoid	The proposed residential use is shown to be sequentially located on land above all modelled DFEs. Therefore, the proposals have been designed to avoid flooding of the caravans for the DFEs and flood risk to the proposals is generally considered to be low.
2. Control	Surface Water Drainage systems should be designed to accommodate the 1 in 100 year plus climate change DFE.
3. Mitigate	Recommend that the developer incorporates the recommendations of BS 85500:2025 where applicable - Flood resistant and resilient construction. Refer to Section 7 for recommended Building Measures
4. Manage residual flood risk	Safe Access and Egress is deemed possible. Refer to Section 8 for assessment of Access and Egress (Flood Evacuation Planning).
5. Flood Risk is not increased elsewhere	To facilitate placing the static caravans and SUDS above the DFL, FSC has been undertaken to ensure there is no loss in flood plain volumes, and therefore no impacts on down or upstream flood risk. Any new drainage should be designed in accordance with Building Regulations Part H, SuDS Manual and 'DCG' guidance, ensuring drainage proposals include an allowance for climate change. Any additional flows to be directed into the Local Sewer Authorities public sewers or water courses to receive confirmation of capacity and connection approvals prior to detailed design and construction.

11 CONCLUSION

- 11.1 This assessment is required under the National Planning Policy Framework (NPPF) and Local and District Councils given the location, scale and associated flood risks.
- 11.2 Table 3 summarises the sites primary flood risk classifications and the source for the DFE. This designation is based on the EA's Flood Map for Planning (extract provided in Figure 2) and the EA's Long Term Flood Risk Maps (LTFRM): Risk of Flooding from Surface Water (RoFSW) (extract provided in Figure 3).
- 11.3 Based on the information available at the time of writing, this FRA has confirmed that surface water flood risk poses the primary flood risk to the site. In order to facilitate the proposed development, nominal land raising is required to establish suitable areas for the static caravans and SuDS to manage additional site runoff. However, through land raising and the provision of FSC (to compensate flood plain losses as a result of land raising), the static caravans and SuDS can be provided above the 1 in 100 year plus climate change DFE.
- 11.4 The information request has requested flood storage compensation to adopt the level for level, volume for volume flood storage compensation (FSC) design. However, this methodology is only applicable to fluvial flood plain assessments where to facilitate the flow in and out of a flood plain is maintained. Whereas, for surface water flood risk, particularly at the end of an overland flow path and where surface water flows finish in a pond, lake or land depression (as is the case on this site), it is only critical to ensure that overland flows can continue to flow into the area unobstructed, while ensuring that post development, the same amount of water can stored within the site below the design flood level (DFL), as flood waters are not required to flow back out of the area. As such, the FSC has been undertaken to ensure there is no net loss of flood plain storage below the DFL and will continue to allow surface water to pond and then drain down naturally into the ground (as per existing). Ground levels at the site boundary along the western boundary, where surface waters flow into the site, have been kept as existing (to ensure overland flows can freely drain into the site and will prevented from leaving the site).
- 11.5 A review of other sources of flood risk, the site at very low risk of flooding from fluvial, sea and groundwater sources.
- 11.6 Table 7 summarises how this FRA has applied the PPG's key decision making principles to avoid, control, mitigate, manage residual risk and to ensure the development proposals do not increase flood risk post development. Based on the PPG and NPPF, and assuming the recommendations of this FRA are followed, it is considered that a residential use on this site should be considered appropriate.
- 11.7 To assist in mitigating the present flood risk to the site's users based on the development proposals, a number of recommendations have been discussed, the core of these include:
 - The static caravans to have an FFL at no lower than 4.5mAOD (600mm above the DFL).
 - Establish a raised footpath along the northern boundary to North End Road above the DFL, to provide a route of emergency access and egress.
 - Develop a Flood Evacuation Management Plan for occupants.
 - The sites drainage should be designed in accordance with Building Regulations Part H, SuDS Manual and 'DCG' guidance, ensuring drainage proposals include an allowance for climate change and that there is no additional strain placed on downstream infrastructure.
 - Any additional flows to be directed into the Local Sewer Authorities public sewers to receive confirmation of capacity and connection approvals prior to detailed design and construction.
 - Users sign up to the EA Flood Warning and Alert System.
 - Adopt the measures (as applicable) within Local Government (CLG) 2007 'Improving the Flood Performance of New Buildings' publication.

- 11.8 This report demonstrates that the proposals could be accommodated within the site in accordance with the EA guidance, Council SFRA, and the NPPF. It is considered that as long as the development follows the advice presented in this report, that the development proposals may be considered appropriate at this location.

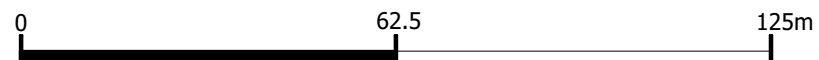
APPENDIX 1 – ARCHITECTURAL PROPOSALS



LOCATION PLAN 1:1250

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REV	DESCRIPTION	DATE	AUTHOR	CHK'D
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1:1250 (at A4)

All dimensions are subject to site survey and site verification. Do not scale from this drawing.

DATE
JULY 2025
SCALE @ A4
1:500

AUTHOR
CW
CHECKED BY

PROJECT
Proposed Chalets, Sunnymead, North End
Road, Yapton
CLIENT
Mr & Mrs Brazil
STATUS
FOR PLANNING
DRAWING
Location Plan

PROJECT NO.
638

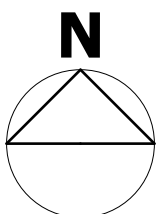
DRAWING NO.
100

REV.



SITE PLAN 1:500

- KEY**
- Drainage Easment
 - Existing Trees
 - Proposed Trees
 - Landscaped Buffer
 - 2m High Proposed Native Hedgerow Planting
- 11 Existing gated Access
21 Max. 1m High Close Board Fence
31 Parking for Plots 1-3
41 Visitor Parking Space
51 Bin Store for Plots 1-3
61 Existing Parking for Bungalow
71 Existing Bungalow
81 Cycle Store
91 Acoustic Fence



REV	DESCRIPTION
A	Layout updated
B	Revised layout
C	Updated Layout
D	Fence height amended

DATE	AUTHOR	CHK'D
21/05/25	CW	
14/07/25	CW	
27/08/25	CW	
09/10/25	CW	

NOTES

DATE
MAY 2025
SCALE @ A2
1:500

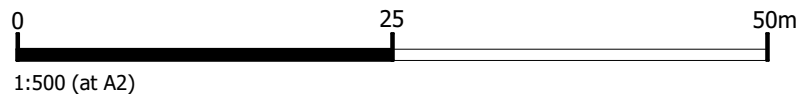
AUTHOR
CW
CHECKED BY

PROJECT
Proposed Chalets, Sunnymead, North End Road,
Yapton
CLIENT
Mr & Mrs Brazil
STATUS
FOR PLANNING
DRAWING
PROPOSED SITE/BLOCK PLAN

PROJECT NO.
638

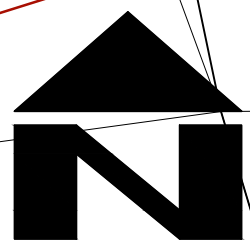
DRAWING NO.
101

REV.D



APPENDIX 2 – SITE SURVEY

APPENDIX 3 – FLOOD STORAGE COMPENSATION (FSC) DRAWINGS



BLUE HATCHING REPRESENTS THE 0.2m DEEP FLOOD BANDS FROM THE NaFR2 SURFACE WATER FLOOD RISK 2060-2125 FLOOD DATA. THE DESIGN FLOOD EVENT IS THE 1 IN 100 YEAR PLUS CLIMATE CHANGE EVENT. THE EA DATA INDICATES SURFACE WATER FLOOD RISK ON THE SITE IS A RESULT OF PONDING WITHIN THE SITE AND SITS AT THE HEAD OF A MINOR OVERLAND FLOW PATH THAT ENTERS THE SITE FROM THE SOUTH WESTERN BOUNDARY AND PONDS WITHIN THE SITE AND THEN NATURALLY DRAINS DOWN THROUGH THE UNDERLYING SOILS. AS SUCH, POST DEVELOPMENT FLOOD STORAGE COMPENSATION IS BASED ON ENSURING THERE IS NO OVERALL LOSS OF FLOOD STORAGE VOLUMES WITHIN THE SITE BASED ON THE DFL OF 3.90mAOD AS ESTIMATED FROM THE EA DATA AND SURVEY.

- STANDARD DRAINAGE NOTES
- DO NOT SCALE FROM THIS DRAWING, REFER TO FIGURED DIMENSIONS ONLY. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE.
 - ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
 - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
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 - COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
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 - ROAD GULLY OUTLET PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS. ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
 - ALL ADOPTABLE SEWERS SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATION LAID DOWN DOWN IN 'SEWERS FOR ADOPTION' 6th EDITION, WITH A VIEW TO ADOPTION UPON COMPLETION OF WORKS.
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- 'A15' IN ALL LANDSCAPED AREAS AND ON FOOTPATHS
- 'B125' IN ALL DRIVEWAYS
- 'C250' IN PRIVATE PARKING AREAS
- 'D400' IN CARRIAGEWAY/ACCESS ROAD

Elevations Table					
Number	Minimum Elevation	Maximum Elevation	Color	Range Area	Range Volume
1	0.000	0.200		192.76	213.25
2	0.200	0.400		255.49	170.30
3	0.400	0.600		275.45	116.68
4	0.600	0.800		296.37	57.81
5	0.800	1.000		145.90	8.30
6	1.000	1.200		0.00	0.00

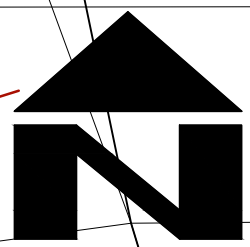
FLOOD STORAGE VOLUME = 566.34m3

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P-	XX.XX.XX	PRELIMINARY ISSUE	XX	XX	XX
REV	DATE	DESCRIPTION	BY	CHK	APP
Consulting Civil Engineers					
CLIENT		ALBERT BRAZIL			
ARCHITECT		WELLSTEAD DESIGN			
JOB TITLE		SUNNYMEADE, YAPTON			
DRAWING TITLE		PRE-DEV RoFSW PLUS CC FLOOD STORAGE VOLUMES			
DRAWN	ENGINEER	CHECKED	APPROVED		
DATE	JUNE 2026		SCALE @ A1		
JOB No.	C1002		STATUS	DRAWING No.	REV.
			EX FL-01		

FOR PLANNING ONLY



FORM 1.5m FOOTPATH ALONG
NORTHERN BOUNDARY TO ALLOW SAFE
ACCESS EGRESS IN AN EMERGENCY

FORM 1.5m FOOTPATH ALONG
NORTHERN BOUNDARY TO ALLOW SAFE
ACCESS EGRESS IN AN EMERGENCY

SV - 2

SV - 3

SV - 4

MAINTAIN EXISTING
DRIVEWAY LEVELS TO
ENSURE OFFSITE RUNOFF
IS NOT DIVERTED

BATTERS TO BE NO
MORE THAN 1 IN 3

1m WIDE ZONE FOR
SOAKAWAY OFFSET 5m
FROM BUILDING EDGE.
REFER TO DRAINAGE
LAYOUT FOR DETAILED
DRAINAGE ARRANGMENT

AREA LOWERED TO
BALANCE FLOOD
STORAGE VOLUMES

PROPOSED
DRIVEWAY

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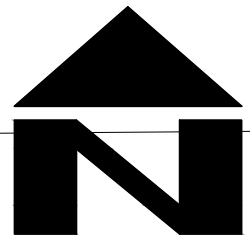
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REV	DATE	DESCRIPTION	BY	CHK	APP



CLIENT	ALBERT BRAZIL				
ARCHITECT	WELLSTEAD DESIGN				
JOB TITLE	SUNNYMEADE YAPTON				
DRAWING TITLE	PROPOSED EXTERNAL LEVELS				
DRAWN	RH	ENGINEER	Ryan Hofman	CHECKED	APPROVED
DATE	JUNE 2026			SCALE @ A1	
JOB No.	C1002		STATUS	DRAWING No.	REV.
		EX-01			

FOR PLANNING ONLY



LOCALLY LOWER GROUND-LEVELS TO BALANCE POST DEVELOPMENT FLOOD STORAGE VOLUMES

1.5m WIDE EMERGENCY ACCESS FOOT PATH RAISED ABOVE THE 1 IN 100 PLUS CLIMATE CHANGE DFL OF 3.90m AOD

RE-GRADE GROUND LEVEL TO ENSURE NEW DWELLINGS ARE ABOVE THE DFL

1.5m WIDE EMERGENCY ACCESS FOOT PATH RAISED ABOVE THE 1 IN 100 PLUS CLIMATE CHANGE DFL OF 3.90m AOD

SV-2

SV-3

SV-4

CARPARK RAISED TO LIMITED FLOOD VOLUME OVER TO NO MORE THAN 300mm IN ORDER TO REMAIN 'SAFE' FOR TRAVERSAL

BLUE HATCHING REPRESENTS THE 0.2m DEEP FLOOD BANDS FROM THE NAFR2 SURFACE WATER FLOOD RISK 2060-2125 FLOOD DATA. THE DESIGN FLOOD EVENT IS THE 1 IN 100 YEAR PLUS CLIMATE CHANGE EVENT. THE EA DATA INDICATES SURFACE WATER FLOOD RISK ON THE SITE IS A RESULT OF PONDING WITHIN THE SITE AND SITS AT THE HEAD OF A MINOR OVERLAND FLOW PATH THAT ENTERS THE SITE FROM THE SOUTH WESTERN BOUNDARY AND PONDS WITHIN THE SITE AND THEN NATURALLY DRAINS DOWN THROUGH THE UNDERLYING SOILS. AS SUCH, POST DEVELOPMENT FLOOD STORAGE COMPENSATION IS BASED ON ENSURING THERE IS NO OVERALL LOSS OF FLOOD STORAGE VOLUMES WITHIN THE SITE BASED ON THE DFL OF 3.90m AOD AS ESTIMATED FROM THE EA DATA AND SURVEY.

STANDARD DRAINAGE NOTES

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Elevations Table					
Number	Minimum Elevation	Maximum Elevation	Color	Range Area	Range Volume
1	0.000	0.200		114.94	194.43
2	0.200	0.400		168.22	167.46
3	0.400	0.600		398.25	110.13
4	0.600	0.800		110.86	58.07
5	0.800	1.000		87.47	40.07
6	1.000	1.200		159.08	18.94

FLOOD STORAGE VOLUME = 589.10m3

Prefixed to drawing numbers shall signify the following:-

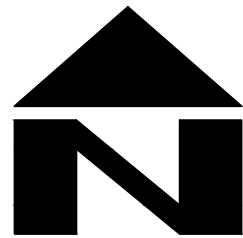
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REV	DATE	DESCRIPTION	BY	CHK	APP

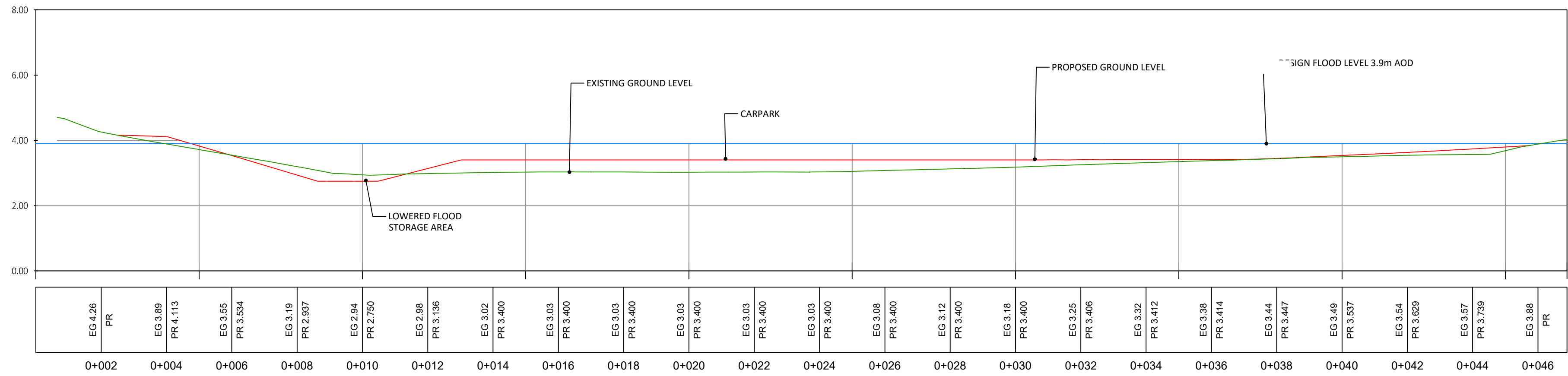


CLIENT	ALBERT BRAZIL				
ARCHITECT	WELLSTEAD DESIGN				
JOB TITLE	SUNNYMEADE YAPTON				
DRAWING TITLE	POST-DEV RoFSW 1% AEP PLUS CC FLOOD STORAGE COMPENSATION				
DRAWN	RH	ENGINEER	RYAN HOFMAN	CHECKED	APPROVED
DATE	JUNE 2026			SCALE @ A1	
JOB No.	C1002		STATUS	DRAWING No.	REV.
				FL-01	

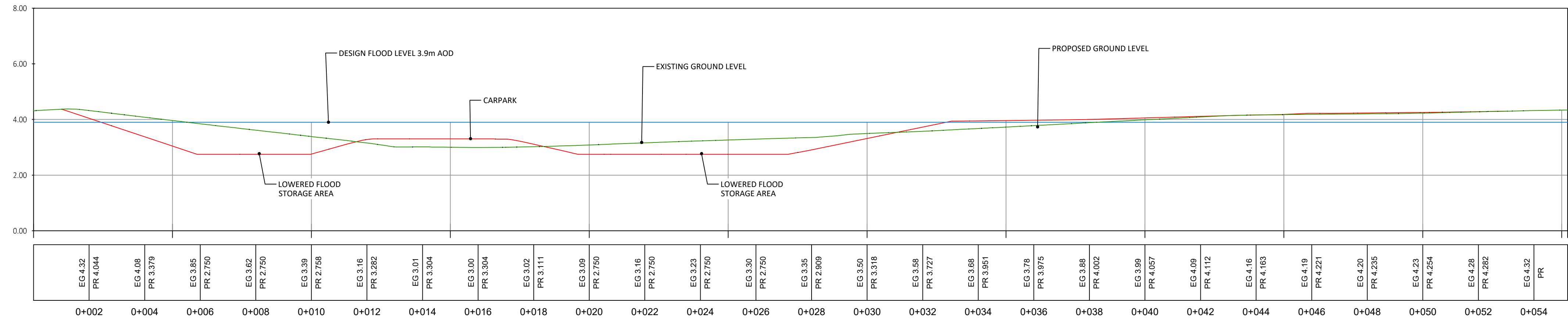
FOR PLANNING ONLY



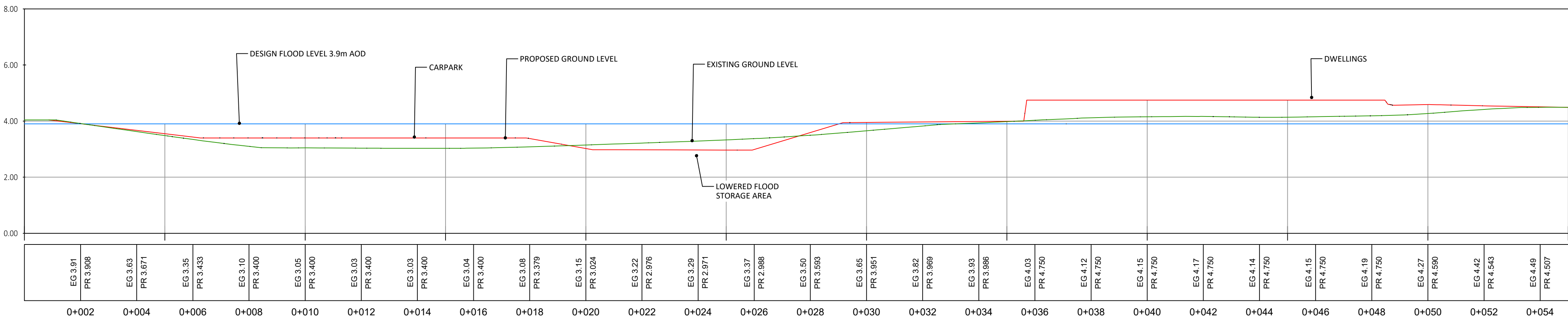
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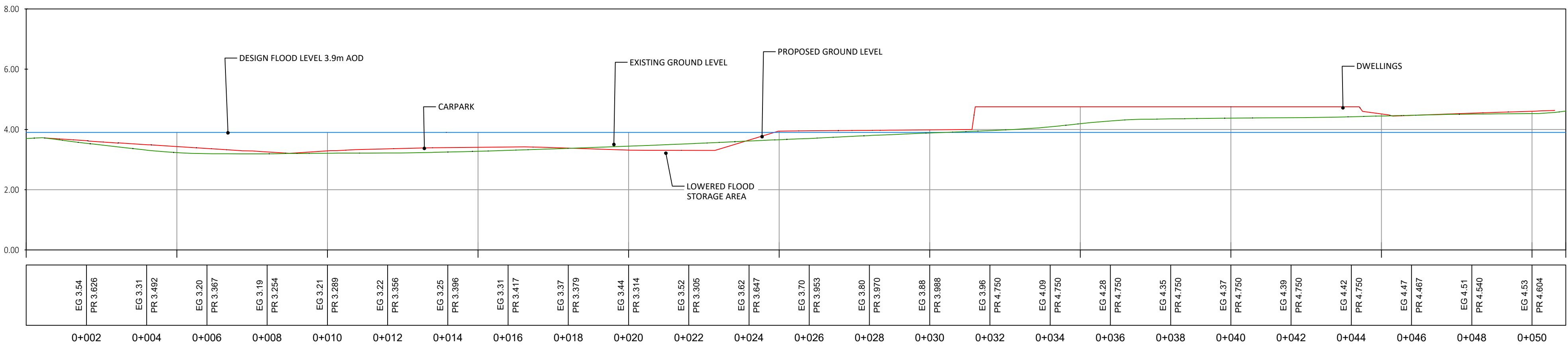
SV - 2



SV - 3



SV - 4



STANDARD DRAINAGE NOTES

- DO NOT SCALE FROM THIS DRAWING. REFER TO FIGURED DIMENSIONS ONLY. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE.
- ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
- ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY, SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
- BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST CHECK THE INVERT LEVELS OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST LOCATE AND DETERMINE INVERT LEVELS OF THE EXISTING SPURS TO WHICH CONNECTIONS ARE PROPOSED. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
- ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINT. THE WORKS CONTINUING UPSTREAM FOLLOWING CONFIRMATION OF THE TIE-IN INVERT LEVELS TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER, IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
- COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
- ALL UN-REFERENCED PIPES ARE TO BE 100mm DIA.
- ALL PIPES TO BE ADOPTED, OR CONNECTING TO ADOPTED SEWERS, TO BE VITRIFIED CLAY TO BS EN 295 AND BS65 (SWS ONLY), OR CONCRETE PIPES TO BE EN 1916 AND BS5911:PART 1.
- ROAD GULLY OUTLET PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS. ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
- ALL ADOPTABLE SEWERS SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATION LAID DOWN DOWN IN 'SEWERS FOR ADOPTION' 6th EDITION, WITH A VIEW TO ADOPTION UPON COMPLETION OF WORKS.
- ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
- THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS MADE ON SITE, INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN AS CONSTRUCTED DRAWINGS CAN BE PREPARED UPON COMPLETION OF THE PROJECT.
- STUB CONNECTIONS TO ADOPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
- IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. SUB SOIL DRAINS ARE TO BE DIVERTED AROUND NEW WORKS AND CONNECTED INTO THE SURFACE WATER.
- NO PRIVATE AREAS ARE TO DRAIN ONTO ADOPTABLE AREAS AND VICE VERSA.
- ALL EXISTING MANHOLE COVER'S, GULLIES, ETC. ARE TO BE RAISED/LOWERED TO SUIT NEW LEVELS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM THE LOCATION AND DEPTH OF ALL EXISTING SERVICES AND UTILITIES THAT MAY BE PRESENT.
- UPON COMPLETION BUT PRIOR TO HANDOVER, CONTRACTOR TO CARRY OUT FULL CCTV SURVEY OF DRAINAGE SYSTEM WHICH IS TO BE REVIEWED BY ENGINEER TO ENSURE SATISFACTORY INSTALLATION.
- MANHOLE AND CHAMBER COVER GRADES:

- 'A15' IN ALL LANDSCAPED AREAS AND ON FOOTPATHS
- 'B125' IN ALL DRIVEWAYS
- 'C250' IN PRIVATE PARKING AREAS
- 'D400' IN CARRIAGEWAY/ACCESS ROAD

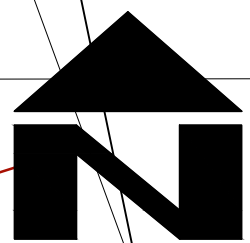
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REV	DATE	DESCRIPTION	BY	CHK APP

CLIENT ALBERT BRAZIL			
ARCHITECT WELLSTEAD DESIGN			
JOB TITLE SUNNYMEADE YAPTON			
DRAWING TITLE SITE SECTIONS			
DRAWN RH	ENGINEER Ryan Hofman	CHECKED	APPROVED
DATE JUNE 2026		SCALE @ A1	
JOB No. C1002	STATUS	DRAWING No. SC-01	REV.

APPENDIX 4 – FLOOD EVACUATION MANAGEMENT PLAN



FORM FOOTPATH ALONG NORTHERN
BOUNDARY ABOVE THE DFL TO ALLOW
SAFE ACCESS EGRESS IN AN EMERGENCY

- STANDARD DRAINAGE NOTES
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- — — PRIMARY SITE ACCESS ROUTE
- — — EMERGENCY ESCAPE ROUTE

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CLIENT
ALBERT BRAZIL

ARCHITECT
WELLSTEAD DESIGN

JOB TITLE
SUNNYMEADE YAPTON

DRAWING TITLE
FLOOD EVACUATION PLAN

DRAWN RH	ENGINEER Ryan Hofman	CHECKED	APPROVED
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DATE JUNE 2026	SCALE @ A1
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JOB No. C1002	STATUS	DRAWING No. FEMP-01	REV.
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