sanderson associates (consulting engineers) ltd

Highways | Traffic | Transportation | Water

Sanderson Associates (Consulting Engineers) Ltd, Sanderson House
Jubilee Way, Grange Moor, Huddersfield, West Yorkshire WF4 4TD
T 01924 844080
F 01924 844081
mail@sandersonassociates.co.uk
www.sandersonassociates.co.uk

Prepared on behalf of

Ganco Limited

FLOOD RISK ASSESSMENT

Proposed Residential Development
7 Montague Place, Worthing

Flood Risk Assessment

VAT No. GB 873219218
Company No. 3235830
Registered Office
Sanderson House, Jubilee Way
Grange Moor WF4 4TD

ISO 9001 REGISTERED FIRM

IHE

Acknowledgements:

Disclaimer

The methodology adopted and the sources of information used by Sanderson Associates (Consulting Engineers) Ltd in providing its services are outlined within this Report.

Any information provided by third parties and referred to herein has not been checked or verified by Sanderson Associates (Consulting Engineers) Ltd, unless otherwise expressly stated within this report.

This report was checked and approved on the 01 April 2021 and the Report is therefore valid on this date, circumstances, regulations and professional standards do change which could subsequently affect the validity of this Report.

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Report Ref:	11793/TW/001/02		September 2023
Author:	Darryl Haigh		
Checked & Approved:	Peter Maurice	**Date:**	06/09/23

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Existing and Proposed Plans

APPENDIX B

Environment Agency Consultation

APPENDIX C

Flood Management/Evacuation Plan

1 Introduction

1.1 Sanderson Associates (Consulting Engineers) Ltd have been appointed to undertake a Flood Risk Assessment for the proposed residential development at 7 Montague Place, Worthing.

1.2 The assessment discusses the flood risk to the site, using a risk based approach and reference to the Sequential Test where appropriate.

1.3 This assessment of flood risk has been undertaken taking into account the National Planning Policy Framework, Rev 2019 (NPPF) and associated Planning Practice Guidance, 2014 (PPG,14).

1.4 Environment Agency (EA), British Geological Survey (BGS) and Department for Environment, Food and Rural Affairs (DEFRA) has been reviewed and referred to within this report.

2 Existing and Proposed Situation

2.1 Existing Site Descriptions

2.1.1 The site is located on Montague Place in the town of Worthing in West Sussex. The postcode for the site is BN11 3BG and an Ordnance Survey Grid Reference is: 514647,102454.

2.1.2 The site is currently occupied by a 5 storey (including loft space) terraced building that contains a restaurant and takeaway on the ground and first floor and ancillary staff and storage facilities on the second and third floor. A loft area is contained on the fourth floor.

2.1.3 The site itself is immediately bound by to the north, south and west by other retails and residential properties. To the east is Montague Place.

2.1.4 86 Neptune Street is currently occupied by a 5 storey building that contains residential units on all floors, existing plans showing layout and elevations are contained within Appendix A of this report. The proposals do not seek to change the use of the site and will remain for residential use.

2.1.5 Access to the property is currently gained from the east and west. The eastern access is the public access to the existing ground floor retail unit and the access to the west is for staff of the retail unit.

2.1.6 An external level to the property is 4.9m AOD. The development is proposed to take place at first floor and above which is located at 3.6m above ground levels. Therefore a minimum development level is 8.5m AOD.

2.1.7 The nearest waterbody to the site is the English Channel which is located approximately 150m to south at its closest point.

2.2 Site Proposals

2.2.1 It is proposed that the first floor and above of the property are converted for residential use with two flats at first floor, one flat at second floor and one flat on the third floor with a bedroom located on the fourth in the buildings loftspace. The ground floor will remain as a restaurant/takeaway.

2.2.2 A new access to the flats will be formed at the sites frontage (east) onto Montague Place next to the existing ground floor access.

2.2.3 The first floor of the property is at a level of 8.5m AOD which is the lowest level of development as shown on received plans.

2.2.4 Received existing and proposed development plans are located within Appendix A of this report.

3 Background Data

3.1.1 Environment Agency and local authority flood mapping confirms that the existing buildings footprint is located within the Flood Zone 3a (tidal) envelope. Flood Zone 3a (tidal) is land that has a greater than 1 in 200 (0.5%) annual probability of flooding from a tidal event (1 in 200 year event).

3.1.2 DEFRA groundwater mapping confirms that the site lies within a geological area where the underlying bedrock formation is classed as a Principle aquifer. Principle aquifers are described as strata that have a high level of water storage capacity/void ratio and can support base river flow on a strategic scale.

3.1.3 The underlying superficial (drift) geology is classed as a Secondary B aquifer. These are described as strata with variable water capacity/void permeability characteristics, which reflects the mixed composition of the underlying formation.

3.1.4 The EA online groundwater mapping confirms the site is not located within or in proximity to a receptor sensitive Groundwater Source Protection Zone. Ground Water Protection Zones are areas around a groundwater source such as abstraction wells, boreholes and springs, which are at risk from pollutants and contamination.

4 Sequential Approach and Exception Test

4.1 Sequential Approach

4.1.1 As the development is a change of use the Sequential and Exception Test are not required as part of a planning application, In accordance with the National Planning Policy Framework paragraph 164 and subparagraph 51.

5 Assessment of Flood Risk

5.1 Surface Water

5.1.1 The main risk of flooding from overland flow comes from water channelled in the local highway network, impermeable areas within the vicinity of the site and land at a higher elevation.

5.1.2 Environment Agency surface water mapping has been reviewed which shows areas at an elevated risk of surface water flooding for differing storm return periods.

5.1.3 The EA online surface water mapping shows that the area of the site, in general, is modelled to have a 'Very Low' to 'Low' risk of surface water flooding. A very low risk is land that has a less than 1 in 1000 annual probability of surface water flooding and a low risk is land with between a 1 in 100 and 1 in 1000 annual probability of surface water flooding. A 'Low' and 'Very Low' risk are the two lowest risk classification in line with surface water flood zone delineation.

5.1.4 As the proposed development is located at first floor above the surface water risk can be deemed to be negligible, notwithstanding the existing building is already in an area that is at a 'very Low' risk at ground level.

5.2 Flooding from Rivers/Watercourses

5.2.1 The nearest waterbody to the site is the English Channel, which is located approximately 150m to the south at its closest point.

5.2.2 Environment Agency and local authority flood mapping confirms that the existing buildings footprint is located within the Flood Zone 3a (tidal) envelope. Flood Zone 3a (tidal) is land that has a greater than 1 in 200 (0.5%) annual probability of flooding from a tidal event.

5.3 The Environment Agency were consulted regarding flooding and they have provided return period flood levels that are site specific model outputs. The consultation response is contained within Appendix B of this report.

5.4 For the purpose of this assessment flood data at node '1' will be used as this is located within the footprint of the building. At this node a 1 in 200 year flood level for a 2115 scenario has been given at 5.26m AOD (undefended model to ensure a robust assessment) a 1 in 1000 year level has been given at 5.16m AOD (only available on defended model.

5.4.1 The Environment Agency have also provided site specific flood depth which range from 0.1m to 0.35m.

5.5 When comparing the above return period flood levels to the minimum development level of 8.5m it can be seen that the proposed works are elevated above both the 1 in 200 year (2115) level and the 1 in 1000 year level. The development is located 3.24m above the 1 in 100 year (2115) level and 3.34m above the 1 in 1000 year level.

5.6 From the above it can be seem that the works at first floor and above are outside of areas at risk from projected flooding within the area. A Flood Management Plan has been included in Appendix C as the sites access/egress is at ground level and within the flood envelope. Mitigation proposed in Section 6 should also be applied to 600mm above ground floor level in the new ground floor access.

5.7 Flooding from Infrastructure Failure

5.7.1 The EA reservoir flooding map shows that the site is outside of an area at risk from this source.

5.8 Flooding from Sewers

5.8.1 If any of the sewers/drainage apparatus adjacent to the site were to surcharge and flood, it is likely that any floodwaters would be shallow, relatively slow moving and constrained within the limits of the carriageway. It is likely that sewer flooding would

have a similar extents to that assessed for surface water, where storm water inundation exceeds the apparatus capacity causing surface water to surcharge, flood and flow on the surface.

5.8.2 At the time of writing the report there was no evidence available to suggest the site has been directly affected from flooding from overloaded sewers/drainage apparatus in the past and due to the elevated nature of the development it would be considered outside areas that are at risk.

5.9 Flooding from Groundwater

5.9.1 The potential for groundwater flooding has been assessed with the aid of groundwater mapping from DEFRA and British Geological Survey records.

5.9.2 DEFRA groundwater mapping confirms that the site lies within a geological area where the underlying bedrock formation is classed as a Principle aquifer. Principle aquifers are described as strata that have a high level of water storage capacity/void ratio and can support base river flow on a strategic scale.

5.9.3 The underlying superficial (drift) geology is classed as a Secondary B aquifer. These are described as strata with variable water capacity/void permeability characteristics, which reflects the mixed composition of the underlying formation.

5.9.4 The British Geological Survey geological map of the UK has been reviewed and confirms a superficial strata of river terrace deposits. Bedrock is of the Lewes Nodular Chalk Formation.

5.9.5 The British Geological Survey hold a borehole record that was excavated to the rear of the property. The borehole shows mixed superficial deposits of bands of blue and brown clay to a depth of 4.1m below ground level underlain by soft chalk to 10.20m below ground level, where the excavation terminated. Groundwater was exposed at 4.7m below ground level within the chalk formation.

5.9.6 The aquifer designations, geological grouping and borehole records are generally consistent across the reviewed records.

5.9.7 From reviewed evidence although there is a potential level of water bearing capacity in the underlying bedrock as noted in the British Geological Survey borehole record, due to the elevated nature of the development the direct risk from this source to the proposed development can be deemed negligible.

5.10 Flooding from Climate Change

5.10.1 It is generally considered that the intensity of rainfall will increase by up to 30% by the year 2085 and that winter months will become proportionately wetter.

5.10.2 These factors have been considered in the assessment of flood risk from all sources including watercourses.

6 Mitigation Measures

6.1 Internal ground floor walls 600mm above ground level at the location of the new access, if plastered, should be plastered using a lime based plaster which is much more resistant to damage from water and dries out much quicker than Gypsum based plaster (Gypsum plaster is significantly more susceptible to water damage).

6.2 The replacement of any ground floor chipboard / reconstituted wood fixtures and fittings with plastic or steel fittings should be considered to decrease the need for replacement after a flood event for the first 600mm above floor level at the location of the new access.

6.3 A Flood Management/Evacuation Plan has been included within Appendix C of this report and the access/egress from the property is located with Flood Zone 3a.

7 Conclusion

7.1 This report serves to review and assess the sources of potential flooding to the development in accordance with NPPF.

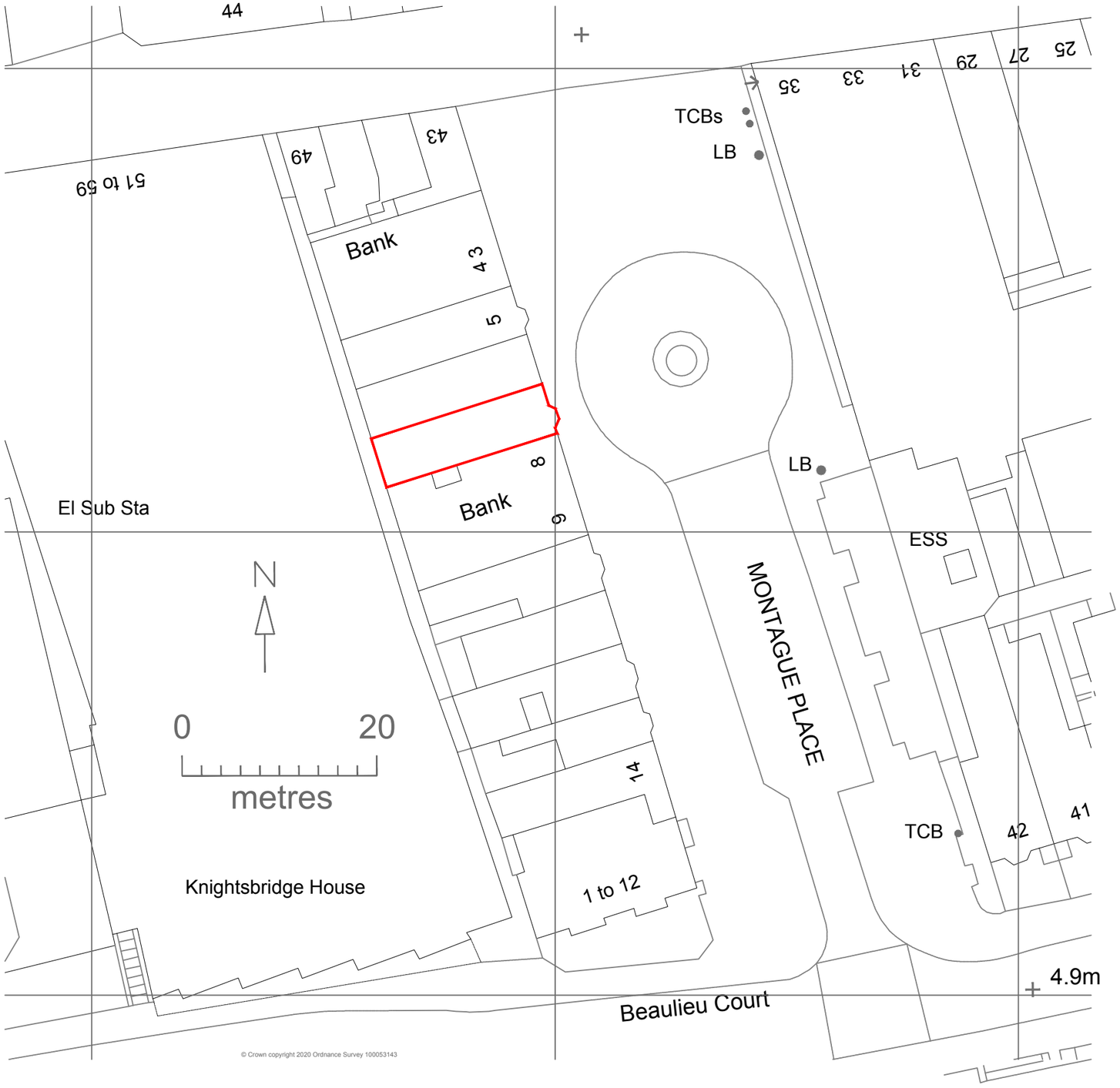
7.2 The Sequential Approach has been assessed in accordance with NPPF and it is concluded that the development is suitable for this location.

7.3 The proposal seek to change the use of the first floor and above at 7 Montague Place, which elevates the development to a minimum level of 3.6m above adjacent ground levels. Reviewed data shows that although the existing footprint of the building is identified to be within the flood envelope for tidal flooding the proposals are elevated above areas deemed to be at an elevated risk.

7.4 This report concludes that the site can be developed without increasing flood risk to the site itself and other sites in the vicinity.

APPENDIX A – Plans

Existing and Proposed Plans



Amendments/Notes	By	Date

BL
ARCHITECTURAL
DESIGN
RESIDENTIAL - COMMERCIAL - RETAIL

LEMANIS HOUSE
CT21 4JN
Tel: 078 03592943
e-mail: barry@bl-archdesign.co.uk

Project

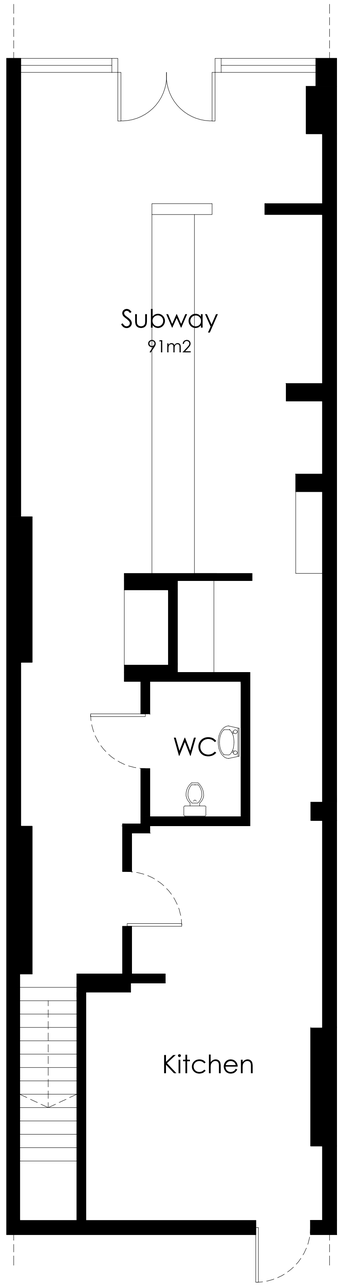
7 Montague Place
Worthing
BN11 3BG

Title

Location Plan

Drawn By	BJL	Date	07/10/2020
Checked By	--	Date	--
Approved By	--	Scale	1:500@A3
Drawing No.	1345-00-05	Rev.	

Amendments/Notes		
	By	Date



Existing Ground Floor Layout
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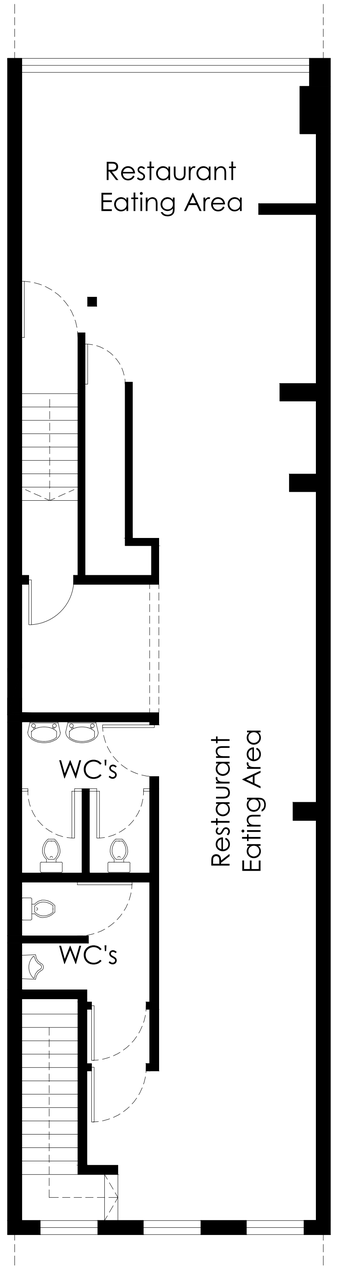

Existing First Floor Layout
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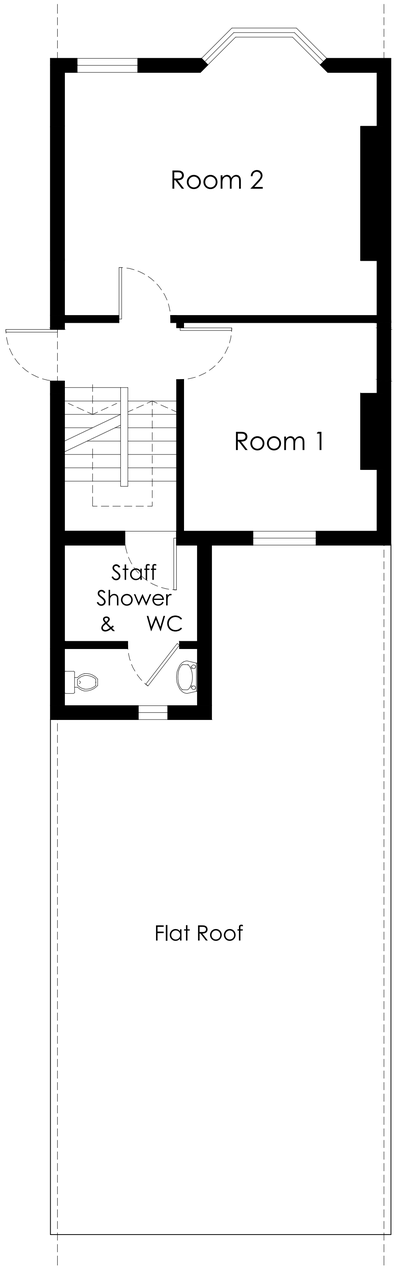

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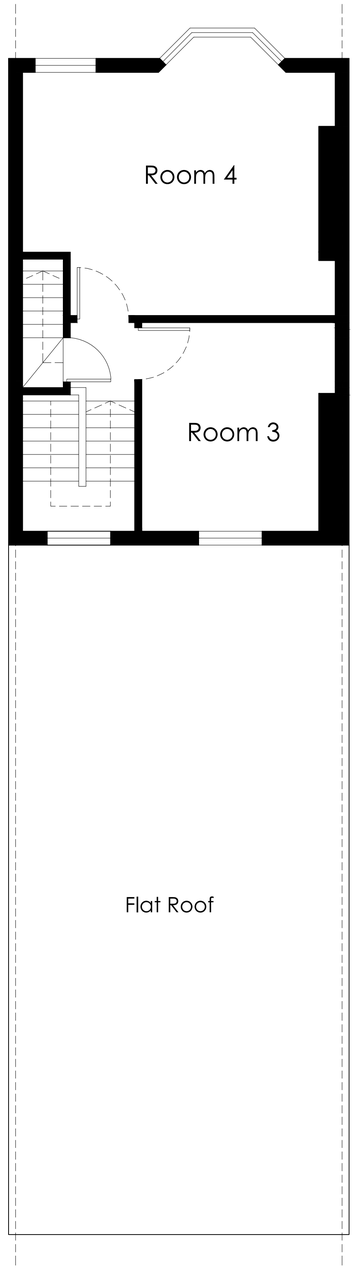

Existing Third Floor Layout
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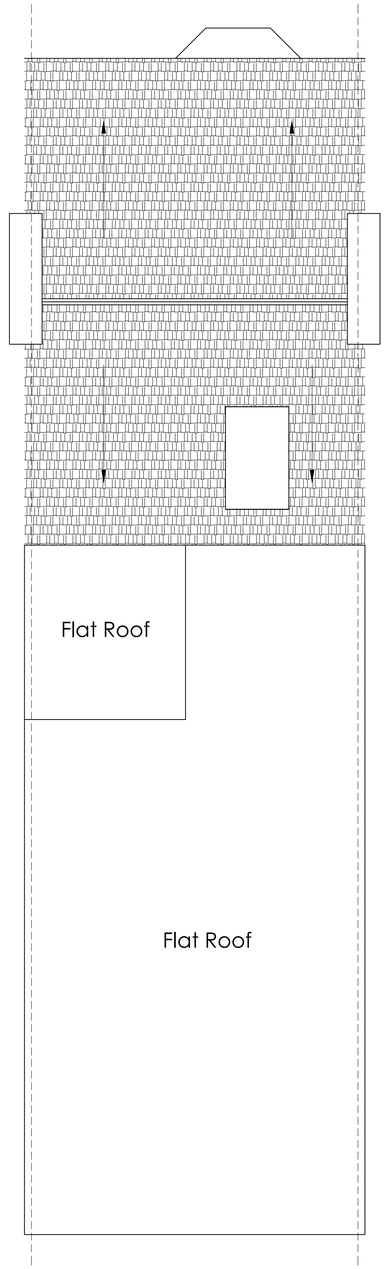

Existing Roof Plan Layout
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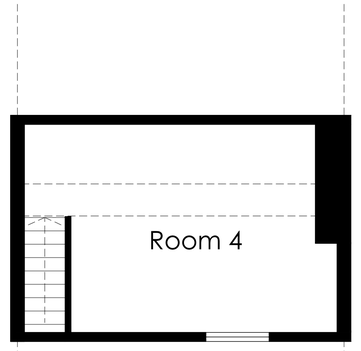

Existing Loft Floor Layout
Scale 1:50 @ A1

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LEMANIS HOUSE
Stone Street
Lympne, Hythe
CT21 4JN
Tel: 078 03592943
e-mail: barry@bl-archdesign.co.uk

Project

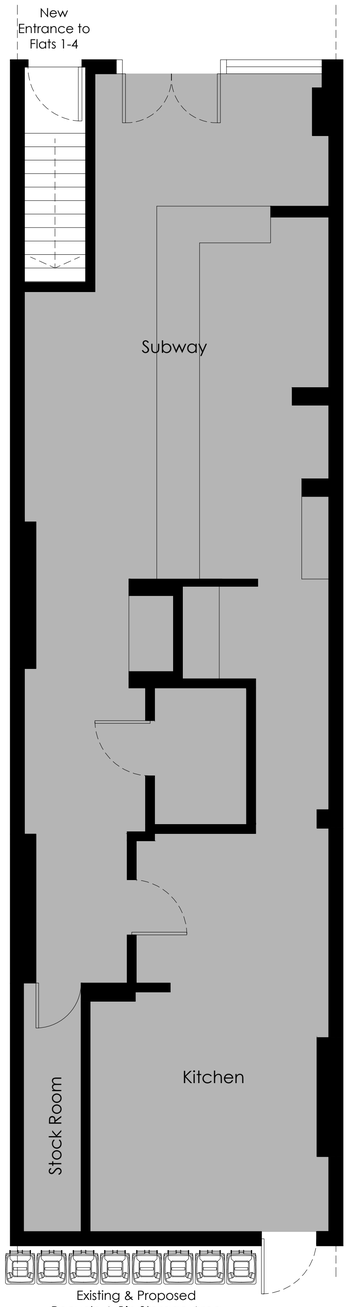
7 Montague Place
Worthing
BN11 3BG

Title

Existing Floor Plan Layouts

Drawn By	BJL	Date	07/10/2020
Checked By	--	Date	--
Approved By	--	Scale	1:50@A1
Drawing No.	1345-00-00		Rev. A

By	Date



Proposed Ground Floor Layout

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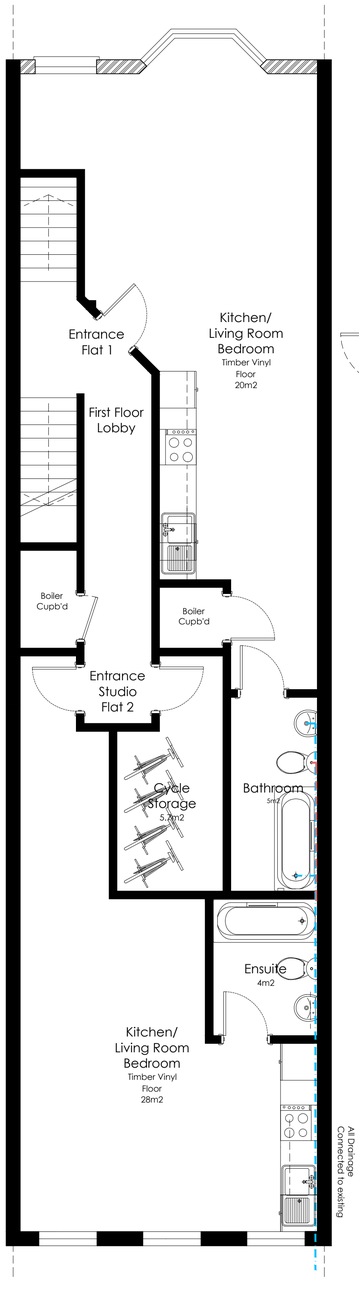

Proposed First Floor Layout

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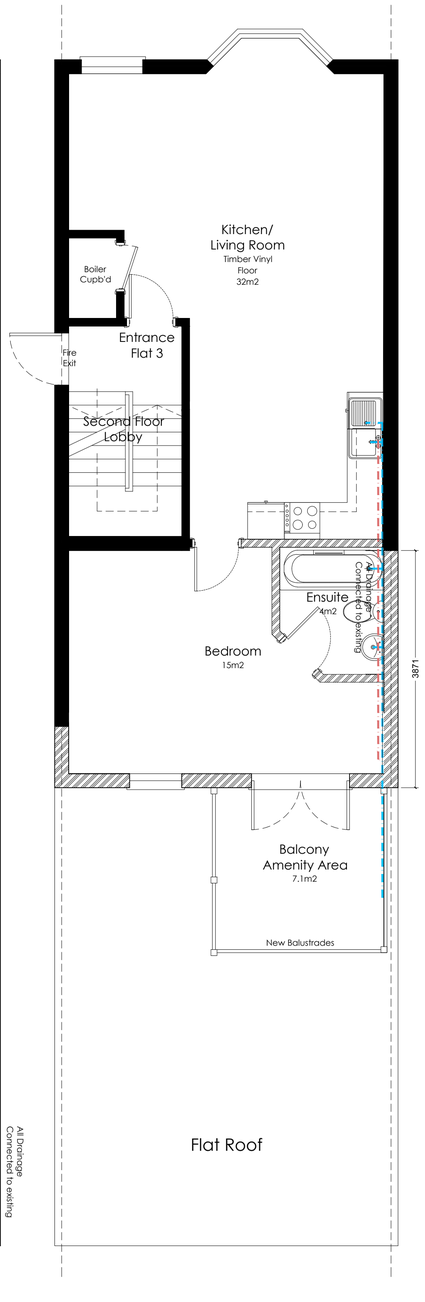

Proposed Second Floor Layout

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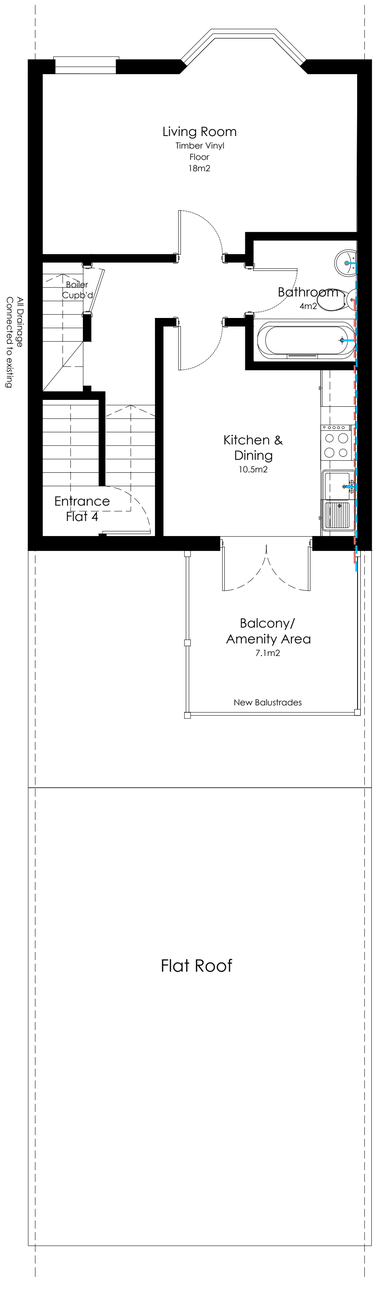

Proposed Third Floor Layout

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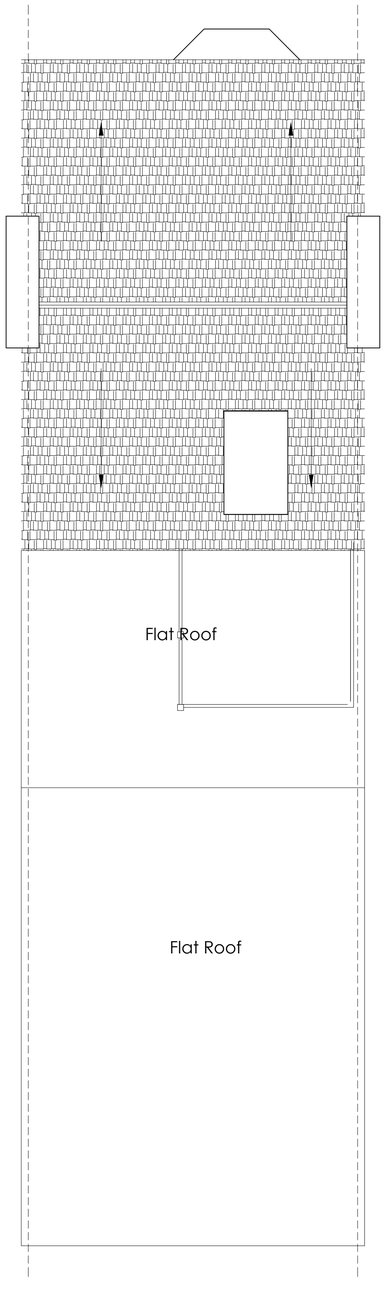

Proposed Loft Floor Layout

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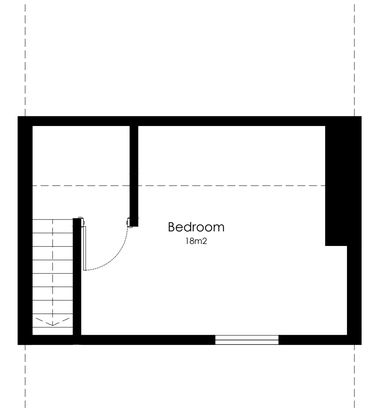

Flat 1 - 1 x Bed Studio Flat
Gross Internal Area
37.5m2

Flat 2 - 1 x Bed Studio Flat
Gross Internal Area
32m2

Flat 3 - 1 x Bed Flat
Gross Internal Area
52m2

Flat 4 - 1 x Bed Flat
Gross Internal Area
Including Loft Bedroom &
Balcony
72m2

Recycle & Bin Storage
Cycle Storage (4 x Secure Spaces)
Shared Amenity Area.

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LEMANIS HOUSE
Stone Street
Lympne, Hythe
CT21 4JN
Tel: 078 03592943
e-mail: barry@bl-archdesign.co.uk

Project

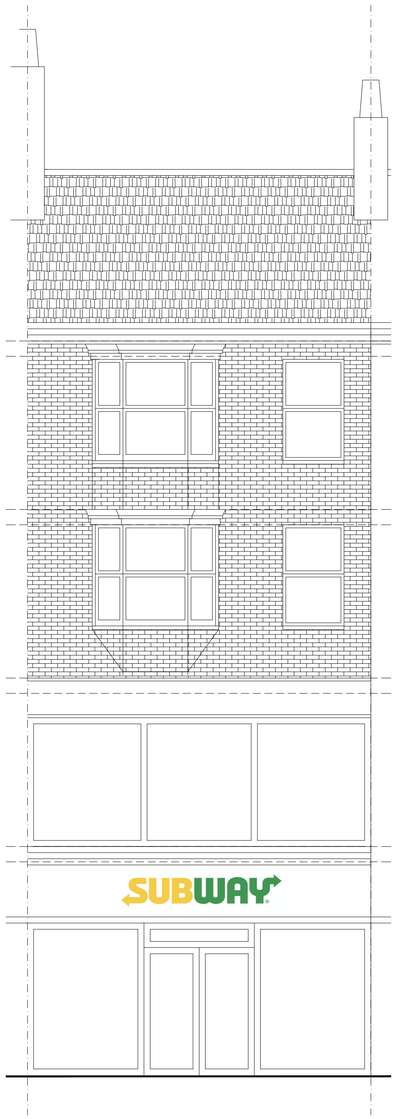
7 Montague Place
Worthing
BN11 3BG

Title

Proposed Floor Plan Layout

Drawn By	BJL	Date	07/10/2020
Checked By	--	Date	--
Approved By	--	Scale	1:50@A1
Drawing No.	1345-00-01		Rev. B

By	Date



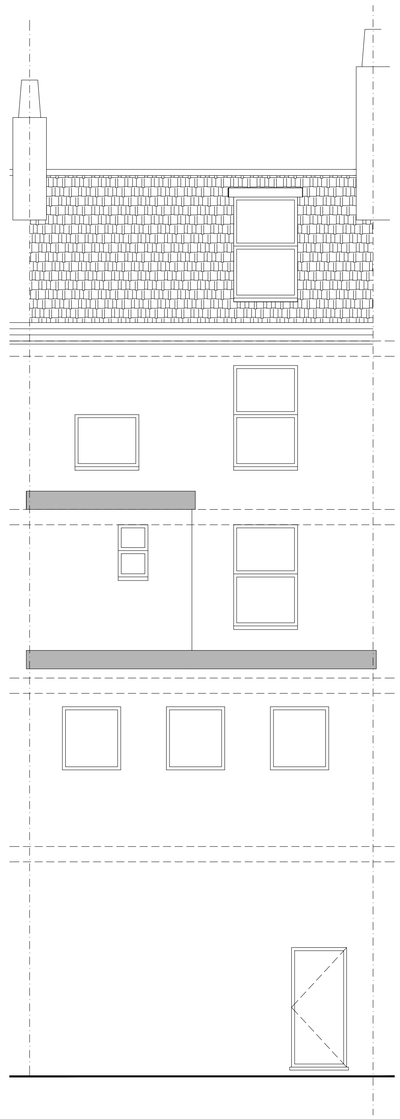
Existing East Front Elevation Layout

Scale 1:50 @ A1



Proposed East Front Elevation Layout

Scale 1:50 @ A1



Existing West Rear Elevation Layout

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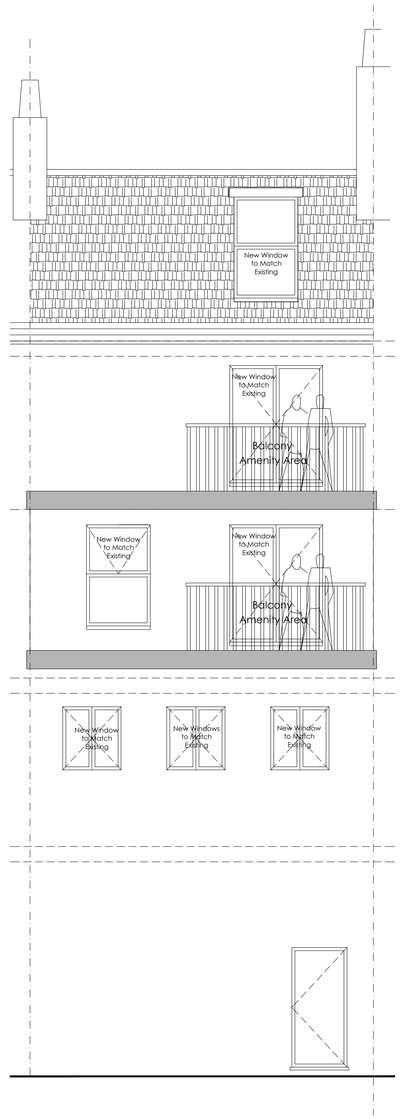

Proposed West Rear Elevation Layout

Scale 1:50 @ A1

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RESIDENTIAL - COMMERCIAL - RETAIL

LEMANIS HOUSE
Stone Street
Lympne, Hythe
CT21 4JN
Tel: 078 03592943
e-mail: barry@bl-archdesign.co.uk

Project

7 Montague Place
Worthing
BN11 3BG

Title

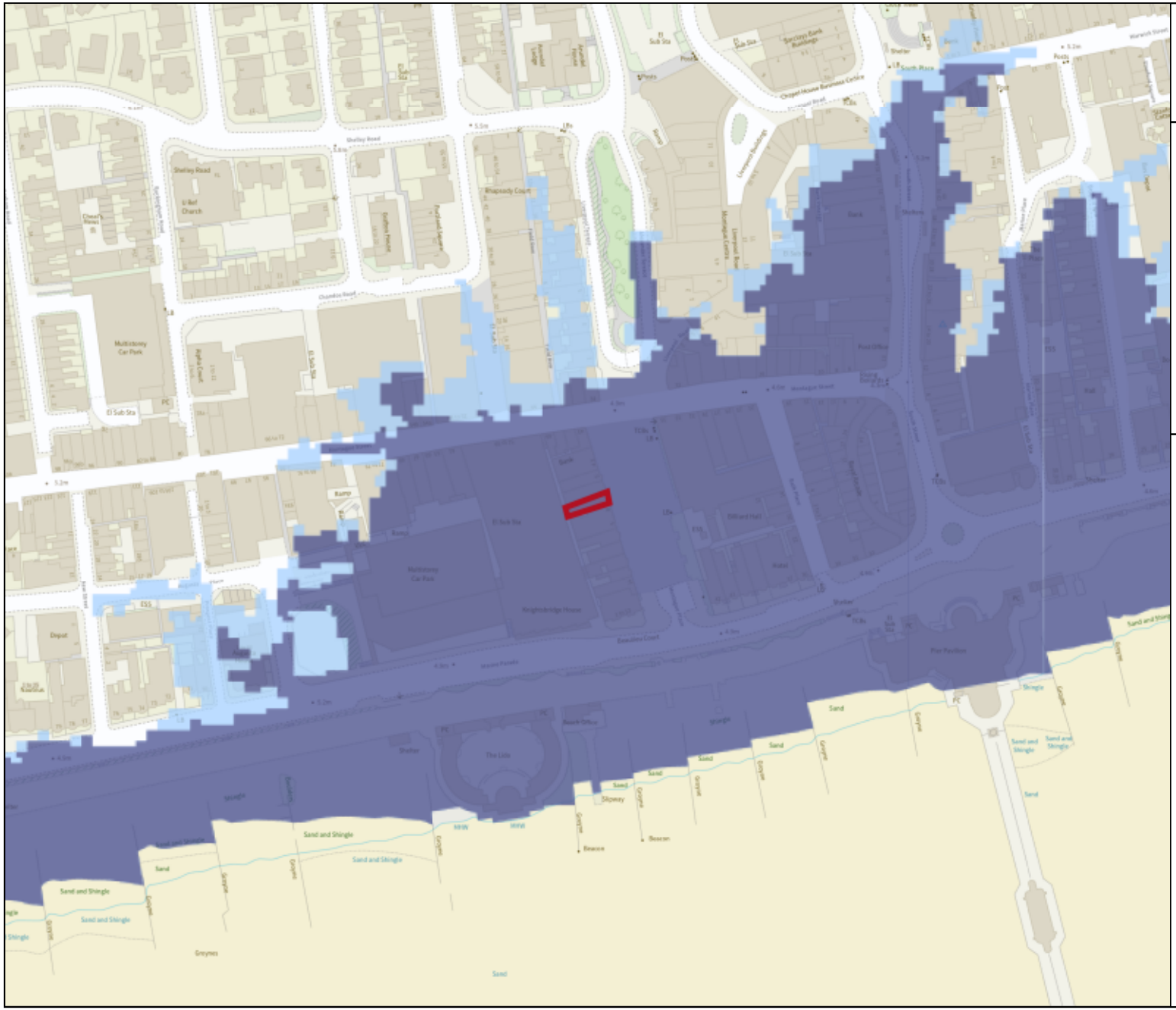
Existing & Proposed Front & Rear Elevations

Drawn By	BJL	Date	14/10/2020
Checked By	--	Date	--
Approved By	--	Scale	1:50@A1

Drawing No. 1345-00-02 Rev. C

APPENDIX B

Environment Agency Consultation



Environment Agency

Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
514790/102410

Scale
1:2500

Created
5 Sep 2023 14:31

- Selected area
- Flood zone 3
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60m

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FRA Site Boundary & Node Points. Centred BN11 3BG. Created 24/02/2021.



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Contact us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506. Email:enquiries@environment-agency.gov.uk

Product 4 Flood Risk Data Requested by: Sanderson Associates

Site: 7 Montague Place, Worthing, BN11 3BG

Table 1: Water Levels: Tidal Undefended

	NGR		Modelled Flood Levels in Metres AOD			
			Undefended Annual Exceedance Probability			
Node Ref	Eastings	Northings	0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	514784	102409	-	-	5.26	-
2	514796	102412	-	-	5.26	-

Table 2: Water Levels: Tidal Defended

	NGR		Modelled Flood Levels in Metres AOD			
			Defended Annual Exceedance Probability			
Node Ref	Eastings	Northings	0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	514784	102409	5.05	5.21	5.01	5.16
2	514796	102412	5.05	5.21	5.01	5.16

Table 3: Water Depths: Tidal Undefended

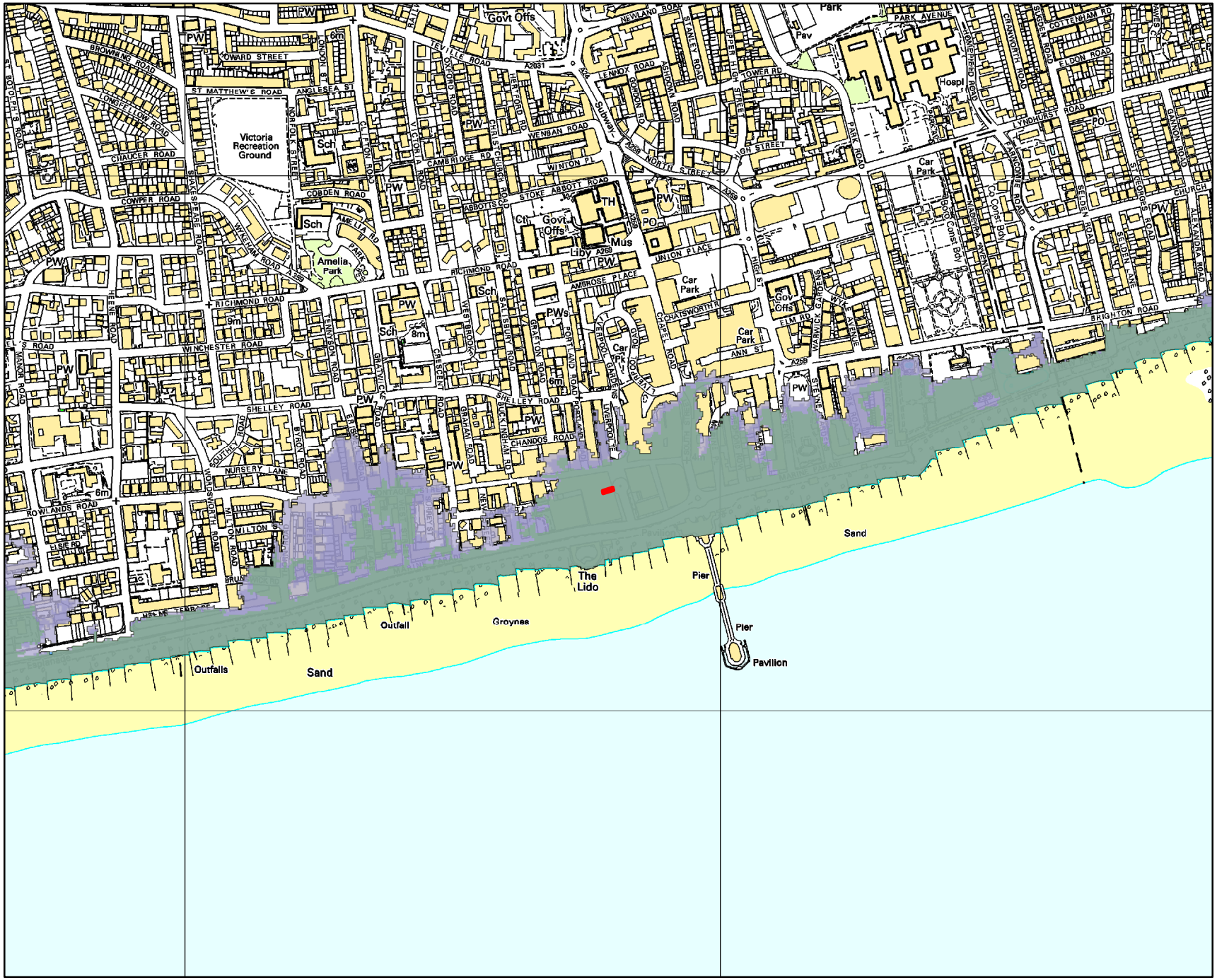
	NGR		Modelled Flood Depths in Metres			
			Undefended Annual Exceedance Probability			
Node Ref	Eastings	Northings	0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	514784	102409	-	-	0.35	-
2	514796	102412	-	-	0.35	-

Table 4: Water Depths: Tidal Defended

	NGR		Modelled Flood Depths in Metres			
			Defended Annual Exceedance Probability			
Node Ref	Eastings	Northings	0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	514784	102409	0.14	0.30	0.10	0.25
2	514796	102412	0.14	0.30	0.10	0.25

Office Address: Guildbourne House, Chatsworth Road, Worthing BN11 1LD.
Customer services line: 03708 506 506. Email: enquiries@environment-agency.gov.uk
www.gov.uk/government/organisations/environment-agency

Modelled Flood Outlines (Defended Tidal). Centred BN11 3BG. Created 24/02/2021.



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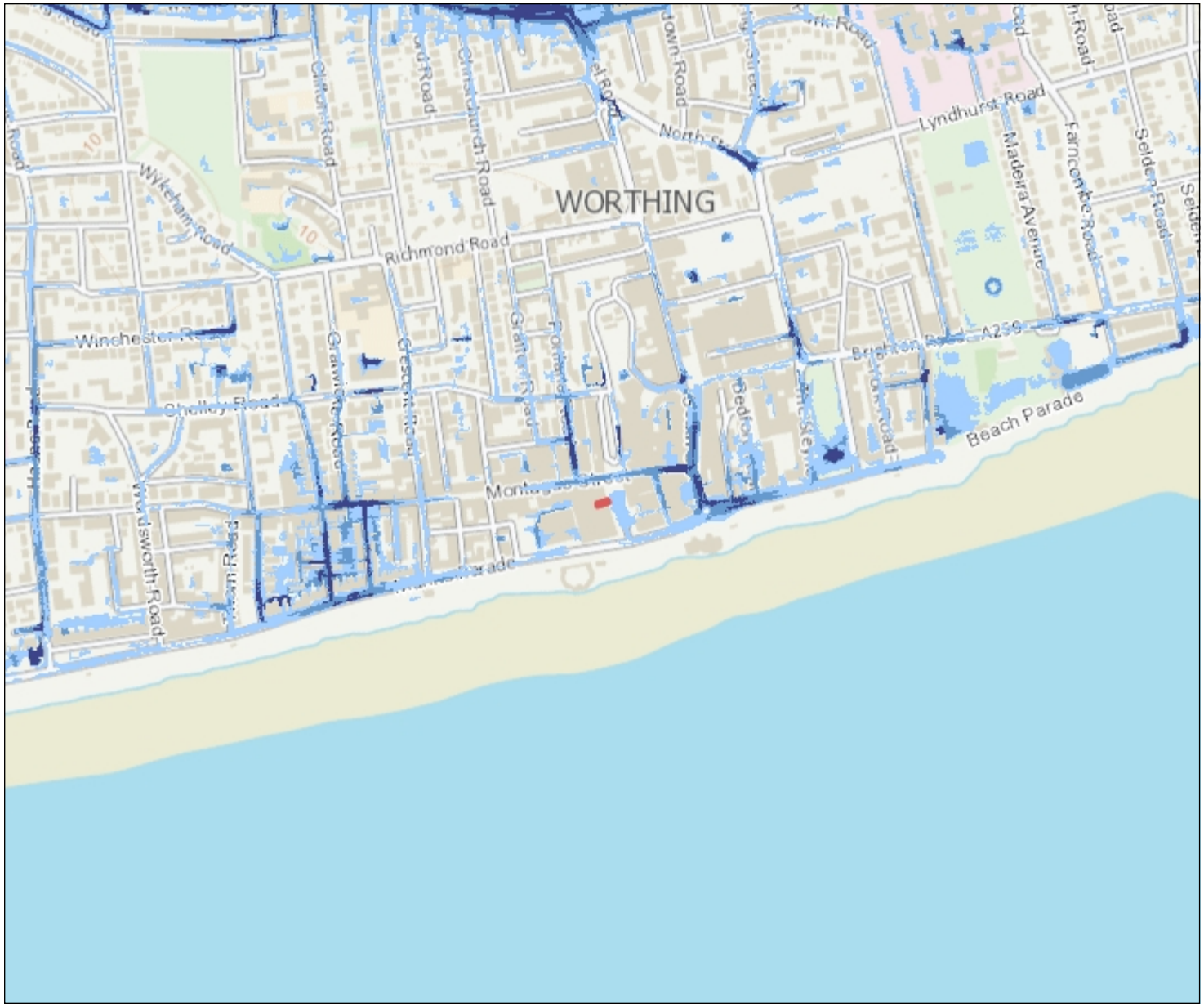
Risk of flooding from Surface Water. Centred BN11 3BG. Created 24/02/2021.



Environment Agency

1: 10,000

0 Metres 250

N W E S

Likelihood of flooding from Surface Water

- High (>=3.3%)
- Medium (3.3% - 1%)
- Low (1% - 01%)
- Very Low
- Flood Extent 1 in 30
- Flood Extent 1 in 100
- Flood Extent 1 in 1000

Likelihood of flooding from Surface Water

High:	Greater than or equal to 3.3% (1 in 30) chance in any given year
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 1,000) chance in any given year
Very Low:	Less than 0.1% (1 in 1,000) chance in any given year

This information is shown on the Risk of Flooding from Surface Water map on GOV.UK.

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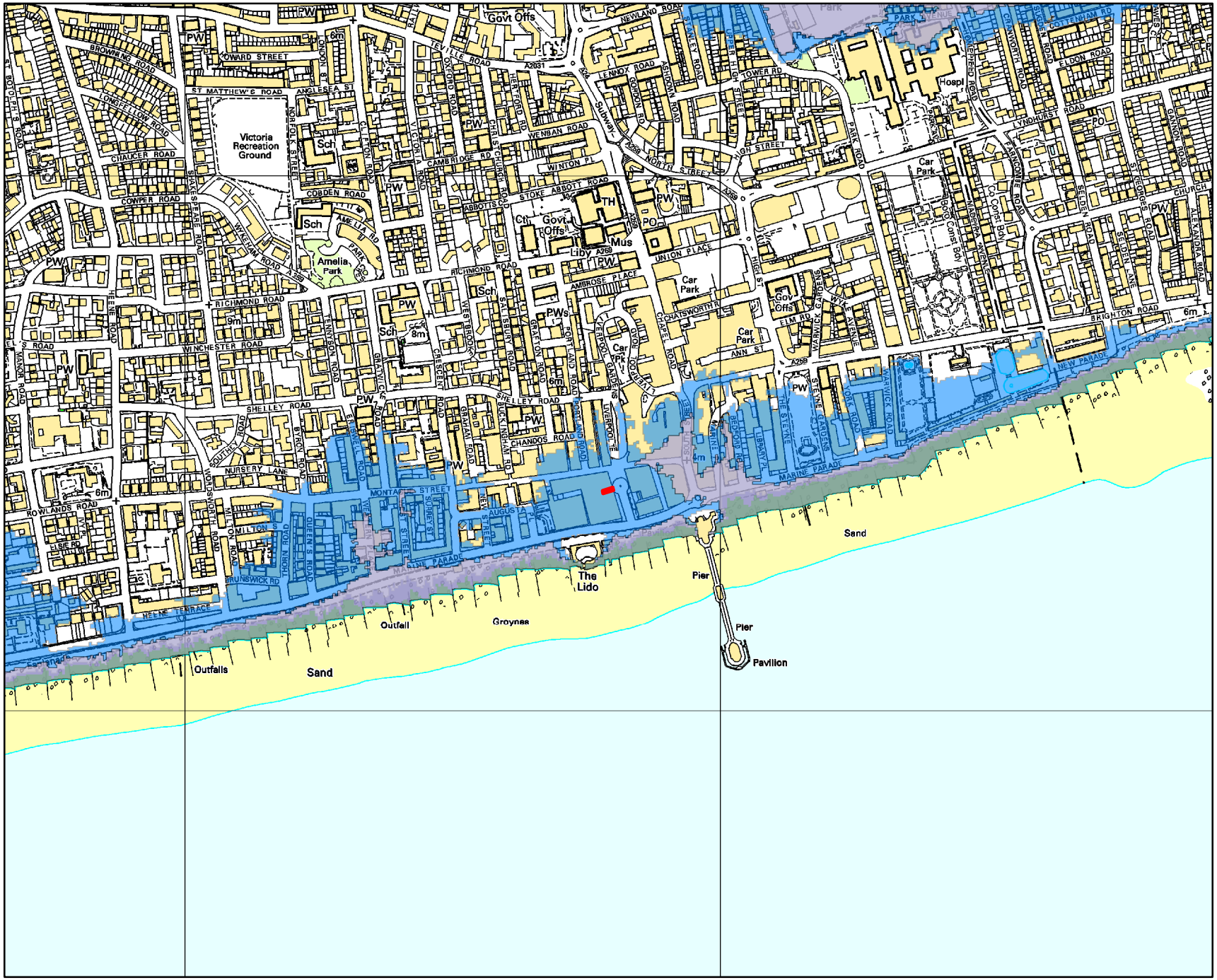
Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). E-mail: enquires@environment-agency.gov.uk

Modelled Flood Outlines (Undefended Tidal). Centred BN11 3BG. Created 24/02/2021.


Victoria Recreation Ground
Amelia Park
Car Park
Govt Offs
Sch
PW
PO
Mus
Liby
TH
Hospl
Sand
The Lido
Pier
Pier
Pavilion
Groynes
Outfall
Outfalls
Sand
BRIGHTON ROAD
MARINE PARADE
WARWICK ROAD
RICHMOND ROAD
WINCHESTER ROAD
SHELLEY ROAD
CHANDOS ROAD
MONTAGUE STREET
NURSERY LANE
ROWLANDS ROAD
UNION PLACE
ST MATTHEW'S ROAD
COWPER ROAD
CAMBRIDGE RD
WENBAN ROAD
STOKE ABBOTT ROAD
HIGH STREET
NORTH STREET
PARK ROAD
LYNDHURST ROAD
ELDON ROAD
CHURCH ROAD
ALEXANDRA ROAD
NEWLAND ROAD
LENNOX ROAD
TOWER RD
GRANVILLE ROAD
COTTERMAN RD
CHAUCER ROAD
NORFOLK STREET
COBDEN ROAD
AMELIA RD
RICHMOND ROAD
AMBROSE PLACE
CHATSWORTH R
ELM RD
ANN ST
BRUNSWICK RD
HELME TERRACE
MILTON ROAD
THORN ROAD
SOUTH ROAD
BYRON ROAD
GRAHAM ROAD
BUCKINGHAM RD
PORTLAND ROAD
LIVERPOOL TE
CHAPEL ROAD
WESTBROOK
SALISBURY ROAD
GRATTON ROAD
CHESTER ROAD
WOODSIDE ROAD
ST AUGUSTA
MARINE PARADE
BEDFORD RD
LIBRARY LA
THE STEYNE
STEYNE GARDENS
MARLBOROUGH ROAD
WARWICK ROAD
A259
A2031
A259
A259
A259

All levels taken from: Arun to Adur Coastal Modelling

Produced on: 24/02/2021

*** The flood risk data provided is based on existing EA hydraulic models for existing 0.5% annual probability events with an allowance for climate change. Please note the climate change allowances provided are not up to date. These were updated on 17 December 2019.**
You should refer to 'Flood risk assessments: climate change allowances' for the most up to date allowances. You will need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

There is no additional information or health warnings for these levels/depths or the model from which they have been produced.

Office Address: Guildbourne House, Chatsworth Road, Worthing BN11 1LD.
Customer services line: 03708 506 506. Email: enquiries@environment-agency.gov.uk
www.gov.uk/government/organisations/environment-agency

APPENDIX C

Flood Management/Evacuation Plan

sanderson associates (consulting engineers) ltd

Highways | Traffic | Transportation | Water

Sanderson Associates (Consulting Engineers) Ltd, Sanderson House
Jubilee Way, Grange Moor, Huddersfield, West Yorkshire WF4 4TD
T 01924 844080
F 01924 844081
mail@sandersonassociates.co.uk
www.sandersonassociates.co.uk

Prepared on behalf of

Ganco Limited

7 Montague Place, Worthing
Flood Risk Management Plan

VAT No. GB 873219218
Company No. 3235830
Registered Office
Sanderson House, Jubilee Way
Grange Moor WF4 4TD

ISO 9001 REGISTERED FIRM

IHE

Acknowledgements:

Disclaimer

The methodology adopted and the sources of information used by Sanderson Associates (Consulting Engineers) Ltd in providing its services are outlined within this Report.

Any information provided by third parties and referred to herein has not been checked or verified by Sanderson Associates (Consulting Engineers) Ltd, unless otherwise expressly stated within this report.

This report was checked and approved on the 01st April 2021 and the Report is therefore valid on this date, circumstances, regulations and professional standards do change which could subsequently affect the validity of this Report.

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Report Ref:	11793/TW/002/02		September 2023
Author:	Darryl Haigh		
Checked & Approved:	Peter Maurice	**Date:**	6th September 2023

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APPENDIX A – Plans

11793-100-001 Emergency Evacuation Route

1 Introduction

1.1 The following document is a flood plan to ensure the effective management of the residents/occupants of the residential development at 7 Montague Place, Worthing, West Sussex BN11 3BG.

1.2 In addition to providing practical advice on flood management, the plan will also aim to increase general awareness of the potential flood risk in this area and provide some jargon free background information to assist in understand the contents of this plan.

1.3 The FMP also gives advice on what Environment Agency flood risk warnings mean and the actions to be taken to maintain safety of residents for differing levels of flood risk warnings, which are issued when there is the potential for a flood event in an area.

2 Flood Risk Overview and Explanation

2.1 A Flood Risk Assessment (FRA) has been undertaken for the development to determine the sources and extents of potential flooding at this location using local authority and Environment Agency data. This report of referenced 11793/001/01 and was produced as part of the planning application for the development.

2.2 The main potential source of flooding to this location is from the English Channel which is located approximately 150m to the south of the site. At this location flooding is from a tidal source.

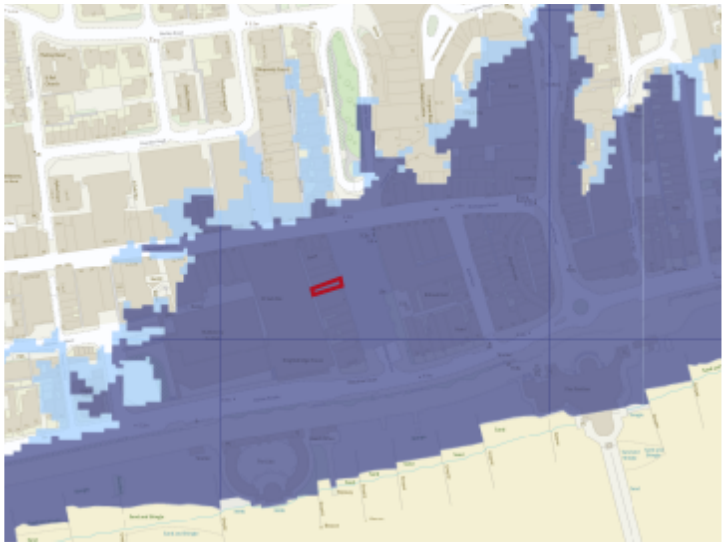
2.3 English planning policy assesses flood risk to a geographic location using complex river modelling, topographical data as well as historic records. In order to delineate the severity of risk to a given area there are currently three defined flood zones, which will be outlined below and have been listed from the least vulnerable to the highest:

Flood Zone 1 - Areas deemed to be in flood zone 1 have been shown to be at a less than 0.1% annual probability of flooding in any given year, this is also referred to as having a less than 1 in 1000 annual probability.

Flood Zone 2 - Areas deemed to be in flood zone 2 have been shown to be at between a 1% and 0.1% annual probability of flooding in any given year, this is also referred to as having between a 1 in 100 and 1 in 1000 annual probability.

Flood Zone 3a - Areas deemed to be in flood zone 3a have been shown to be at a greater than 1% annual probability of flooding from a fluvial source (river) in any given year or 0.5% from a tidal source, this is also referred to as having a greater than 1 in 100 annual probability (river) or a 1 in 200 annual probability (tidal). A second sub delineation of Flood Zone 3 is referred to as Flood Zone 3b (functional flood plain) these are areas with a greater than 1 in 20 annual probability of flooding in any given year.

The below map is an extract of the Environment Agency Flood Map which identifies the sites location relative to areas of flood zone. The dark blue areas are Flood Zone 3, light blue areas are Flood Zone 2 and uncoloured areas are Flood Zone 1.



2.4 From the above Environment Agency Flood Map it can be seen that 7 Montague Place is located within Flood Zone 3a. Although the residential flats at first floor and above are elevated above potential flood depths within the area but the access/egress is located within the flood envelope.

2.5 The potential expected flood duration in the event of a major flood is 24 hours to a number of days dependent upon the severity of the flood event.

2.6 Residents are advised to take a proactive approach to ensure that they are aware of the potential risk and have reviewed the information contained in the following pages.

Due to the hazard between the site and areas of Flood Zone 1 it is advised that the site is evacuated early, prior to the onset of significant flooding or the upper floors are used as a safe area of refuge if a flood event has occurred.

3 Information on Potential Flood Events

3.1.1 The advice to occupants is to watch local television reports and listen to local radio reports for further information. Observation of local conditions are also very important.

3.1.2 Other places to get the latest flood updates are;

- *Local Radio Stations*
- *Local News*
- *Local Authority and emergency service websites*

3.1.3 It should be noted that warnings will not always be issued in a timely fashion. Therefore it is important that local conditions are observed to ensure a timely response. If flooding is likely in the area, occupants are advised to evacuate early or use the first floor as an area of refuge unless otherwise advised by the emergency services.

4 Environment Agency Warnings

4.1 How do I get Environment Agency Warnings?

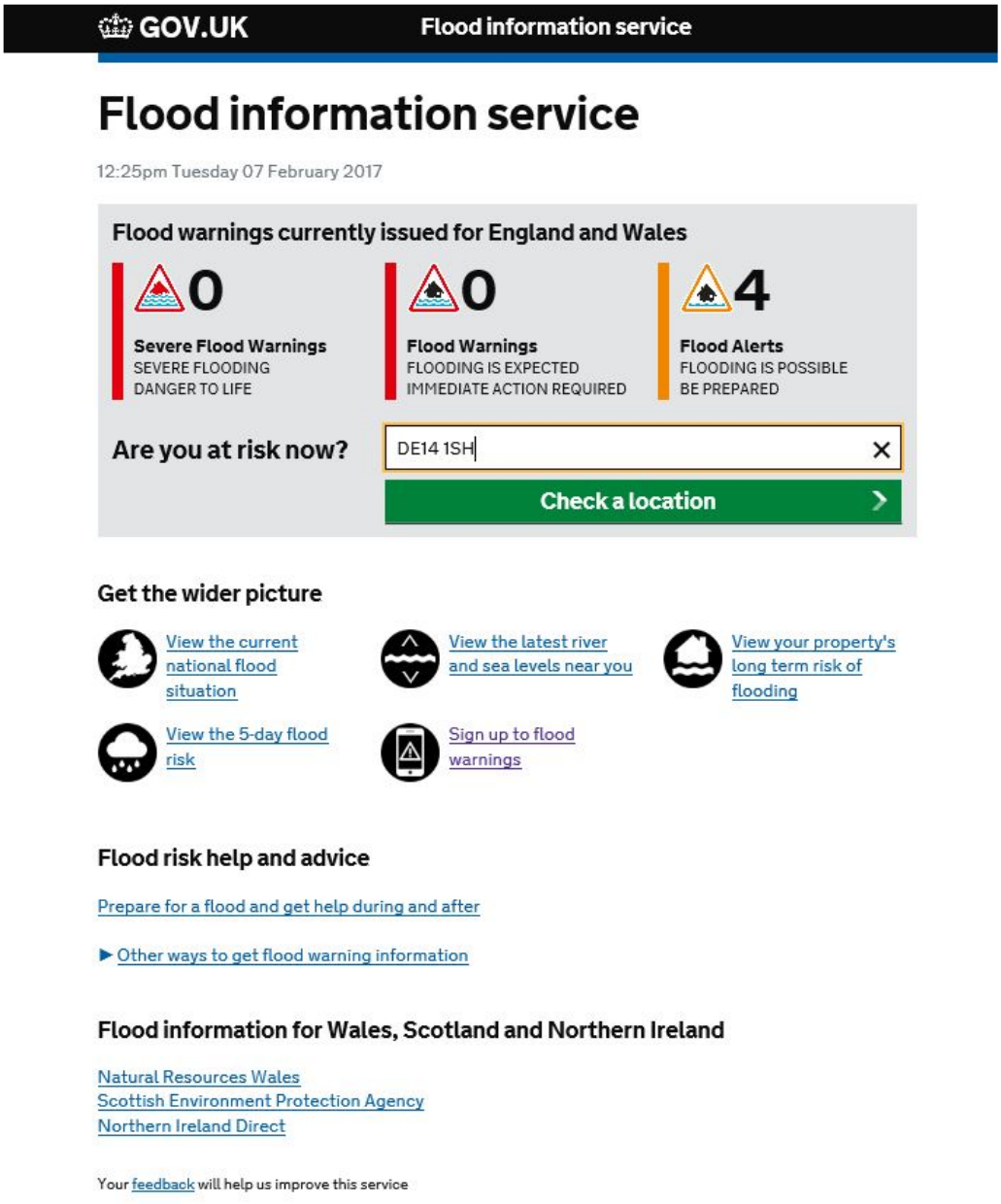
4.1.1 This location is within an area benefits from the Environment Agency service 'Flood Warnings Direct' which is a free service.

4.1.2 To sign up to Flood Warnings Direct, visit the Environment Agency website at: https://flood-warning-information.service.gov.uk and click on the 'sign up for flood warnings' tab half way down the page in the section headed ‘You can also’. Or Call Floodline on 0345 988 1188, select option 1 and enter Quickdial number 134103 to get more information.

4.1.3 Once you have signed up to 'Flood Warnings direct' this will send you a direct message when flooding is expected. You can choose to receive warnings by telephone, mobile, email, text message or fax, whichever you prefer.

4.1.4 The Environment Agency website also has warnings online which can be accessed by visiting https://flood-warning-information.service.gov.uk and then in the box 'Enter a postcode' select search by postcode and enter BN11 3BG or another postcode relevant to the immediate area.

4.1.5 On the following page is an example of the flood alerts and warning website.



GOV.UK Flood information service

Flood information service

12:25pm Tuesday 07 February 2017

Flood warnings currently issued for England and Wales

0	0	4
Severe Flood Warnings SEVERE FLOODING DANGER TO LIFE	**Flood Warnings** FLOODING IS EXPECTED IMMEDIATE ACTION REQUIRED	**Flood Alerts** FLOODING IS POSSIBLE BE PREPARED

Are you at risk now? DE14 1SH

Check a location

Get the wider picture

View the current national flood situation

View the latest river and sea levels near you

View your property's long term risk of flooding

View the 5-day flood risk

Sign up to flood warnings

Flood risk help and advice

Prepare for a flood and get help during and after

▶ Other ways to get flood warning information

Flood information for Wales, Scotland and Northern Ireland

Natural Resources Wales
Scottish Environment Protection Agency
Northern Ireland Direct

Your feedback will help us improve this service

4.2 What the warnings mean

4.2.1 It should be noted that in the event of a flood, there is no guarantee that you will receive specific warnings to a flood event of this source.

4.2.2 It is recommended however that you prepare for a flood event should you receive any warnings from the Environment Agency.

4.2.3 The Environment Agency uses three codes for flood warnings which require differing levels of action. This information is taken from the Environment Agency 'Preparing for a Flood' document.

- Flood Alert
- Flood Warning
- Severe Flood Warning

4.2.4 **Flood Alert** means flooding is possible. Be prepared.

When it is used

- Two hours to two days in advance of flooding

4.2.5 **Flood Warning** means flooding is expected.

When it is used

- Half an hour to one day in advance of flooding.

4.2.6 **Severe Flood Warning** means Severe Flooding expected with a Danger to life.

When it is used

- When flooding poses a significant threat to life.

4.2.7 **Warnings no longer in force** means no further flooding is expected in your area.

When it is used

- When river or sea conditions begin to return to normal.

4.3 What you need to do

Flood Alert

- Be prepared to act
- Monitor Environment Agency and local information.
- It is recommended that you keep up-to-date with flood warnings for the area until the all clear is given.

Flood Warning

- Tune into and continue to listen to local radio updates, monitor Environment Agency/local information and observe local conditions.
- It is recommended that residents evacuate to a pre-determined location identified in Flood Zone 1 or prepare the safe area of refuge.

Severe Flood Warning

- Do not enter flood waters where possible.
- If flooding has occurred residents should remain in the safe area of refuge until advised otherwise.
- Monitor local radio and Environment Agency information.
- Call 999 if you are in immediate danger.

5 Advice and Safety

5.1 Dangers of Entering Flood Waters

5.1.1 Flood water is dangerous, 150mm of fast flowing water can knock over an adult and 300mm to 600mm of water can move a car dependent upon velocities.

5.1.2 Avoid walking or driving through flood water where possible, as the depth may be unknown and there may be hidden obstacles or debris that could cause injury.

5.1.3 If required to enter flood water, which would generally be advised against. Proceed with extreme caution as flood waters can obscure and hide hazards such as manholes with the cover displaced. Use a cane or similar to probe depths, obscured features and to gauge current. Use boundary features for stabilization and avoid crossing open stretches. **Again it should be stressed that flood waters should not be entered if at all avoidable**.

5.1.4 Drawing 11793-100-001 in **Appendix A** shows the route that should be taken if required to seek refuge during a flood event. The route heads in a generally northerly direction towards Liverpool Terrace. Although the route ultimately terminates at the top of some steps, it is assumed this is reasonable given the location of the dwellings which require steps to be navigated for access and egress. An alternative route, to avoid the steps, can be followed to the east of the steps and follow the path around top the top of the steps if needed / preferred.

5.1.5 At the point of a Flood Warning and / or Severe Flood Warning as described in Section 4 of this report, residents should seek refuge outside the flood depth of 5.26 metres following the route provided and seek refuge in a Flood Zone 1 area towards the north of the site i.e. Liverpool Terrace. Flooding along the route is expected to be between 217 millimetres and 421 millimetres.

6 Contacts and Further Information

6.1 This list is to be filled in with the relevant important information and space given below for further contacts as necessary;

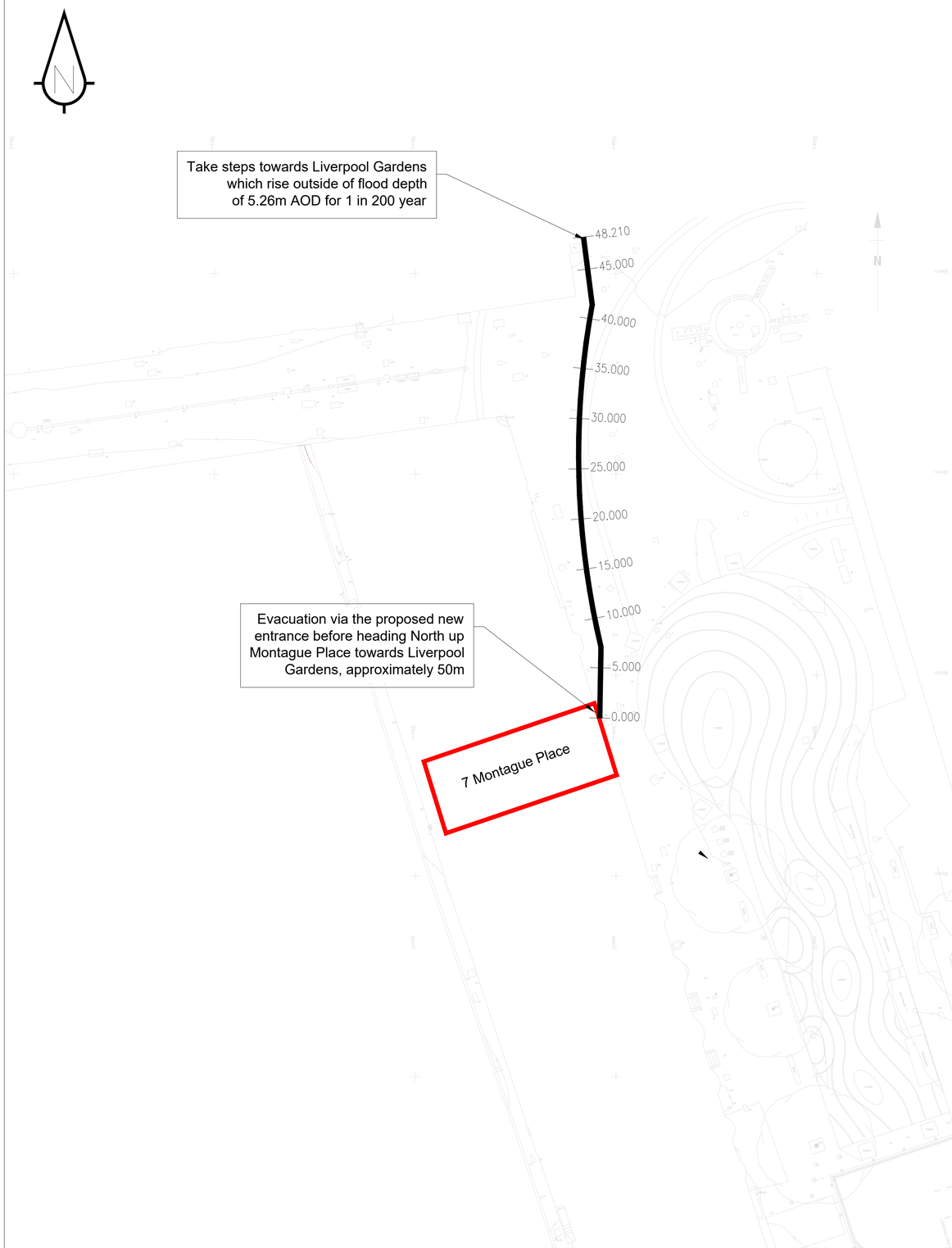
- Environment Agency Floodline…… 0345 988 1188
- www.environment-agency.gov.uk/flood
- NHS/Police…… 101 Non-Emergency

6.2 If in immediate danger call 999

6.3 If you are affected by flooding then you should make immediate contact with your insurance company.

APPENDIX A – Plans

11793-100-001 Emergency Evacuation Route





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- Reference to any third party equipment shown on this drawing was only relevant at the time the drawing was prepared.
- It is the client's responsibility to ensure that any equipment ordered meets the design.
- agent/contractors responsibility to verify the exact locations on site by hand dug trial holes or other appropriate means prior to mechanical excavation.
- Service connections are not shown but their presence should be anticipated.
- other appropriate means prior to mechanical excavation.
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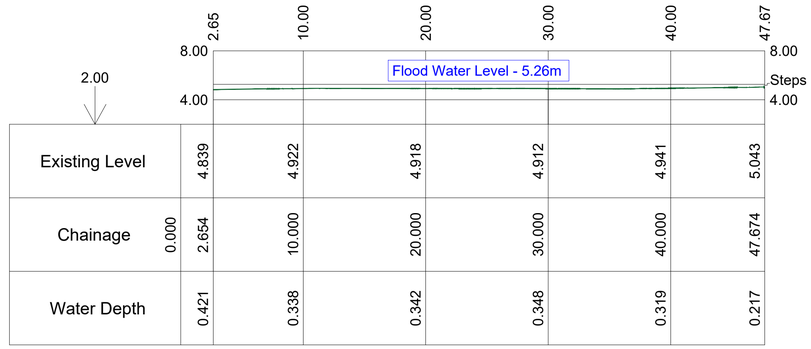

	0.000					
Existing Level		4.839	4.922	4.918	4.912	4.941	5.043
Chainage		2.654	10.000	20.000	30.000	40.000	47.674
Water Depth		0.421	0.338	0.342	0.348	0.319	0.217

Flood Evacuation Route
Longitudinal Section

sanderson associates consulting engineers
Highways | Traffic | Transportation | Water
T 01924 844080 mail@sandersonassociates.co.uk
F 01924 844081 www.sandersonassociates.co.uk

Client: Ganco Limited

Project Title: 7 Montague Place Worthing

Drawing Title: Evacuation Route

Rev	Amendment	Drawn	Date	Checked

Scale: As Shown
Drawn By: DAH
Drawing Size: A1
Checked By: PJM
Date: 06.09.23
Approved By: PJM
Drawing Number: 11793-100-001
Rev:

FILE REF:

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