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FLOOD RISK ASSESSMENT REPORT

On Behalf of:

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EG/424362/eg **12 April 2024**

Table of Contents

1. Introduction 3

2. The Existing Site 3

3. The Proposed Development 3

4. Policy Background 3

5. Flood Risk Maps and Available Information 4

6. Risk Assessment 4

7. Effects on existing drainage 5

8. Flood Water displacement 5

9. Sequential and Exception Test 5

10. Conclusion and Recommendation 6

APPENDIX .....

A. Site Location Plan .....

B. Site Topographic Survey and photographs .....

C. Proposed Development Plan .....

D. Risk of Flooding .....

E. Existing sewer records .....

1. Introduction

Instructions were received in April 2024 to carry out a Flood Risk Assessment Report on this site, in accordance with our quotation. This Flood Risk Assessment report has been produced in accordance with the current recommendations given by the National Planning Policy Framework (NPPF) to submit with the planning application.

Following a desk study and deliberations with the Environment Agency (EA) data, this report has been prepared to determine the risk of flooding on the site for the proposed development and recommendations are hereby given to protect the development and its residents from any potential flood risk. This report also aims to investigate the risk of flooding for the proposed development and to provide recommendations to protect the development and its users from any potential flood risk.

2. The Existing Site

The site is located on the Eastern side of Harbourside, Havant at grid reference SU 71644 04903. Appendix A contains a location plan for the site (outlined in Red). The topographical survey data is shown on Appendix B. The levels have been taken by ourselves on site and are provided to ordnance survey datum. The topographical survey plan shows the existing ground levels on the site are around 2.900m AOD. The topographical survey shows that the existing house has an FFL of 3.980m AOD.

We believe that the existing building was built around 1998 and consists of a two story house.

A walk over of the site showed that most of the site is either the building roof, a garage structure, a gravel to the side and rear of the house or soft landscaped garden area.

3. The Proposed Development

The proposed new development on the site involves the addition of a single storey extension and loggia. The extension is single storey. Details of the proposed development can be found in Appendix C. The new extension will replace and existing gym and workshop building so will not equate to a large increase in impermeable area on the site.

4. Policy Background

The Government's sustainable development strategy (SDS) makes it a requirement to assess appropriate procedures for developments in areas at risk of flooding. This is to avoid any unnecessary increase in requirements for flood defences.

The NPPF requires that developers making planning applications on sites that are potentially at risk from flooding should consult with the EA, and where appropriate produce a flood risk assessment (FRA). The aim is to assess the potential risk for the development, demonstrating how flood risk will be managed onsite ensuring that flood risk is not increased elsewhere. The EA flood matrix was consulted and showed that a flood risk assessment is appropriate for this site.

5. Flood Risk Maps and Available Information

Appendix D contains a copy of the EA Flood Map for this area. This shows that the development site is within flood Zone 3 and at risk of flooding from the sea during the 1 in 200 year flood event.

The EA data predicts that the current maximum of 1 in 200 year flood level at the site would be 3.200m AOD flood level. This maximum level will raise to 4.300m AOD in the year 2115. It is of not that these predicted flood levels do not take into account existing or proposed flood defences.

The existing unit FFL is 3.980m AOD. The house and its proposed extension would be risk class 'More vulnerable'. There is an existing sea defence wall adjacent to the see on the southern boundary of the site. The level of this sea wall has been confirmed at 3.800m AOD, this is below the predicted high tide level for 2115 of 4.300m AOD.

During a flood event the appropriate flood zone 3 EA data flood levels would indicate that up to 1.40m of flood water would be present on our site, using the existing site levels of 2.900m AOD and the flood level of 4.300m AOD. This means the existing house would be flooded during the predicted flood event. Using the same data then up to 0.32m of flood water would enter the house itself.

6. Risk Assessment

The standing advice from the government and Environment agency website for minor extension such as proposed on this development is that - *Make sure that floor levels are either no lower than existing floor levels or 300 millimetres (mm) above the estimated flood level. If your floor levels are not going to be 300mm above existing flood levels.*

Consultations have been held with the EA data. The information from the EA depicts that the proposed development site lies partially within Flood Zone 3 - an area where the chance of flooding from the sea has been assessed as less than 1.0% in any year (1 chance in 200 in any year).

From the levels taken on site the proposed extension would become flooded as a result of the predicted flood event. The ground floor would have approximately 0.320m of water depth, the area around the building would have up to 1.40m of flood water present. Therefore there would not be the possibility of evacuation from the site during a flood event. There are no bedrooms proposed on within the ground floor of the new extension.

Due to the levels on site and the predicted flood levels it is not feasible to raise the new extension above the predicted flood levels. Therefore the standing advice for minor extension should be adhered to. The FFL for the new extension should be set no lower than 3.980m AOD.

The site is not identified as at risk from surface water flooding.

The existing first floor areas of the building could act as a 'safe haven' during a flood event as the flooding would be temporary due to its tidal nature.

7. Effects on Existing Drainage Strategy

Existing sewer records can be found in Appendix E.

New developments must ensure that their drainage strategy does not increase flood risk onsite or elsewhere, and must account for flows from roads and overland as possible source for onsite flood, in order to manage, prevent and control runoff flow patterns. The NPPF guidance's advises that 'both the rates and volumes of runoff from new developments should be no greater than the rates prior to the proposed development'.

Currently, the proposed development site is within the urban setting and the whole of the area proposed for the new dwelling is already hard landscaped.

Therefore due to this the development will not increase storm water run-off from the site.

The new development will have a negligible impact on the foul water flow as the number of bedrooms and therefore people on site will not increase as a result of the development. The foul water discharge on the site will not affect flood risk as the flood risk on this site is from the sea. We would however propose that any new inspection chambers placed within the flood zone are fitted with sealed lids to avoid flood water from entering the foul water system during a flood event.

8. Flood Water displacement

The proposed extension on the site will have a very negligible effect on the overall water displacement during a flood event because of the huge area of flooding during the predicted flood event. The small addition flood volume displaced would run towards Mill Lane to the North of the site but would not cause flooding to the dwellings to the Northern side of Mill Lane as only a small volume of flood water would be displaced due in part to the removal of the existing gym and workshop to facilitate the new extension.

9. Sequential and Exception Test

Sequential and exception tests are required to prove that developments provide wider sustainability benefits to the community that outweigh flood risk. The NPPF classifies 'areas at risk of flooding' as land within Flood Zones 2 and 3, or land within Flood Zone 1 which have critical drainage problems and which have been notified as so to the local planning authority by the EA.

The aim of the sequential test is to steer developments towards flood zone 1 and avoid areas at risk. The information obtained from the EA states that our development site is within a flood zone 3. The site is an extension to the existing dwelling already on the site. Foul and storm water drainage issues can be suitably detailed to avoid increasing or being effected by any flooding issues. The standing advice from the EA has been followed regarding proposed FFL. Therefore considering the previous points we believe that the site is suitable for development..

10. Conclusion and Recommendation

Investigation results have shown that according to the EA flood mapping and data the site of the proposed extension is within a flood zone 3 with associated flood risk.

Using the predicted flood data supplied by the EA a maximum predicted flood level of 4.300m AOD can be expected. As in the previous paragraphs we would propose that a new FFL for the new extension is set no lower than the existing house FFL of 3.980m AOD, thus adhering to the EA standing advice for minor extensions.

Storm water drainage discharge from the site will not be effected as a result of the development as the area of the site proposed for the extension is already mostly roof area from the to be rmoved gym and workshop.

Foul water from the site will continue to be discharged into the local foul sewer probably within Harbourside. There will b no significant increase in foul water discharge from the site due to the development. We would however propose that any new drainage inspection chambers within the predicted flood zone are installed with sealed covers to ensure that no flood water will enter the foul water system during a flood event.

Flood water displacement from the small extension will have no significant effect on the effect of the potential flooding event.

We believe that if the above measures have been considered and the new extension will not result in any increase in flood risk to the site users or nearby areas.

Consideration to water resistant construction techniques should also be considered for the new extension ground floor areas, which could experience some water ingress. These may include a secondary electricity ring main at high level to enable the ground floor to act as a 'safe haven' and continued electricity use should the ground floor become flooded. Ground floor walls should be plastered with water resistant plaster or tiled. Ground floors should have a drained sub floor void and be finished with tiles or another water resistant coating.

The site is primarily at risk from tidal flooding. Therefore the increase in foul and storm water run-off from the site should not have any major effect on the flooding regime of our site or nearby areas.

We would also propose that a Flood Warning Plan is produced for the development at design / construction stage. This plan should be reviewed at least annually and would include the following information:

- Contact the Environment Agency Floodline Service on 0845 988 1188 and https://flood-map-for-planning.service.gov.uk/ to check that the flood risk to the property has not changed, for example flood defences may be built in the future.

- Contact the Environment Agency Flood Warning Service on 0845 988 1188 to register to the Floodline Warnings Direct service. This offers free 24 hour flood alerts direct to your phone or email address. This information is also on the Environment Agency website and is currently available at www.environment-agency.gov.uk/subjects/flood/floodwarning. This is a free service which provides vital information in the event of a flood.

- Prepare and maintain a 'safe haven' flood kit to contain items which are essential for evacuation/refuge. The flood kit will also be useful for general emergency situations. This should be stored where you can easily get to it and on the first floor of the property, and should include:

  - A torch
  - Blankets or a sleeping bag, warm clothing and waterproofs
  - A first-aid kit, including a supply of any essential medication
  - A list of useful telephone numbers
  - A supply of bottled water
  - A stock of non-perishable food items
  - A portable radio and supply of batteries
  - Wellington boots or similar waterproof boots

- Contact the local emergency authorities to find out whether evacuation is considered necessary and where they are providing for evacuees. Or whether safe refuge should be sought on the designated ground and first floor 'safe haven' areas as noted within this report.

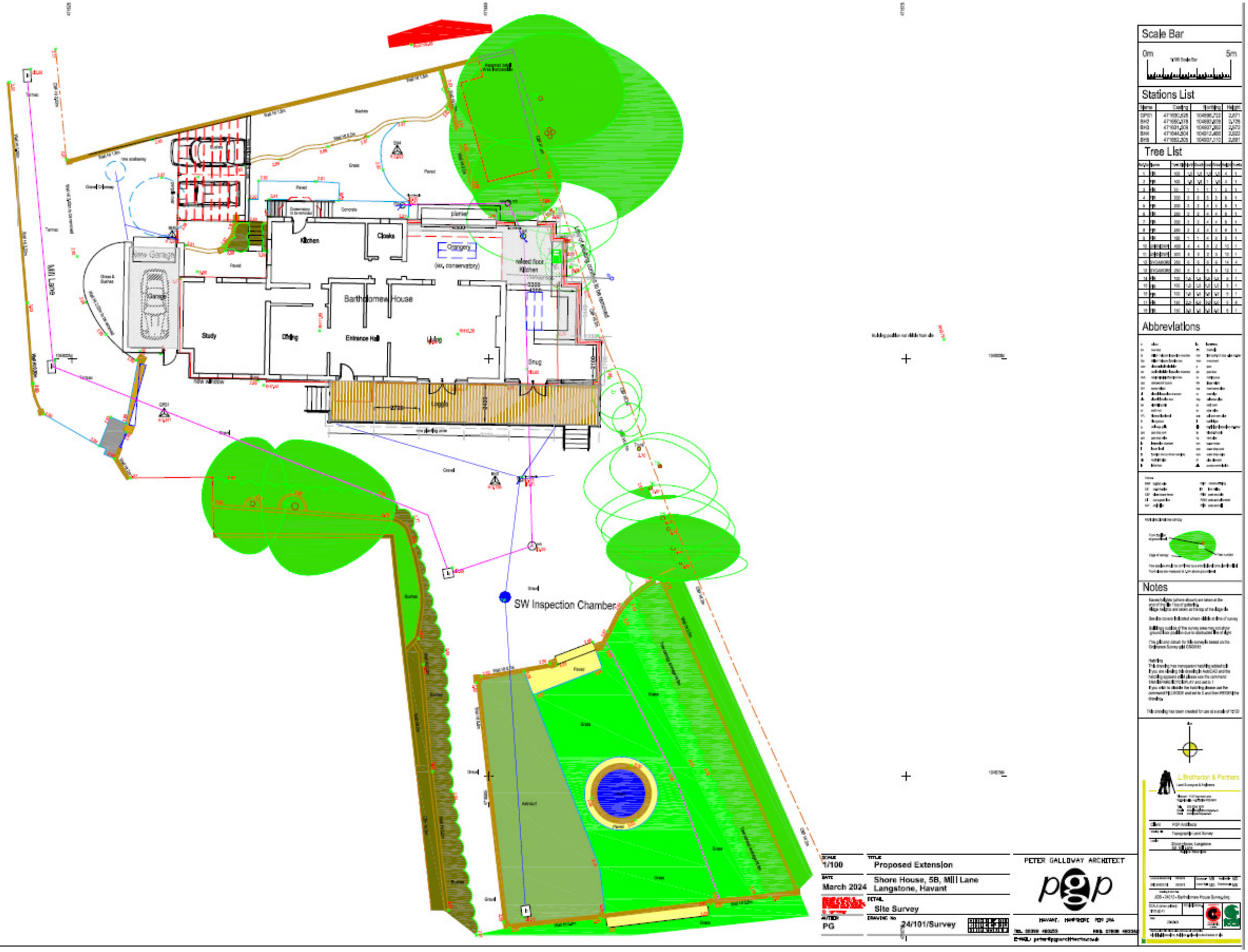
ELVIN GOMERY
B.Eng (Hons.)

DAVID BUTTON
B.Sc. (Hons), C.Eng., M.I.C.E.

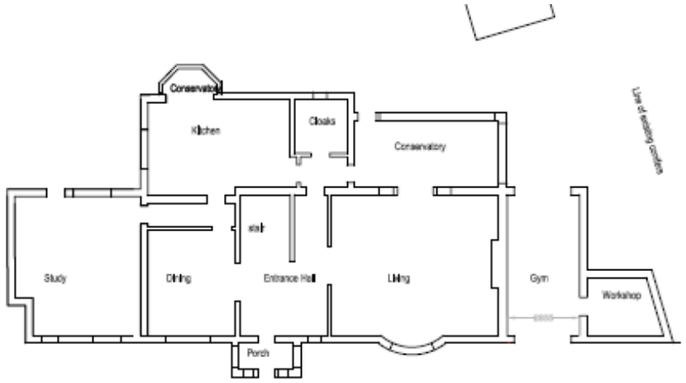
APPENDIX

A. Site Location Plan

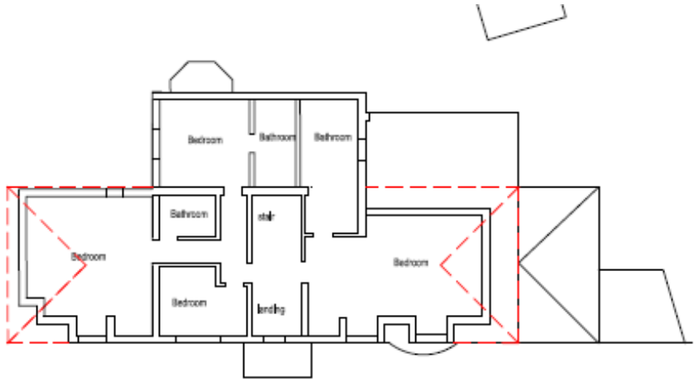
B. Site Topographic Survey



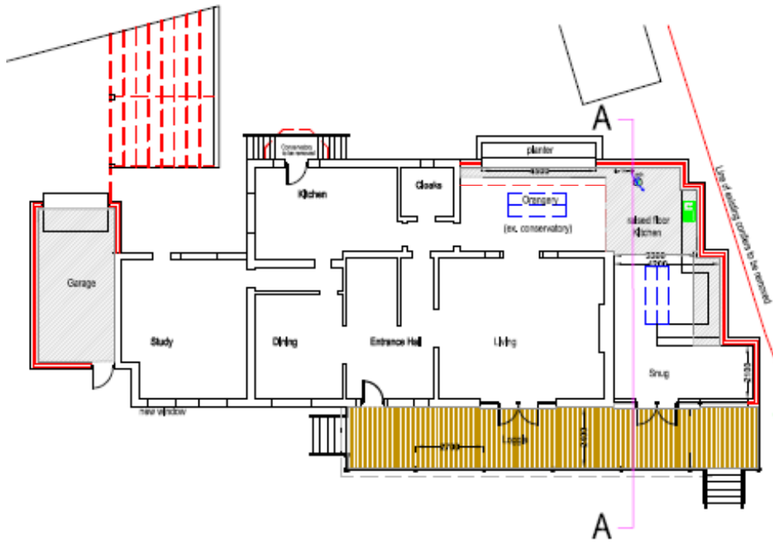
C. Proposed Development Plans



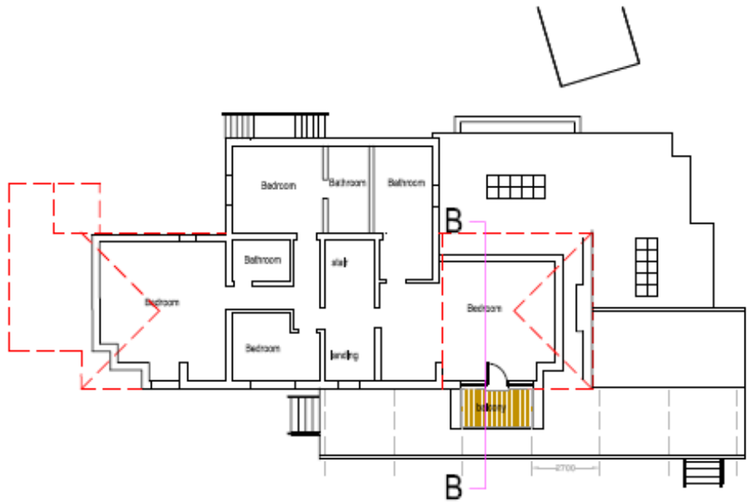
Existing Ground Floor Plan



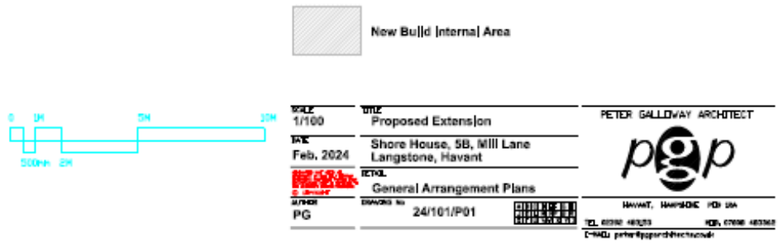
Existing First Floor Plan



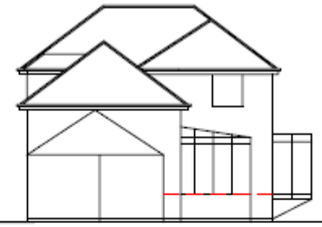
Proposed Ground Floor Plan



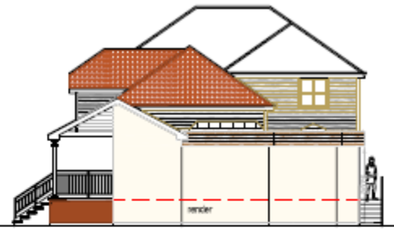
Proposed First Floor Plan



Existing Front Elevation South

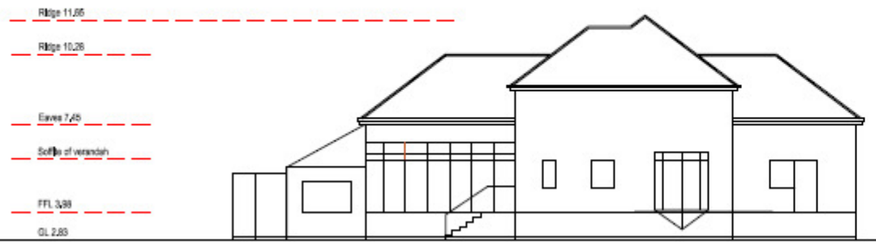


Existing East Elevation

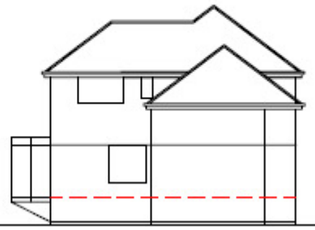


Proposed East Elevation

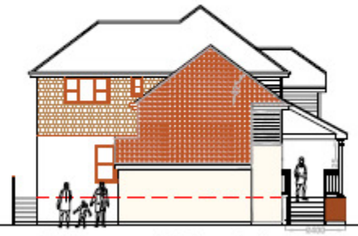
Proposed Front Elevation South



Existing North Elevation

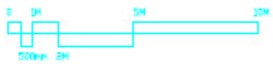


Existing West Elevation

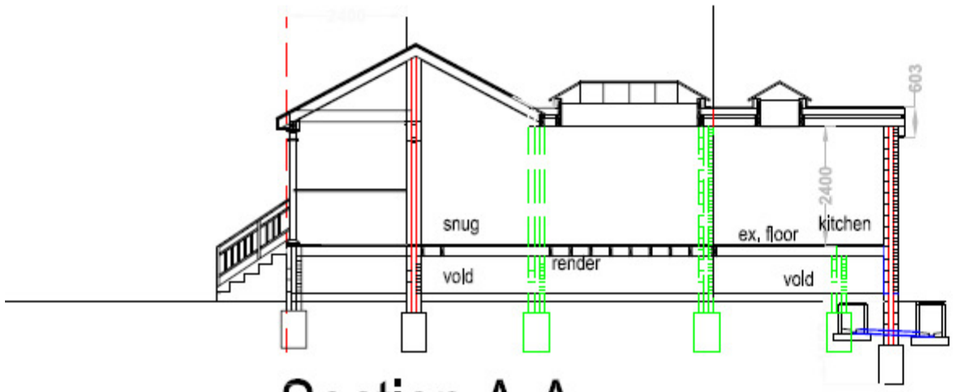


Proposed West Elevation

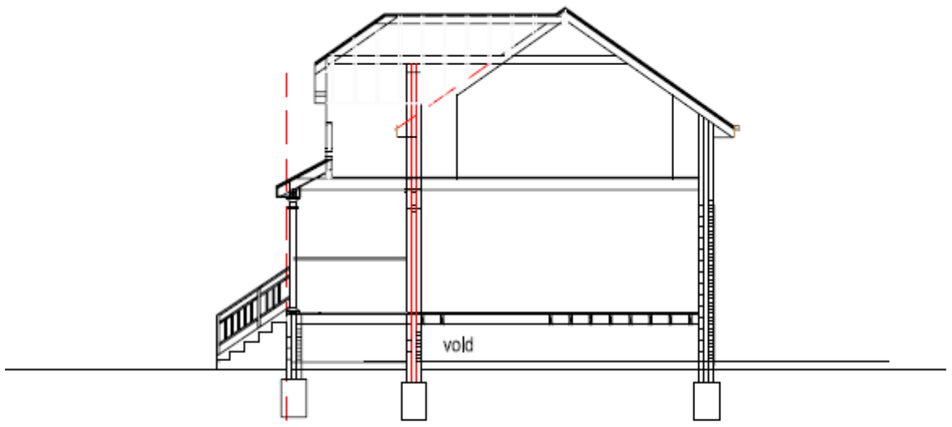
Proposed North Elevation



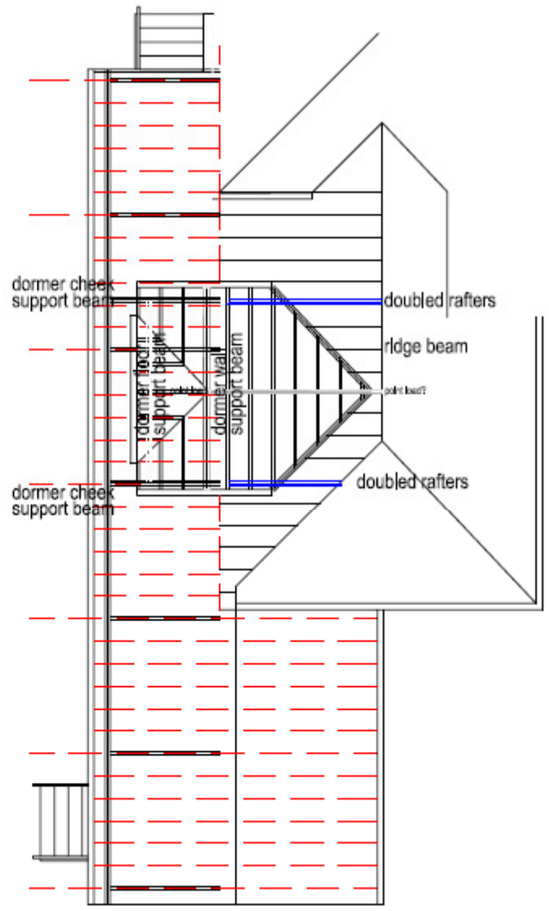
SCALE 1/100	TITLE Proposed Extension	PETER GALLOWAY ARCHITECT
DATE Feb. 2024	Shore House, 5B,Mill Lane Langstone, Havant	pgp
	DETAIL General Arrangement Elevations	
AUTHOR PG	DRAWING No 24/101/P02	HAVANT, HAMPSHIRE PO9 1BA



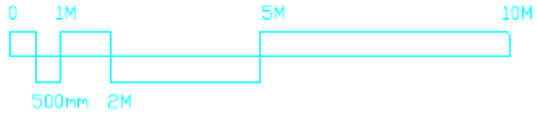
Section A-A

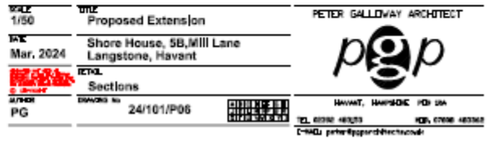


Section B-B

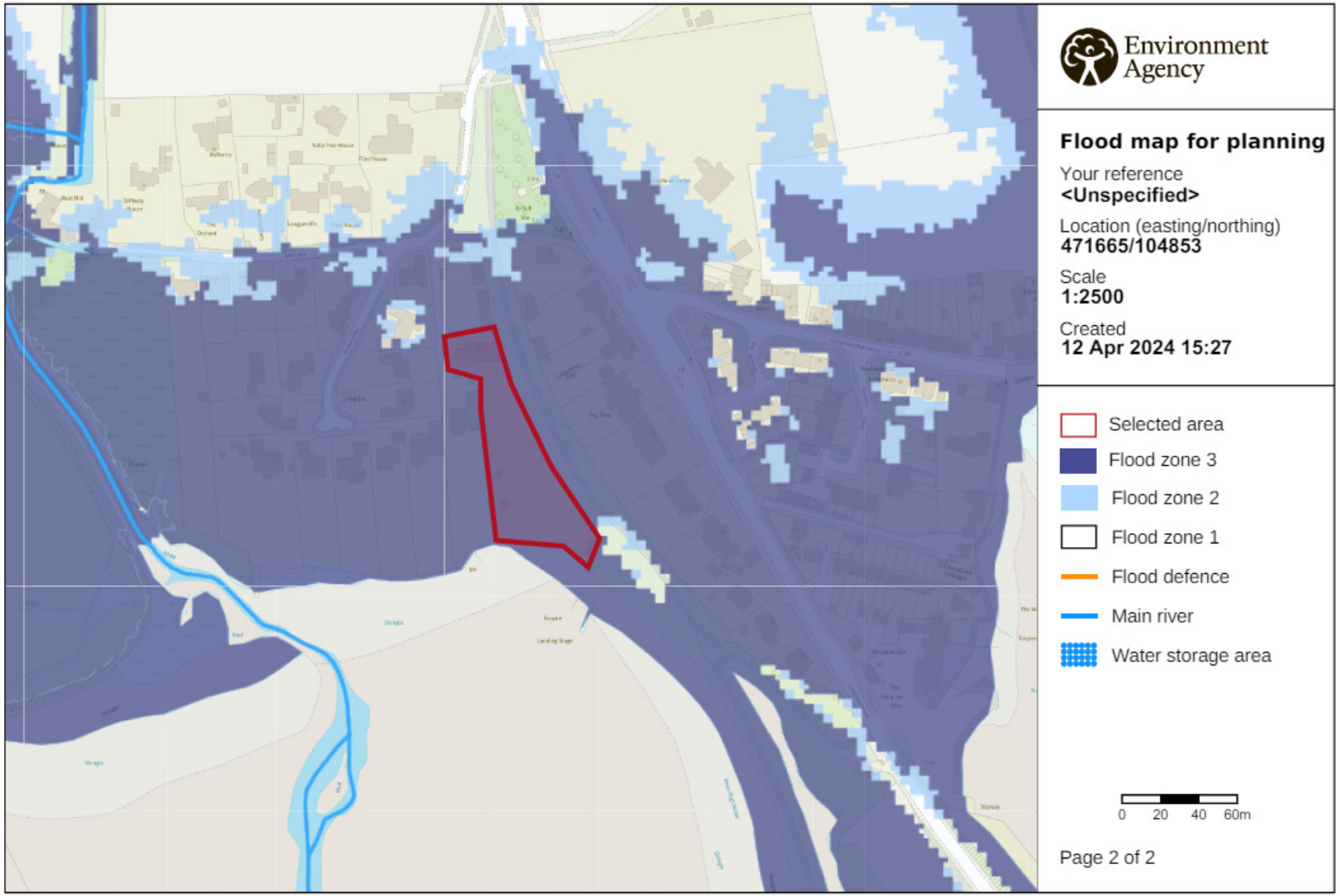


Part Dormer Plan





D. Risk of Flooding



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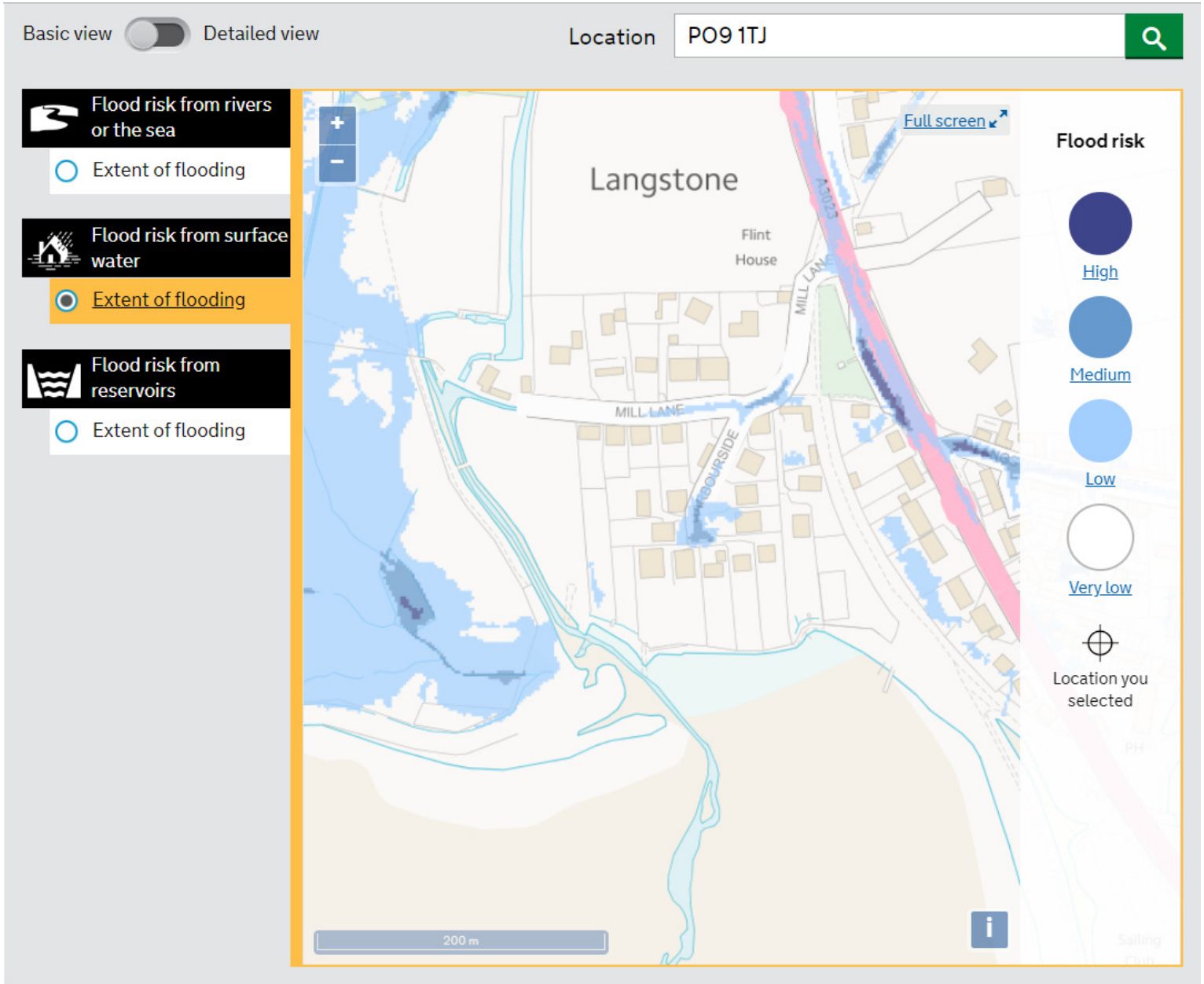
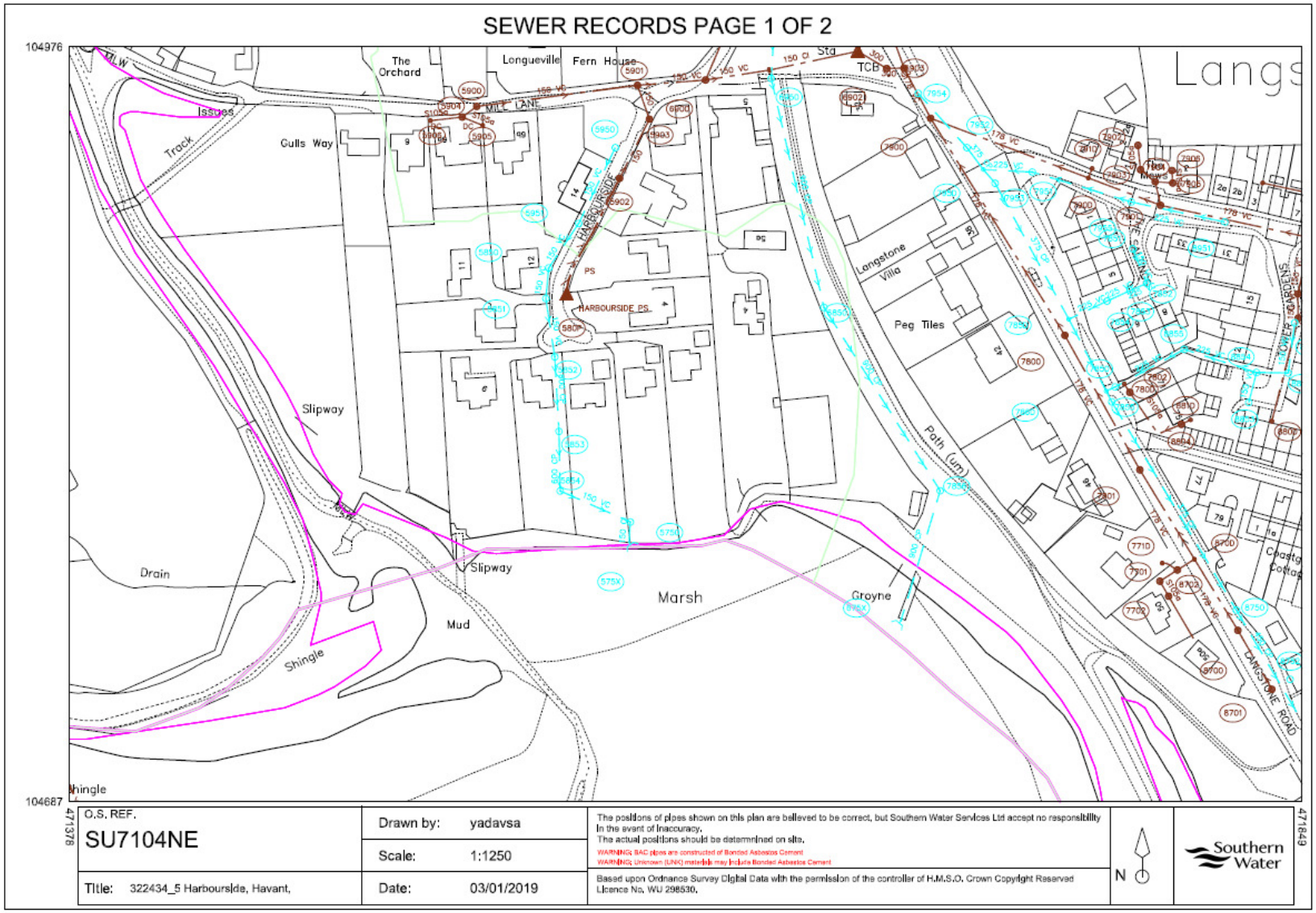

Basic view
Detailed view
Location
PO9 1TJ
Flood risk from rivers or the sea
Extent of flooding
Flood risk from surface water
Extent of flooding
Flood risk from reservoirs
Extent of flooding
Full screen
Langstone
Flint House
MILL LANE
HARBOURSIDE
A3023
200 m
Flood risk
High
Medium
Low
Very low
Location you selected

E. Sewer record drawings