



Review of Drainage Proposals

Land South of Lymington Ridgeway Lane & Lower Pennington Lane

February 2021



Such · Salinger · Peters

CONSULTING ENGINEERS

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1. This report is provided as an assessment only, in the context of the stated development proposals and should not be used in a different context.
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1. Introduction

- 1.1 This report has been prepared by Such Salinger Peters on behalf of the client Pennington and Lymington Lanes Society (PALLS) in response to information supplied to the Local Planning Authority in support of the allocation of a proposed housing development between Ridgeway Lane and Lower Pennington Lane, Lymington (site SS6).
- 1.2 A planning submission for the proposed development has been submitted by others and Such Salinger Peters have been requested to review the information provided in respect of the proposed drainage arrangements.
- 1.3 This report was prepared upon review of 'Flood Risk Assessment & Drainage Strategy' Ref: VD18829 March 209 by Vectos which forms part of the Ken Parke submission dated 13th March 2019 on behalf of Cicero Estates.

2. Site Information

2.1 Location

The site is located at Land south of Lymington, west of Ridgeway Lane (Grid Reference SZ 31837 94243 X - 431837, Y - 094243). The site is bound by fields to the south and residential properties to the north, east and west.

2.2 Existing Site Topography and Ground Conditions

The site is currently a greenfield area of mainly pasture with areas of shrubbery.

Reference to Google Earth Pro, and also readily available ground contour mapping indicates that the site topography slopes by approximately 8 metres from north 13.5mAOD to south 5.5mAOD.

The closest watercourse within the vicinity of the site is a river approximately 265 metres to the west.

The proposed site falls within Flood Zone 1 according to the Environment Agency Flood Maps for Planning and for long term flood risk, for flooding from rivers and sea (shown as very low risk). However the EA and NFDC are consulting on the realignment of the sea wall which may affect the zoning.

The map for surface water flooding shows the majority of the site at very low to low risk of flooding which are the lowest classifications when assessing the risk of flooding from these sources. There is however a small section of high risk area for surface water flooding, which will be a barrier to development on that part of the site.

The plans showing the Flood Zone and Surface Water flood extent are attached as Appendix B

2.3 Existing Drainage

According to the report written by Vectos, it states that the current Surface Water Arrangements are assumed to be discharging in to the ditch surrounding the southern part of the site. The report also mentions that further investigation to confirm the extent is required.

It is assumed that there are currently no foul water flows existing on the site.

2.4 Proposed Development

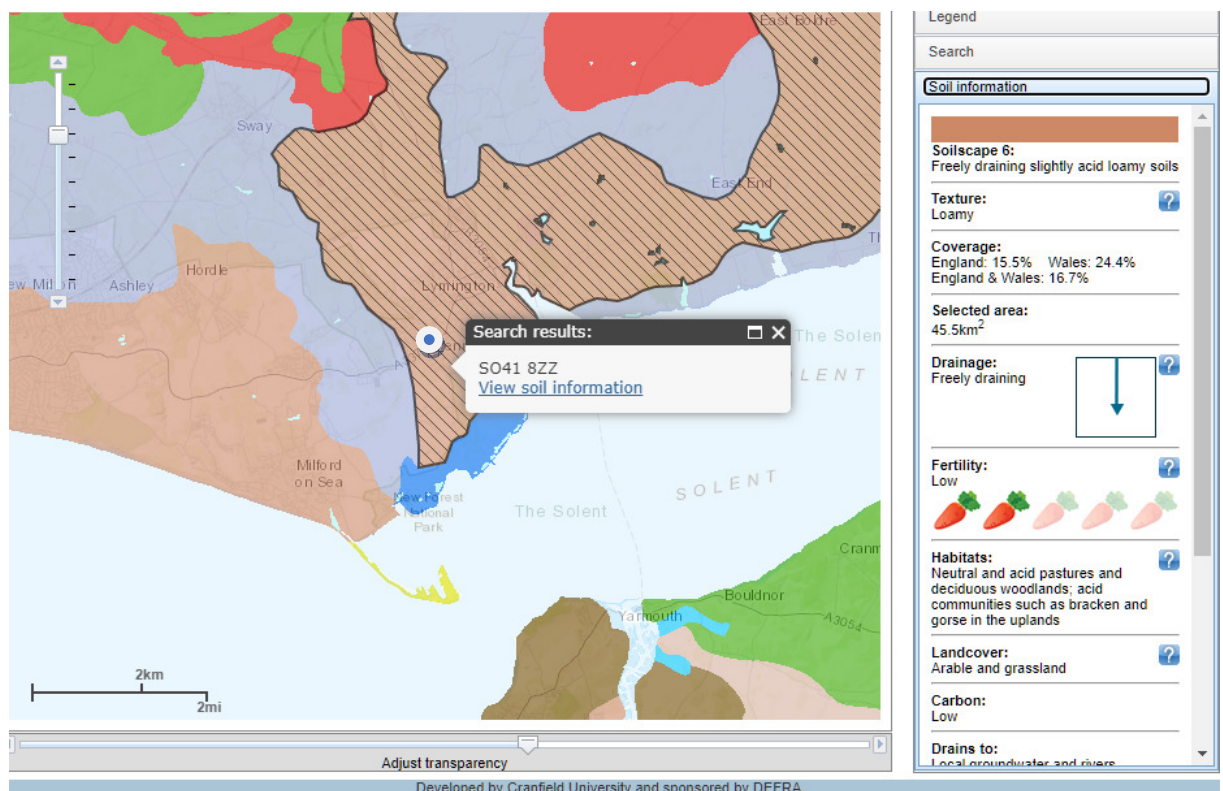
It is understood that the proposals are to construct circa 120 units.

3. Foul Water Drainage

- 3.1 A Developer Enquiry was undertaken in November 2018 and Southern Water have confirmed that there is adequate capacity for Foul Water flows into the public sewer next to Ridgeway Lane near the south-eastern corner of the site via Manhole SZ32940001. The Developer Enquiry response also states that no Surface Water flows can be accommodated in the public sewer.
- 3.2 The point of connect might be suitable dependent upon falls etc. and access to the suggested location may prove difficult as it is behind a stand of trees.

4. Surface Water Drainage

- 4.1 There are no existing surface water sewers within the vicinity of the site.
- 4.2 During the site visit undertaken by Vectos, drainage ditches were found on the site, to the south. Within their report, Vectos have identified the need for further investigation to the extent of surface water discharge to the ditch.
- 4.3 The Cranfield University Soilscales tool shows that the proposed development site falls within freely draining slightly acid loamy soils (**see Image 1 below**).
- 4.4 The Soilscales tool only provides information about permeability of the soils near the surface, this does not show that conventional soakaways can be utilised.



- 4.5 The preferred method of surface water drainage would be by infiltration through the use of soakaways.
- 4.6 Percolation tests to BRE365 standard were undertaken by Ruddlesden Geotechnical on 6th and 7th September 2018. According to Ruddlesden Geotechnical, **soakaways would not be viable option for the site** due to the poor infiltration rate identified from the Percolation tests undertaken.
- 4.7 Upon review of the Soakaway Report, we have also identified that Percolation Tests have only been targeted to a very localised and specific area of the site and do not adequately cover the entire site. It would be essential to undertake further soakaway tests across the entire site to help inform whether the use of soakaways in these areas is acceptable before seeking to discharge into the ditch.

Surface Water Recommendations

- 4.8 Further Soakaway Tests to be undertaken in other areas of the site as the previous tests were undertaken in one area and as such are not giving a true representation of the site.
- 4.9 Full investigation is required of the on-site and more importantly off site drainage ditches to identify the surface water flows exiting the site.
- 4.10 Should the eventual solution be to discharge into the ditch, appropriate attenuation would need to be installed to control the discharge into the ditch. The topography shown on Google Earth Pro shows that the land occupied by the properties to the east of Ridgeway Lane and directly north of Poles Lane are approximately 2.5 metres below the lowest point of the proposed site. This indicates that should the ditch flood, this area could become affected.
- 4.11 Whilst installing the appropriate attenuation would limit the discharge rate to the ditch system it is noted that the system is already prone to flooding as shown by the EA Flood Map and as such the entire ditch system downstream of the point of connection should be investigated. Evaluation using hydraulic modelling based on accurate topographic data would be considered a minimum level of investigation. It is known that currently after heavy/persistent rain the existing drainage flows lead to flooding in the vicinity of Creek Cottage, Lower Woodside and Maidens Lane and this situation must not be made worse by this proposed development.
- 4.12 With the recent change in legislation to encourage adoption of surface water attenuation by Water Companies, rather than to rely upon Management Companies to maintain such structures, full details of the proposed surface water discharge and attenuation structures must be agreed prior to Planning Permission being sought especially as any proposal will affect the positioning of the housing..

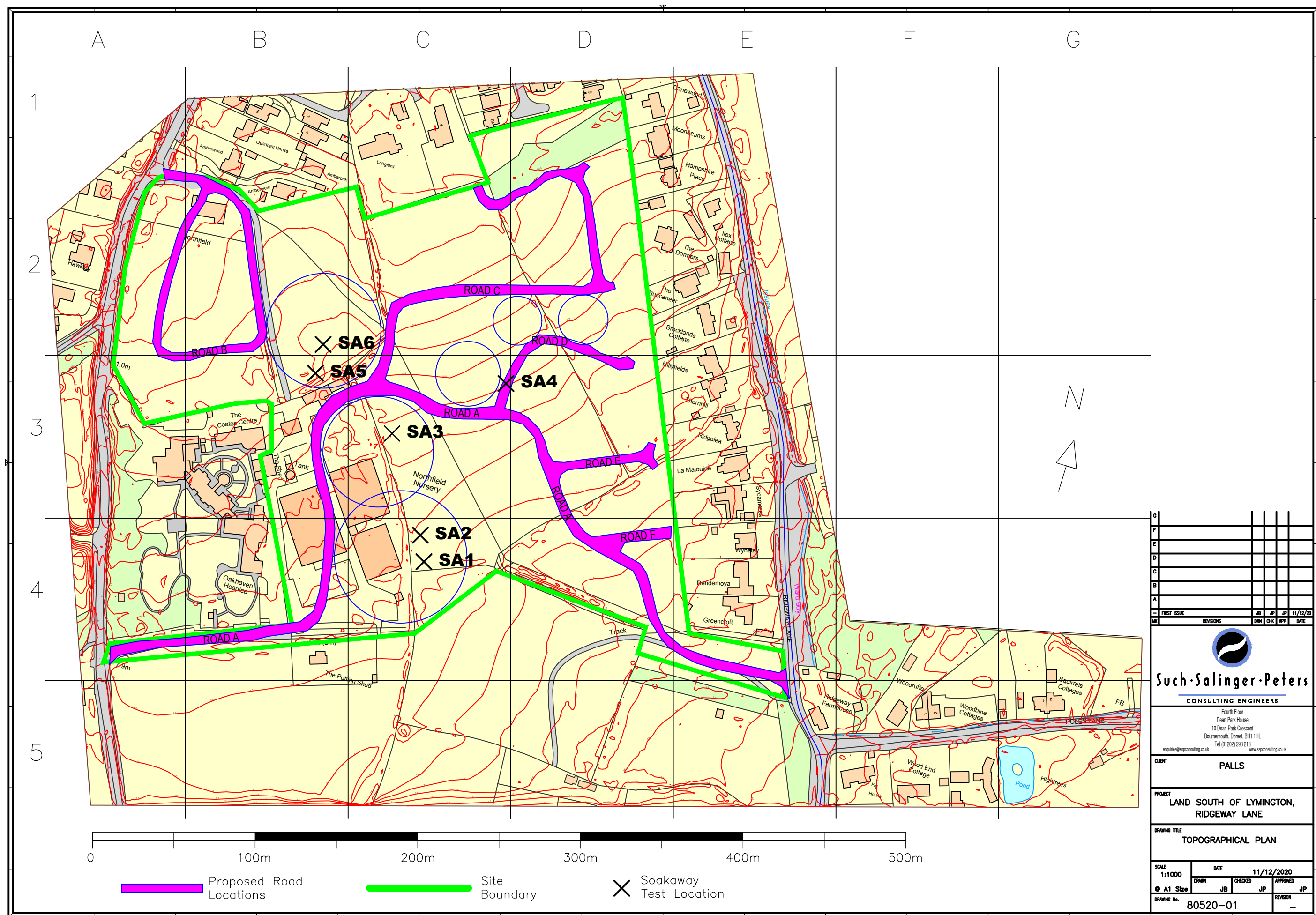
5. Conclusions & Recommendations

- 5.1 The site is located at Land South of Lymington, west of Ridgeway Lane (Grid Reference SZ 31837 94243 X - 431837, Y - 094243). The site is bound by fields to the south and residential properties to the north, east and west.
- 5.2 The proposed site falls within Flood Zone 1 according to the Environment Agency Flood Maps for Planning and for long term flood risk, with flooding from rivers and sea (shown as very low risk). However there is currently consultation commencing regarding the realignment of the sea wall which may alter the zone.
- 5.3 The mapping for surface water flooding shows the majority of the development site to have a very low to low risk of flooding which are the lowest classifications when assessing the risk of flooding from these sources. There is however a small area of high risk from surface water flooding. This will affect the site layout.
- 5.4 The report written by Vectos states that the current Surface Water Arrangements are assumed to be discharging in to the ditch surrounding the southern part of the site. The report also mentions that further investigation to confirm the extent is required.
- 5.5 A Developer Enquiry was undertaken in November 2018 and Southern Water have confirmed that there is adequate capacity for Foul Water flows into the public sewer next to Ridgeway Lane near the south-eastern corner of the site via Manhole SZ32940001. The Developer Enquiry response also states that no Surface Water flows can be accommodated in the public sewer.
- 5.6 During the site visit undertaken by Vectos, drainage ditches were found on the site, to the south. Within their report, Vectos have identified the need for further investigation to the extent of surface water discharge to the ditch.
- 5.7 Percolation tests to BRE365 standard were undertaken by Ruddlesden Geotechnical on 6th and 7th September 2018. According to Ruddlesden Geotechnical, **soakaways would not be viable option for the site due to the poor infiltration rate identified from the Percolation tests undertaken.**
- 5.8 Upon review of the Soakaway Report, we have identified that the Percolation Tests have been targeted to a specific area of the site and not spread across the site in varied locations. It is essential that further soakaway tests in other regions of the site are undertaken to inform the drainage solution.
- 5.9 If Soakaways are not a viable option for the site, then attenuation will be needed in the form of tanks or ponds or swales etc.

- 5.10 Further detailed investigation into the drainage ditch to identify the surface water flow extent off site. This is needed to evaluate the effect on Lower Woodside and Maidens Lane where ditches discharge into the sea and where localised flooding regularly occurs.
- 5.11 Should the solution be to discharge into the ditch, appropriate attenuation would need to be installed to minimise the discharge into the ditch. The topography shown on Google Earth Pro shows that the land occupied by the properties to the east of Ridgeway Lane and directly north of Poles Lane are approximately 2.5 metres below the lowest point of the proposed site. This indicates that should the ditch flood, this area could become affected.
- 5.12 Any surface water attenuation should, where possible, be offered to the local Water Company for adoption rather than relying upon a Management Company to undertake long term maintenance.
- 5.13 Evaluation of the off-site ditch system using hydraulic modelling based on accurate topographic data would be considered a minimum level of investigation.
- 5.14 It is our recommendation that as the drainage of this site is highly complex the issues relating to discharge of surface and foul water drainage are dealt with at outline stage as we believe it will affect site layout and viability.

Appendix A

Topographical Site Location Plan



Appendix B

Flood Zone Map and Surface Water Flooding Map

Flood map for planning

Your reference
Ridgeway Lane

Location (easting/northing)
431831/94190

Created
20 Dec 2020 18:55

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

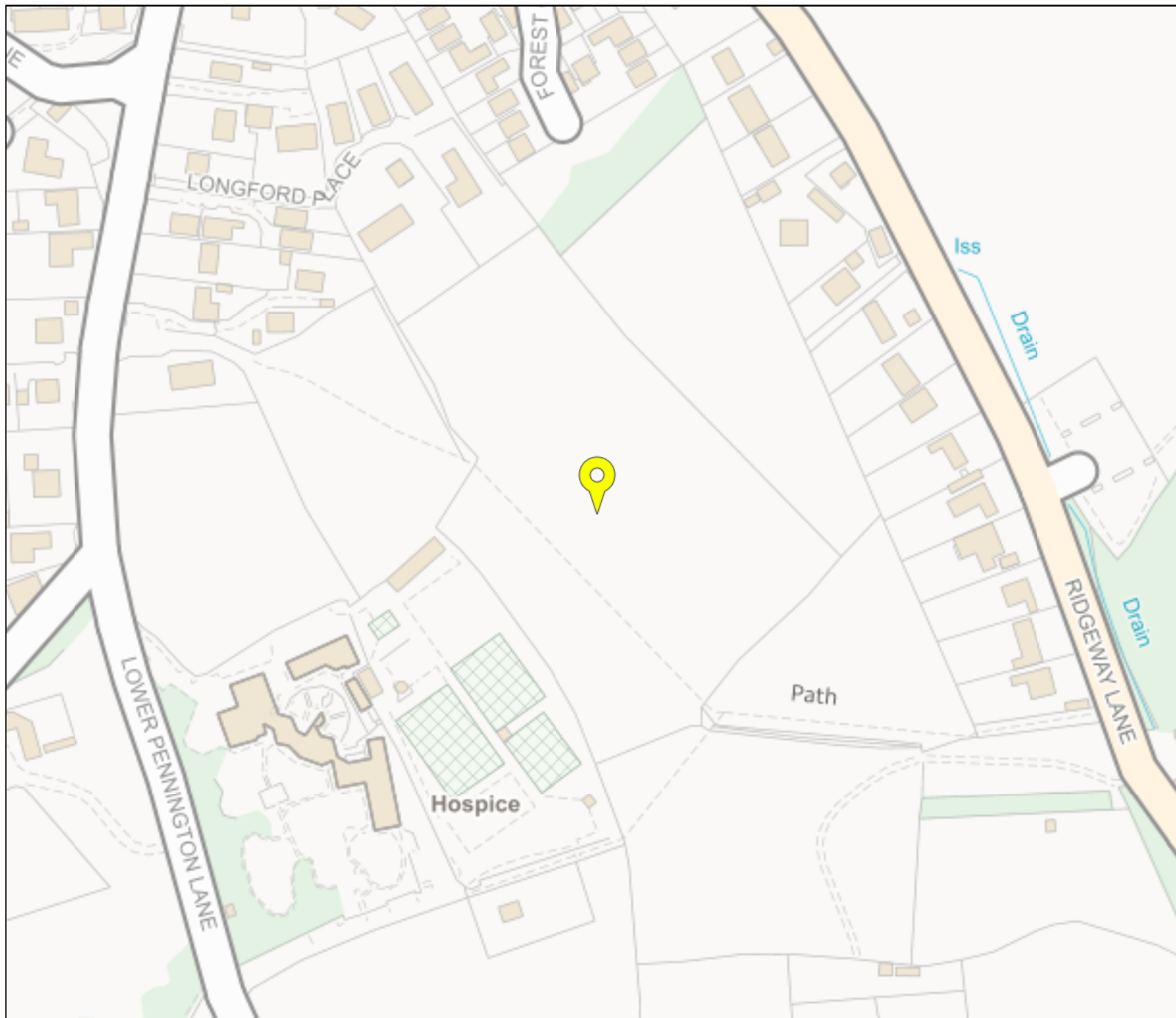
- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

The Open Government Licence sets out the terms and conditions for using government data.
<https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>



Flood map for planning









Your reference

Ridgeway Lane

Location (easting/northing)
431831/94190

Scale
1:2500

Created
20 Dec 2020 18:55

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area

0 20 40 60m



Extent of flooding from surface water

[High](#)

[Medium](#)

[Low](#)

☐ [Very low](#)

Location you selected

[View the flood risk information for another location \(/long-term-flood-risk/postcode\)](/long-term-flood-risk/postcode)

This information meets the requirements of the EU Floods Directive
2007/60/EC

Issuing office:

**Such Salinger Peters Ltd
Fourth Floor
Dean Park House
8-10 Dean Park Crescent
Bournemouth
BH1 1HL**

