1 Introduction

This Technical Note has been produced by Phoenix Design Partnership Ltd on behalf of Taylor Wimpey UK Limited to inform a concept masterplan relating to land south of the railway line, off Northcote Hill, Honiton, 'Phase 2' (hereafter referred to as 'the site'), which is identified as a draft allocation within East Devon's Draft Local Plan (Regulation 19). This note demonstrates that the site is suitable for development in flood risk and drainage terms and can deliver approximately 285-300 dwellings.

Sources of Data:

East Devon District Council (EDDC) L1 SFRA 2024

EA Flood Map for Planning

EA Long Term Flood Risk Mapping - Risk of Flooding Surface Water, & Reservoir Flooding

EA / DEFRA Majic Map - Designations, Hydrology, Hydrogeology, Soiltype, etc.

BGS Geological Mapping

2 Site Location & Description

2.1 Location

The site is situated to the northeast of Honiton, approximately 25km east of Exeter. It spans Northcote Hill Road, with its northern boundary defined by a Network Rail railway line. The surrounding area comprises private properties, open fields, woodlands, and the railway line.

The land is currently under the jurisdiction of East Devon District Council.

2.2 Description

Phase 2 of the site is approximately 21.0 hectares of greenfield land, with access provided via Northcote Hill. The site is split into two via an existing highway (Northcote Hill)

The Northern parcel is greenfield with a railway along the northern boundary. The Southern parcel is a former garden nursery.

2.3 Topography

The Northern parcel has high points along the central ridgeline (152m AOD) and along the Eastern edge (156m AOD). These fall moderately steeply to a valley within the site (133m AOD) and to the West 128m AOD

The Southern parcel falls moderately steeply from Southeast (168m AOD) to Northwest (134m AOD)

2.4 Geology

2.4.1 Bedrock Geology

BGS mapping shows:

Branscombe Mudstone Formation - Mudstone. Sedimentary bedrock formed between 228.4 and 201.3 million years ago during the Triassic period**.**

2.4.2 Superficial Geology

On the upper parcel of the site, from the center to the east, BGS mapping shows:

Head - Sand with clay and gravel. Sedimentary superficial deposit formed between 2.588 million years ago and the present during the Quaternary period.

2.4.3 Soil type

The EA / DEFRA Majic Map Soilscape shows: Type 6 Freely draining slightly acid loamy soils. WRAP Map show the site within Zone 4 ‘Clayey, or loamy over clayey soils with an impermeable layer at shallow depth

2.4.4 Infiltration Potential

Based on the above and soakaway testing on adjacent sites it is unlikely that the site will support the use of an infiltration based Sustainable Drainage System (SuDS).

2.5 Hydrogeology

The EA / DEFRA Majic Map shows:

2.5.1 Source Protection & Drinking Water

The site is not within a Source Protection Zone, Drinking Water Protected Area (surface water), or a Drinking Water Safeguarded Zone (surface water, & groundwater).

2.5.2 Aquifers

Bedrock - The site is designated as Secondary B.

Superficial Drift – The site is designated as Secondary (undifferentiated) in the west and Secondary A in the east.

2.5.3 Groundwater Vulnerability

Eastern areas of this site are shown to be in an area of High Vulnerability (vulnerability of groundwater to pollution). All other areas within the site boundary are categorized as Medium-High Vulnerability (vulnerability of groundwater to pollution). Based on the above hydrogeological and geological information it is unlikely that the site is medium-highly vulnerable to pollution of groundwater.

2.6 Hydrology

2.6.1 Main Rivers

The closest main river is the River Otter which flows approximately 675m from the westernmost end of the site.

2.6.2 Ordinary Watercourses

On the eastern side of the site, a ditch runs from the southern boundary to the woodland area in the northwest.

2.6.3 Surface water Runoff

Surface water runoff flows overland in a north westerly direction from the southern boundary of the site.

2.6.4 Existing hydrology

The existing hydrological drainage infrastructure consists of a ditch running through the site, in addition to gullies along Northcote Hill that collect surface water runoff from the southern parcel.

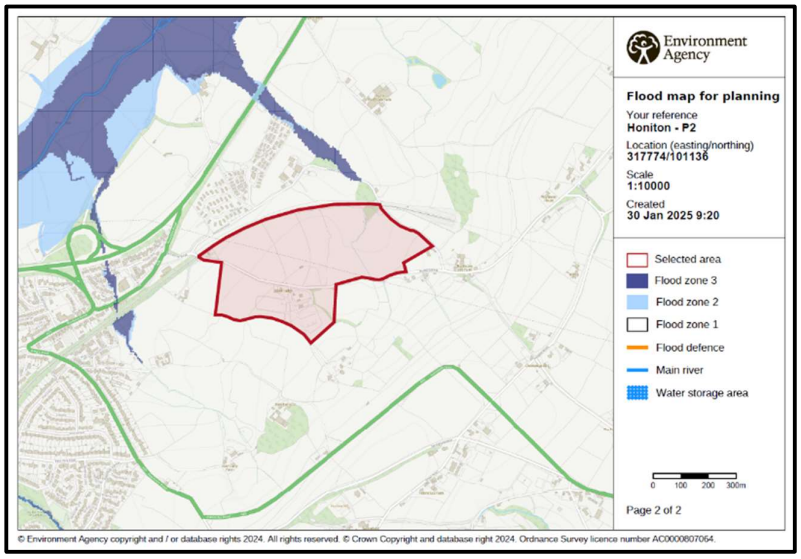
3 Flood Risk

3.1 Fluvial

The EA Flood Map for Planning shows the site to be entirely within Flood Zone 1: Lowest Risk, <1:1,000 (0.1%) Annual Exceedance Probability of Flooding.

The EDDC L1 SFRA 2024 does not consider the site at risk of fluvial flooding. The only risk posed, being the River Otter. That risk is discussed in '3.5 Artificial (Reservoirs, Canals, etc.)'.

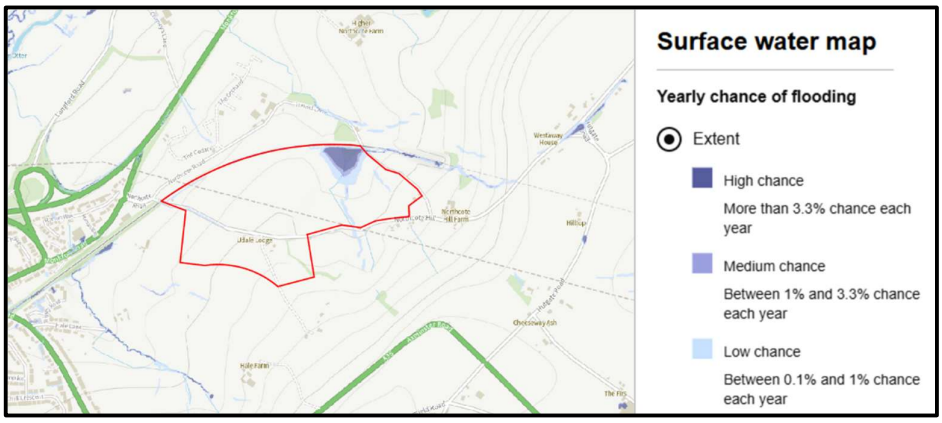
The risk of fluvial flooding is Low.



3.2 Risk of Flooding Surface Water

The EA Long Term Flood Risk map shows that most of the site is not at risk of surface water flooding.

There is a section of high risk adjacent to the railway. The surface water flood map does not consider culverts and other such features. A site visit confirmed there to be a culvert on the watercourse and a bridge under the railway so the area of high risk would be removed.



3.3 Groundwater

The GOV flood risk summary states that groundwater flooding is unlikely within our site boundary.

The EDDC L1 SFRA 2024 states that the according to JBA's Groundwater Flood Risk Map the shallower groundwater levels follow the major water courses. Therefore, based upon the proximity of the River Otter to our site, it is unlikely that we will see any groundwater flooding in this manner.

The risk of flooding from groundwater is low.

3.4 Sewers

South West Water records do not show any sewers within the site boundary

The risk of flooding from sewers is therefore considered low.

3.5 Artificial (Reservoirs, Canals, etc.)

The EA Long-Term Flood Risk Map indicates that the site is not at risk of flooding from reservoirs. The nearest reservoirs, Sawmill and Chard, are located approximately 25km away.

The map shows that in the event of flooding from the River Otter, floodwater would not reach the site. The water would be contained at Tunnel Lane, approximately 150 meters to the northwest of the site's northernmost point.

Therefore, the risk of flooding from reservoirs and other artificial sources is low.
Historic

The EA Historic Flood Record map shows that the site does not have a history of fluvial flooding.

3.6 Flood Risk Conclusion

The overall flood risk is low across all categories.

The site is in Flood Zone 1, indicating the lowest risk of fluvial flooding. In terms of surface water flooding, the risk remains generally low across the site with the small area of high risk disconnected by existing watercourses and bridges. Groundwater flooding is unlikely due to the site's distance from major watercourses.

The risk from artificial sources, such as reservoirs and canals, is minimal, as no nearby reservoirs pose a threat, and the River Otter floodwaters would not reach the site. The risk of flooding due to sewers is unlikely. Finally, there is no indication of any significant historic or current fluvial flooding in the area.

All development, including dwellings, access, egress, road layout would be located outside of any areas at risk of flooding. Therefore, overall, the site presents a low risk of flooding from any source.

4 Surface Water Drainage & SuDS

4.1 Outfall

The Northern Parcel is split into two catchments which will be mirrored within the proposed drainage design.

The Eastern catchment of the Northern Parcel will discharge into the existing watercourse that runs through the site.

The Western catchment of the Northern parcel and whole of the Southern Parcel will either discharge to existing ditches adjacent to Northcote Hill and Monkton Road or into South West Water surface water sewers with Roman Way.

4.2 Design Criteria

The surface water drainage for the development will be designed for events up to and including the 1:100 + climate change annual exceedance probability event in accordance with national and local guidance.

4.3 Discharge Rates & Attenuation

The surface water runoff will be attenuated on site in attenuation ponds and discharged at a controlled rate to the existing ditches.

The discharge rate will not exceed the Mean Annual Flood Flow (Qbar, 1:2.3 AEP flow). This will ensure that the downstream drainage system will be able to cope in more extreme events and will ensure that flood risk downstream is not increased. Qbar will be based on impermeable area to suit Devon LLFA requirements

Initial calculations show the approximate attenuation volumes and discharge rates are as follows

	Discharge Rate l/s	Attenuation m^3
Northern parcel East	6.6	600
Northern parcel West	19.8	2000
Southern parcel	13.4	1325

4.4 SuDS

In addition to the attenuation ponds other forms of SuDS will be incorporated at-source within the development to help reduce surface water runoff and to improve water quality.

Examples of these features include, but are not limited to: Permeable Paving, Raingardens, Swales. These proposed SuDS will capture and remove pollutants to ensure that there is no negative impact on water quality in the downstream watercourses. The SuDS will be managed and maintained throughout the lifecycle of the development to ensure that it operates effectively.

4.5 Connection to SWW Infrastructure

To the West of the proposed development is an existing South West Water foul sewer in Monkton Road and a combined sewer in Roman Way of suitable diameter will allow a connection.

4.6 Foul Drainage Strategy

Because of the topography of the site, it will be necessary to pump the foul sewage to an agreed point of connection.

The sewage pumping station will be in a suitable location to minimize impact on the proposed development and surrounding area.

5 Conclusion

5.1 Flood Risk

The site is at low risk of flooding from all sources.

The NPPF / PPG Sequential Test and Exception Test are not required.

5.2 Surface Water Drainage & SuDS

A Sustainable Drainage System will be used to manage surface water from the proposed development and will ensure that the development is safe from flooding for its lifetime, will not increase flood risk elsewhere. It will also reduce flood risk downstream and ensure that there is no impact on water quality in the downstream watercourses.

5.3 Foul Drainage

Foul sewage will be pumped to the existing foul sewerage network.