



SMART
LAND MANAGEMENT
& ECOLOGY

Mr R Oram, Manor Farm Allington

Catchment Impact Report

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08.04.2025

Version Number - 01

Introduction

This report has been produced to support the post-assent application for the installation of a sluice at the outflow of a water feature, created in the garden of Manor Farmhouse on the water course known as the River Gog, a headwater tributary of the Hampshire Avon.

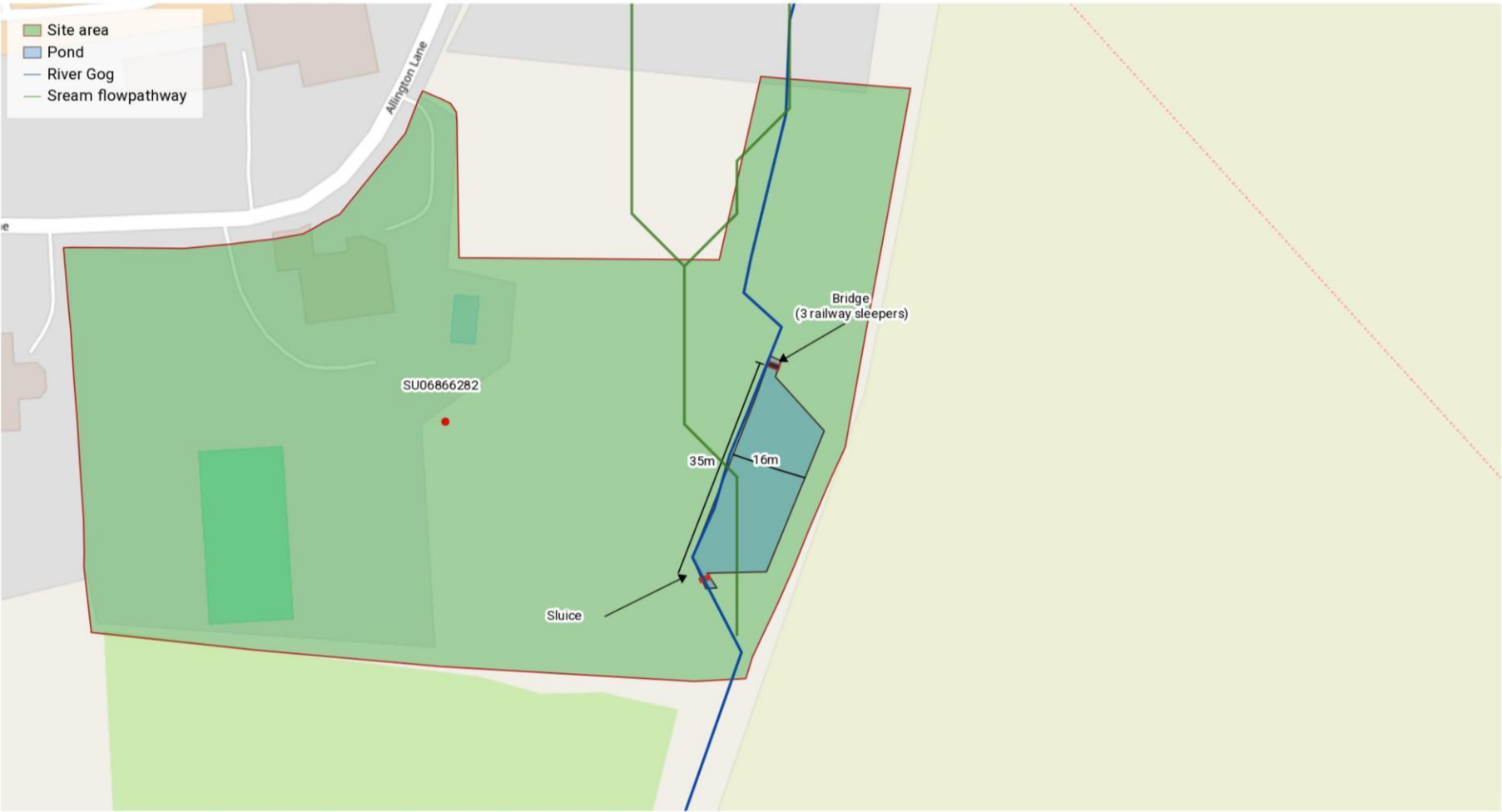
Site Description.

The site location (Figure 1) and associated water feature are within the garden of the homeowner, Mr. Richard Oram, who also owns the surrounding farmland (Figure 2) that comprises Manor Farm. This land includes the catchment area associated with the River Gog (Figure 3) and the land to the south of the site, including the riparian strip extending 200 m to the Kennet and Avon Canal. The River Gog flows along the eastern boundary of the garden, exits at the southern boundary, and continues through the farmland to the canal, where it passes via a culvert south of the canal.

The pond was created five years ago to serve as a natural water feature, and a sluice was installed three years ago. These are the only hydromorphic interventions made to the stream; the profile and route of the watercourse have not been altered.

A narrow band of woodland forms the boundary upstream of the pond. The River Gog initially flows along the western side of the garden and then forms its eastern boundary, continuing along the southern land parcel to the Kennet and Avon Canal. The river has a vegetated riparian strip with native trees and shrubs on both sides of the watercourse. To the east lies a large arable field, and to the south, improved permanent pasture extending to the Kennet and Avon Canal—all within the land ownership of Manor Farm. The watercourse flows relatively swiftly and currently lacks notable ecological features. The pond will enhance the ecological value of the watercourse by increasing its hydro-morphological diversity and creating habitat opportunities for amphibians and invertebrates.

Figure 1 *Site Location*



Produced on Land App, Apr 4, 2025.
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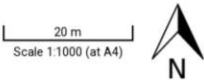
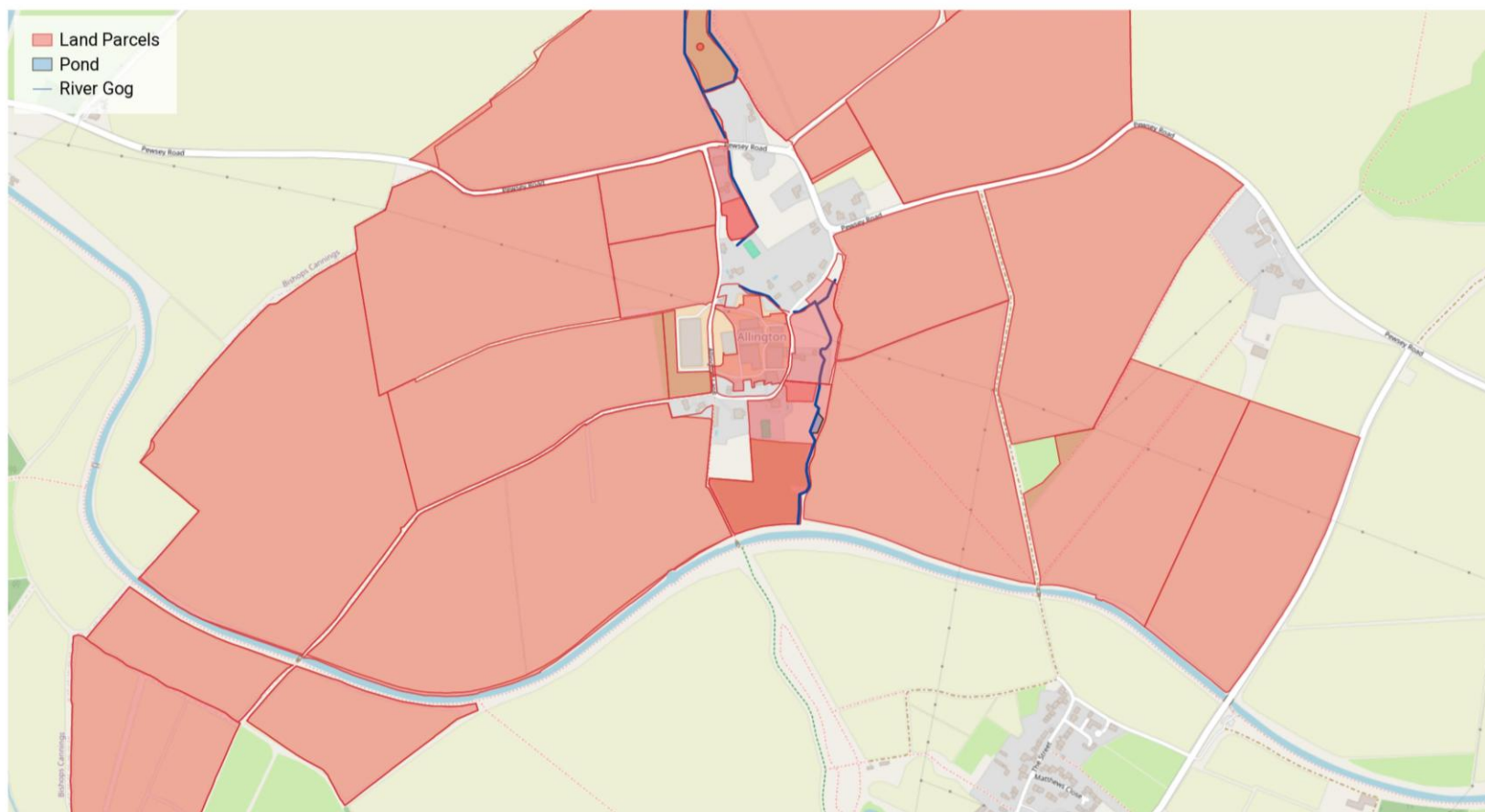


Figure 2 Manor Farm ownership, Land Parcels



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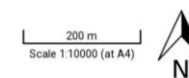
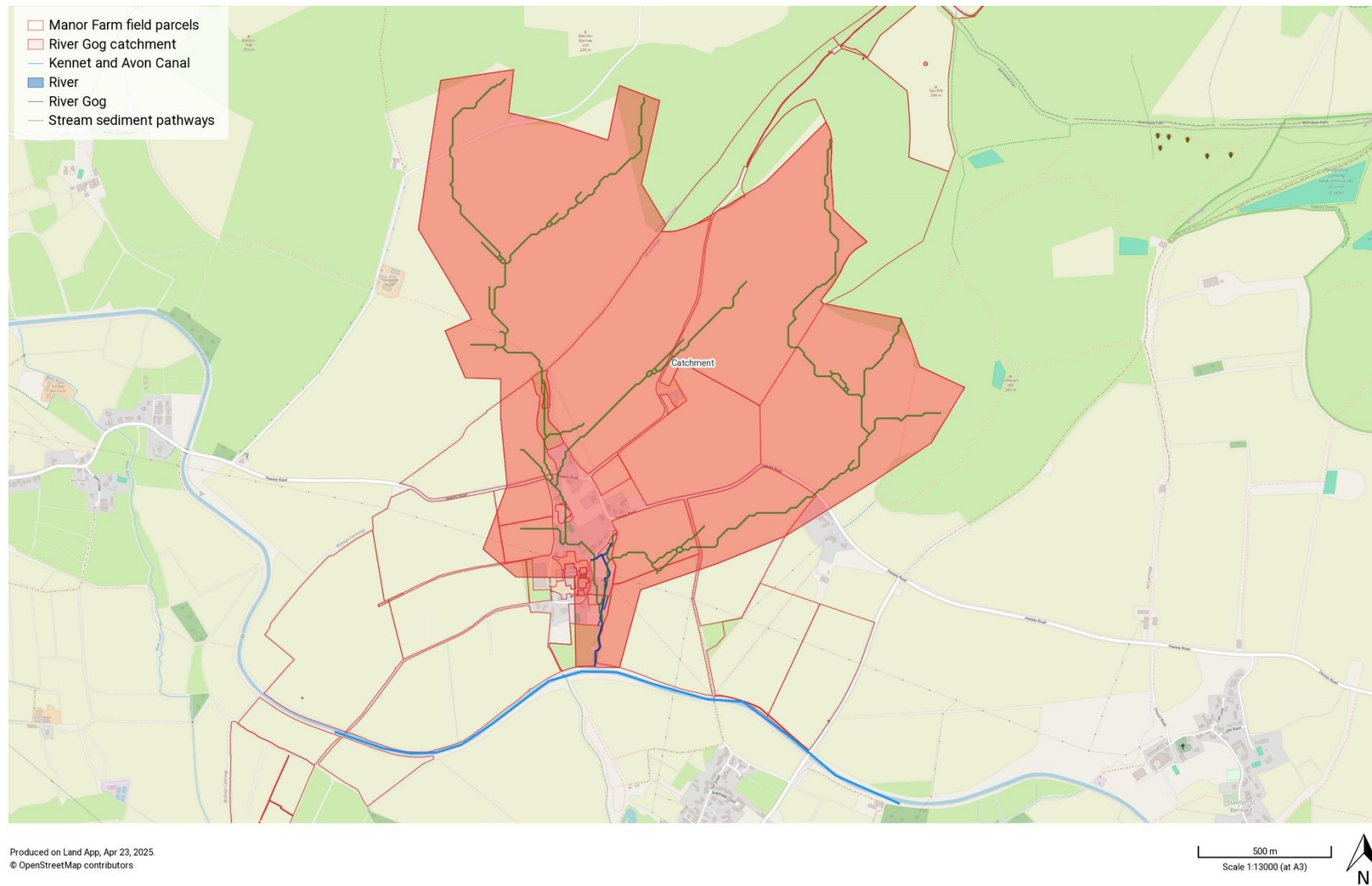


Figure 3 Holding and catchment map including sediment pathways (Scimap¹)



<https://scimap.org.uk/scimap-flood/>

Catchment and flood risk.

The River Gog catchment is approximately 260 hectares and lies entirely within the boundary of the Manor Farm Estate.

There was a relatively recent instance of flooding, which occurred on 6th January 2024 (a 1-in-100-year event), that provides insight into the effects of such events and the natural flow of water. The impact on the local area is most noticeable upstream, where the river flows under the road through a sedimented culvert (figure 5) and the excess water was diverted through the farmyard and river to the west of the culvert and through Mr Oram's garden.

Image 1 January 2024 flood event



Image 2 Culvert (figure 5)



Riparian and ecological considerations

There is unlikely to be any impact on the downstream ecology of the watercourse or the associated riparian strip. If the sluice is closed, the pond will reach a natural level before overflowing, allowing water to continue flowing south at a similar rate due to the natural gradient. The watercourse is bordered by riparian vegetation, is relatively narrow, and lacks hydromorphic features that would provide suitable habitat for flora and fauna. The main ecological interest lies in the riparian scrub and trees, which will not be affected by any changes to the water flow.

Current flow, flow rate and maximum flow rate

The current flow rate at the depth of normalised flow (depth 0.15m) based on a velocity of 0.75m/s is 0.09m³/s and if it reaches the top of the bank, that flow rate is 1.62 m³/s. There is a consistent fall of 0.5% (0.4m/100m) through the garden, down to the Kennet and Avon Canal. The pond dimension is 35m x 16m and the same depth as the water course at 1.2m deep, however, the sluice overtops at 0.9m. The pond volume, based on 0.9m has an attenuation of 504m³ and is likely to empty in 5 – 10 minutes if the sluice is fully opened but given that the sluice overtops at 0.9m its unlikely that it will influence the effects of storm events or flooding on adjacent land holdings.

Figure 4 Upstream and downstream River Gog profile.

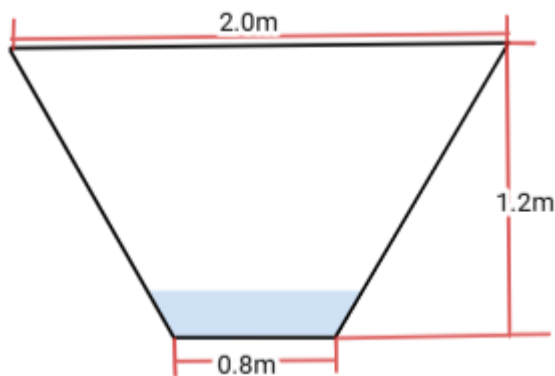


Image 3 Upstream profile



Image 4 Downstream profile



Exceedance

The Environment Agency 'Alert' Map² (figure 5) and sediment flow path (figure 6 (Scimap)) illustrate that the catchment pathways follow the natural contours of the adjacent land south of the site and the surrounding land owned by Mr Oram, therefore there will be not impacts on third party land or property. The fall of the garden and adjacent land means that any excess water will be directed to the natural unimpeded route of the watercourse, and the sluice will not be a contributing factor and affect third-party land.

Figure 5 Exceedance map

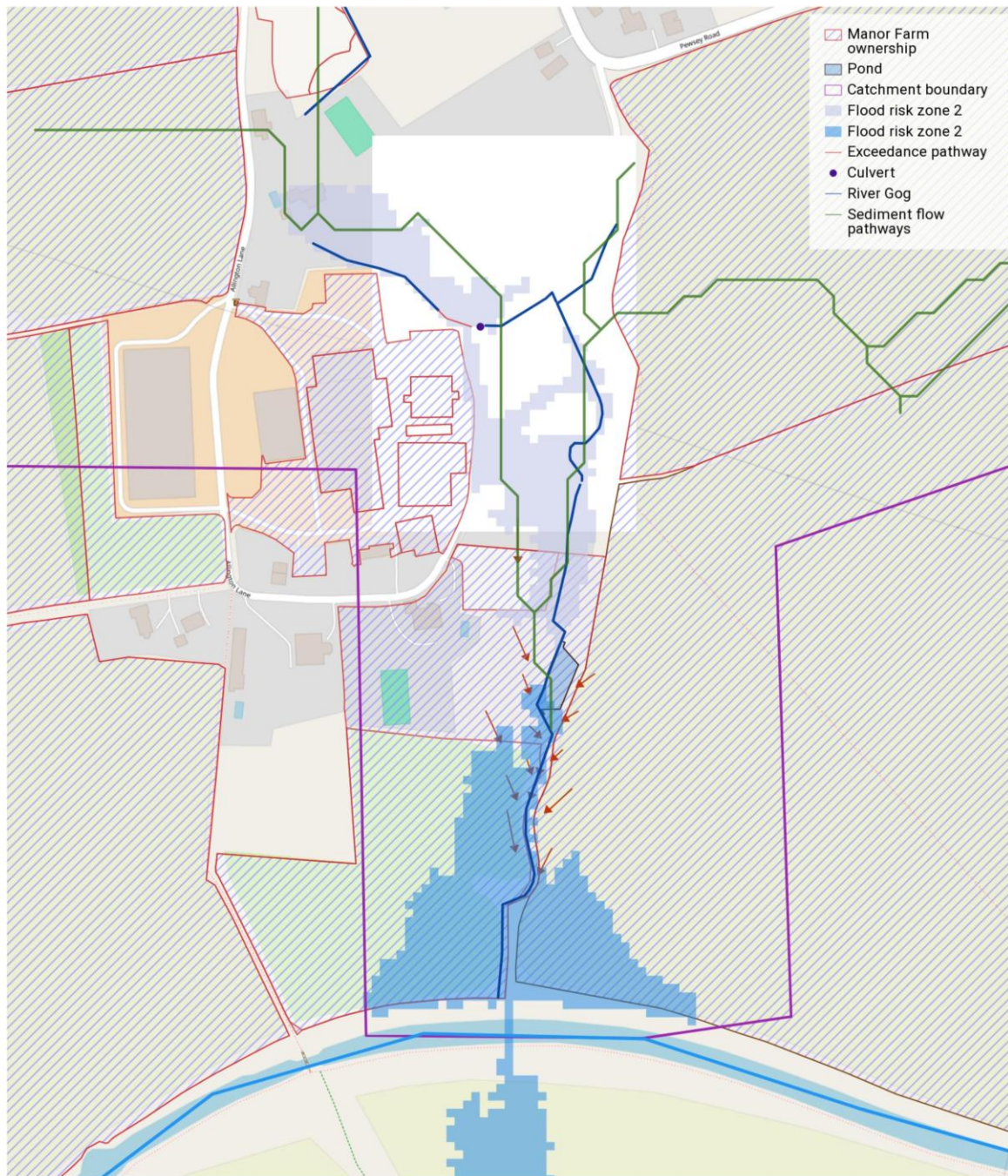


Figure 6 Pond perimeter levels



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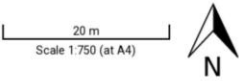
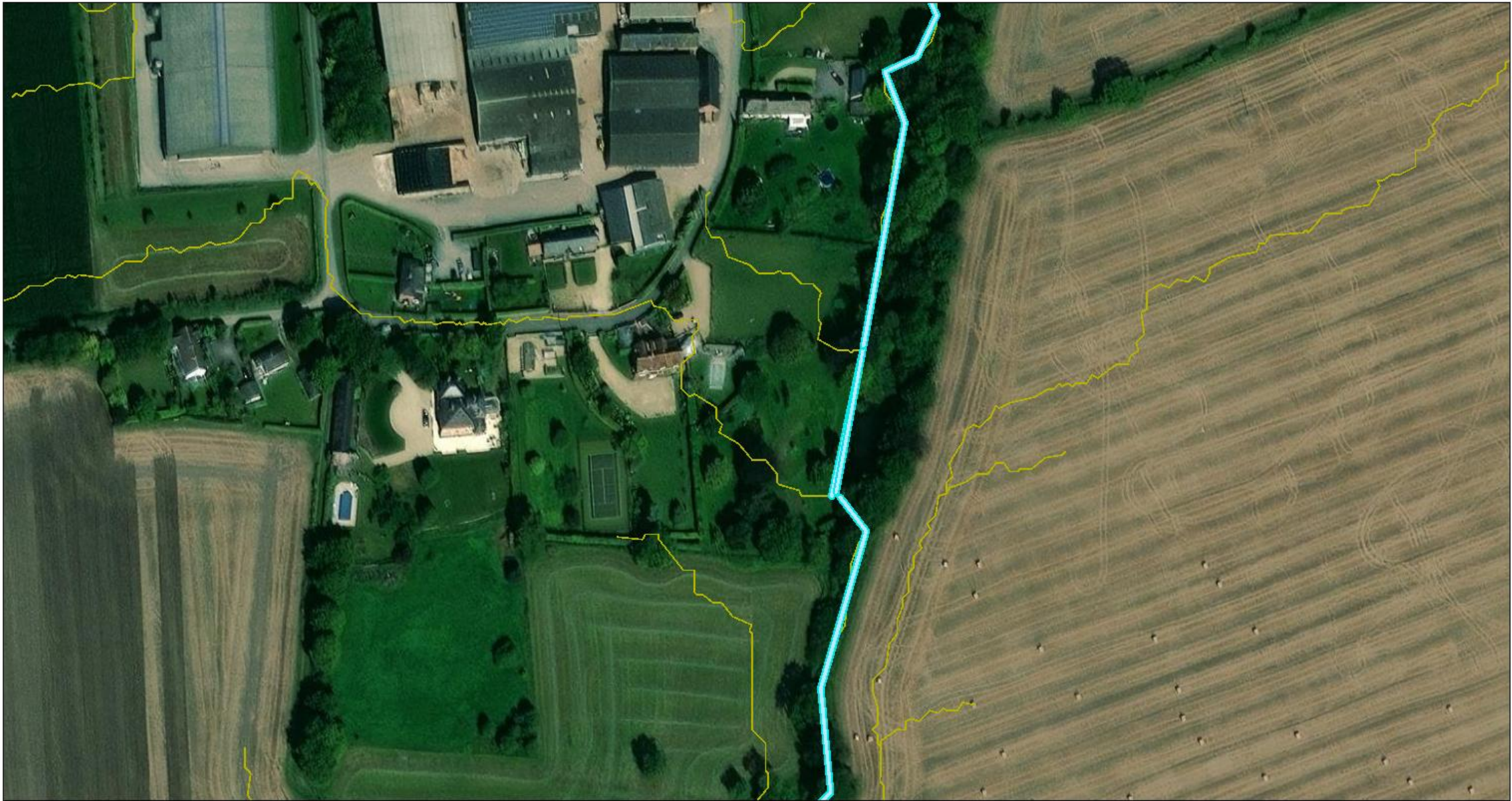


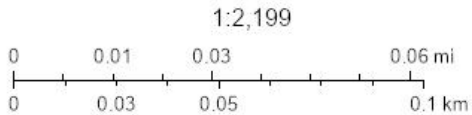
Figure 7 Environment Agency 'Alert Map'², overland flow pathways

ALERT map



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- Permanent Water - OS Open Local
- Probable Overland Flow Pathways
- 0 to 3 degrees mean slope
- World Hillshade



Maxar, Microsoft, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, ©

© Environment Agency; Ordnance Survey Open Local Water layer:© Crown Copyright and Database Rights 2023 AC0000807064; Arable Land use layer: © Rural Payments Agency; Soil data: © Cranfield University and for the Controller of HMSO, 2011

²[EA Alert Map](#)

Engineering works

The sluice (figure 4 & image 5) was installed three years ago and is designed to overflow when the water level exceeds 0.9m. When the gate is opened the pond discharges in 10 minutes and is unlikely to impact the flow of the Gog during intense storm events.

Figure 8 Sluice (not to scale)

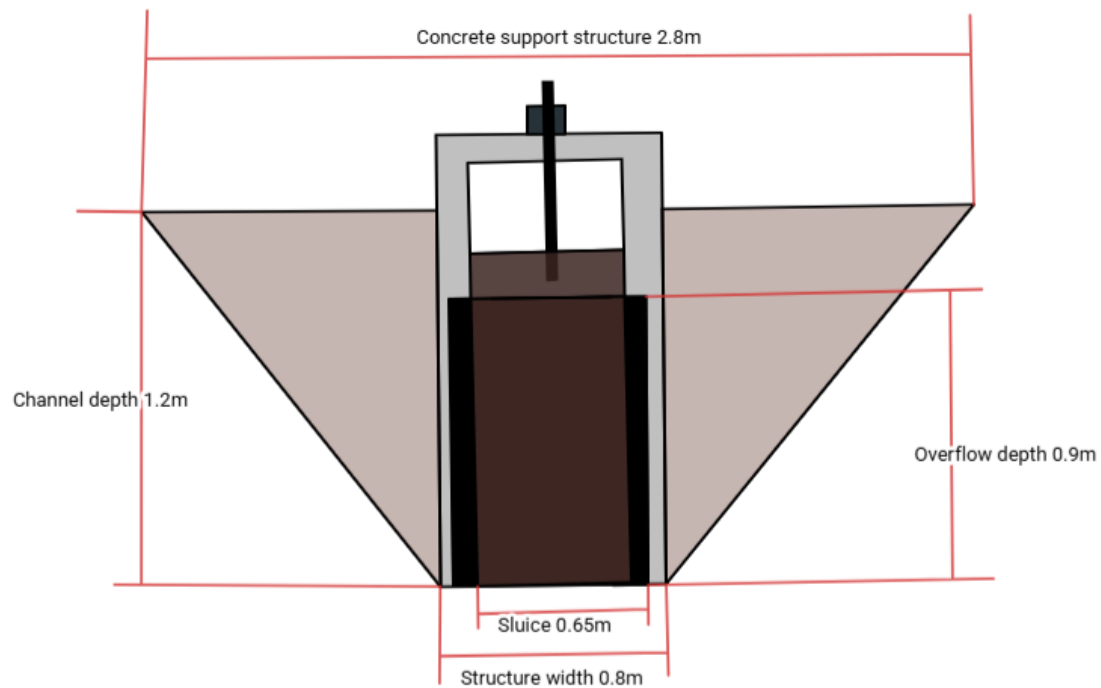


Image 5 Sluice

