

Gooseum Rhyne Flood Defence

The Gooseum Rhyne flood defence, located in Millennium Green, Congresbury, is currently classified as a reservoir under the Reservoirs Act 1975. This is due to the volume of flood water it can hold above natural ground and because of this, the Environment Agency has a legal responsibility to ensure the continued safety of its embankments and water control structures.

Following an inspection of the reservoir, several areas of improvement were identified under the Act, which would need to be completed by a legal deadline of September 2026.

We have been consulting you on our proposals for this work and you've let us know that you're not happy with the impact these proposals would have on the Millennium Green.

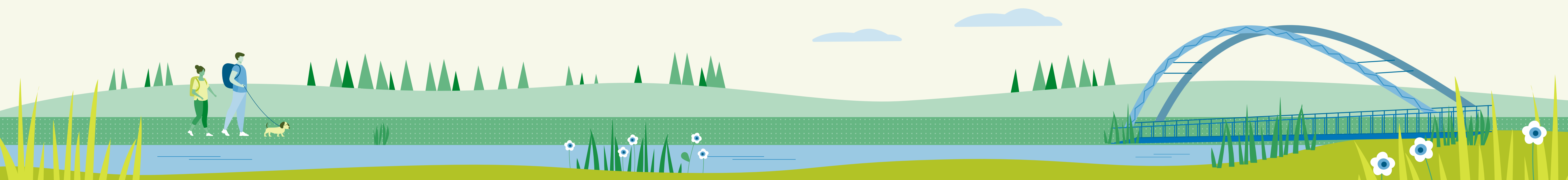
Because of this, we've been exploring alternative approaches that would avoid much of the impact to the community and which could still be achieved in the legal time frame.

We're pleased to say we have found one.

We have established that the reservoir can be de-regulated, meaning the area would no longer be subject to the same regulations. This will remove the need for the substantial works previously proposed, whilst still maintaining the same level of flood protection.



Millennium Green – December 2023, courtesy of Phil Willis



De-regulating the reservoir

To de-regulate the reservoir, we've had to develop a solution whereby the area would not be able to store enough water to be classed as a 'large raised reservoir'. We also had to make sure we wouldn't create other problems such as reducing the existing standard of defence or increasing flood risk to other areas.

We will be lowering a section of the current Congresbury Yeo embankment, just outside the southwest corner of the Green. This means that the water would drain more quickly, and the area would no longer be able to hold the required amount of water to class it as a reservoir.

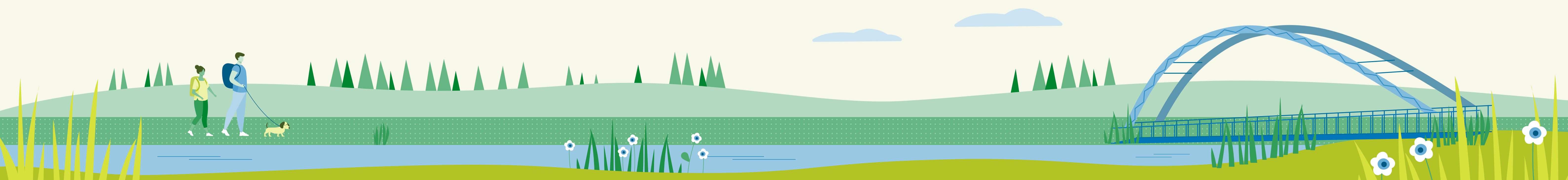
We also plan to improve the footpath that runs next to the basketball court, and install maintenance access gates on the crest of the northern embankment. These items are still in the design phase.

Benefits:

- No tree removal
- No loss of area within the Millennium Green
- A reduced construction programme from 18 months to 4 weeks.



Work location map



How the defence will operate

Currently, when water levels in the River Yeo rise enough to spill into the fields, the reservoir will begin to fill up. When water levels in the river drop, water will gradually flow back into the river through the culvert near the basketball court.

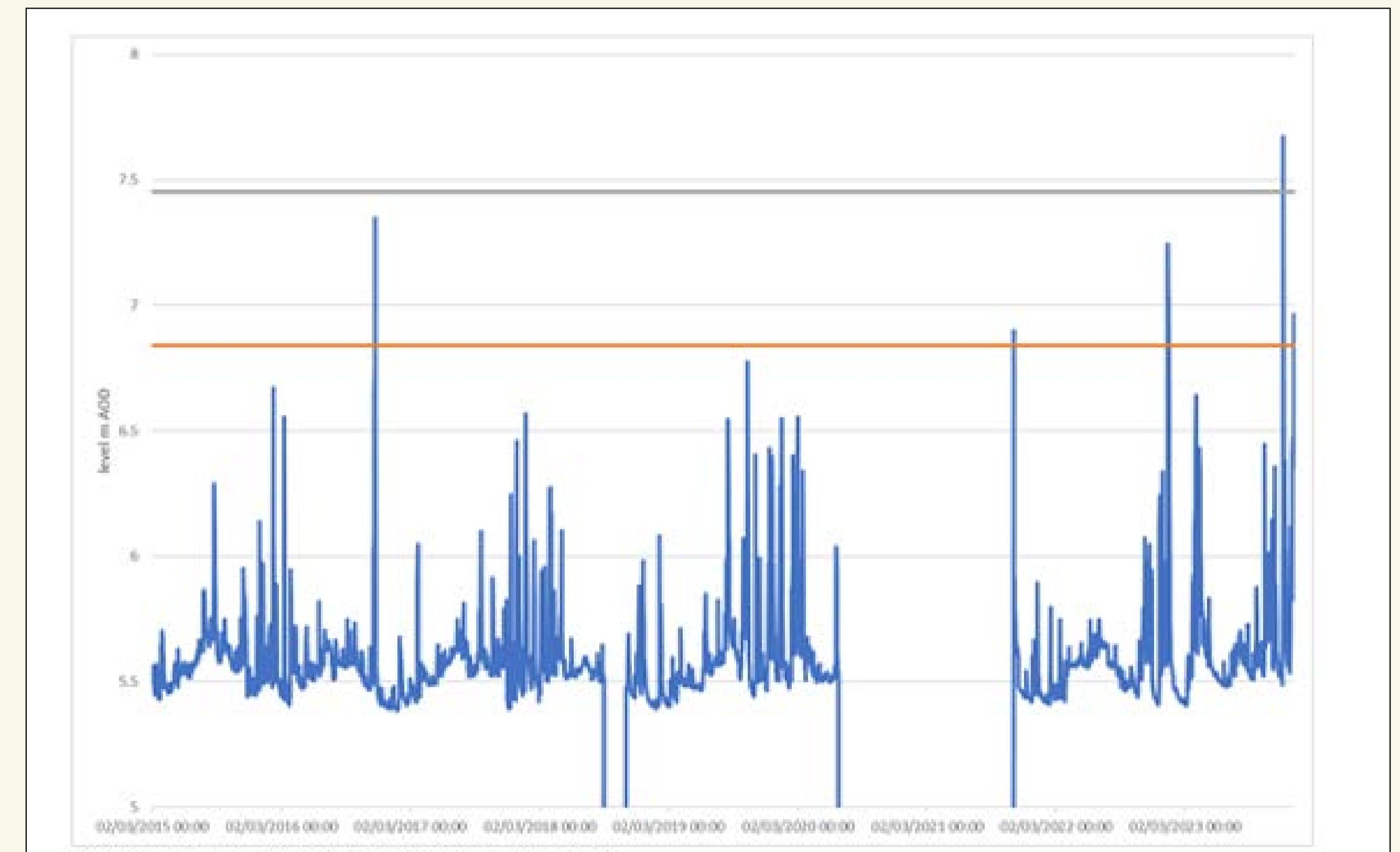
Once de-regulated, the flood defence will work in much the same way; however, water will flow back into the river faster from the floodplain, so that less than 10,000m³ of water would be stored.

The current threshold for reservoir designation is 25,000m³, but in a few years this is likely to be reduced to 10,000m³ and so we are future-proofing our works.

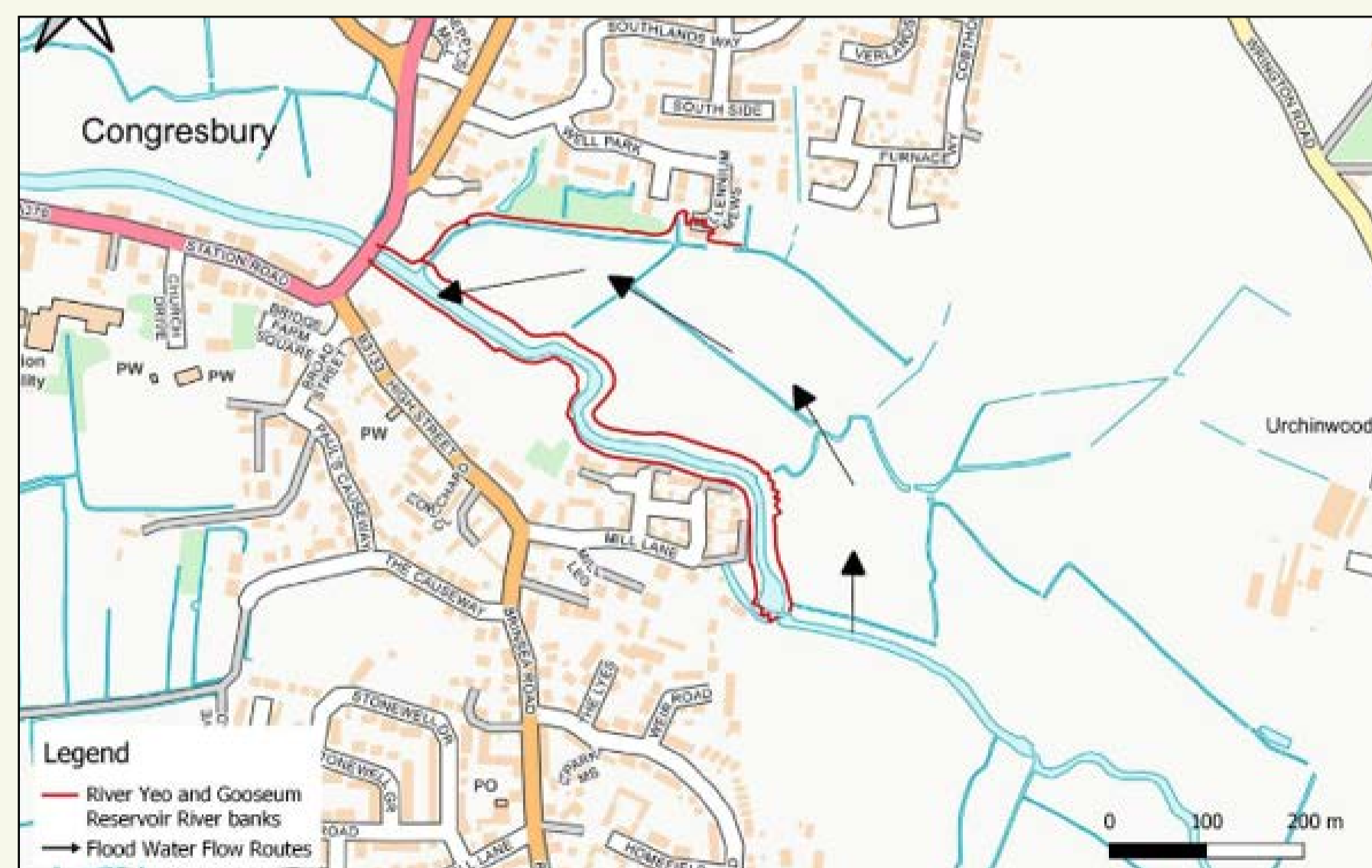
When the area is declassified as a reservoir, the embankments will be treated as normal flood defence assets. They will be inspected and maintained by the Environment Agency Field Team in line with our standard flood defence practice.

In the adjacent Congresbury gauge record image, the grey line shows when water has over-topped the current embankment. The orange line shows how often water would have over-topped if the bank was lowered as we propose. When river levels drop, the water will drain back into the river via the spillway.

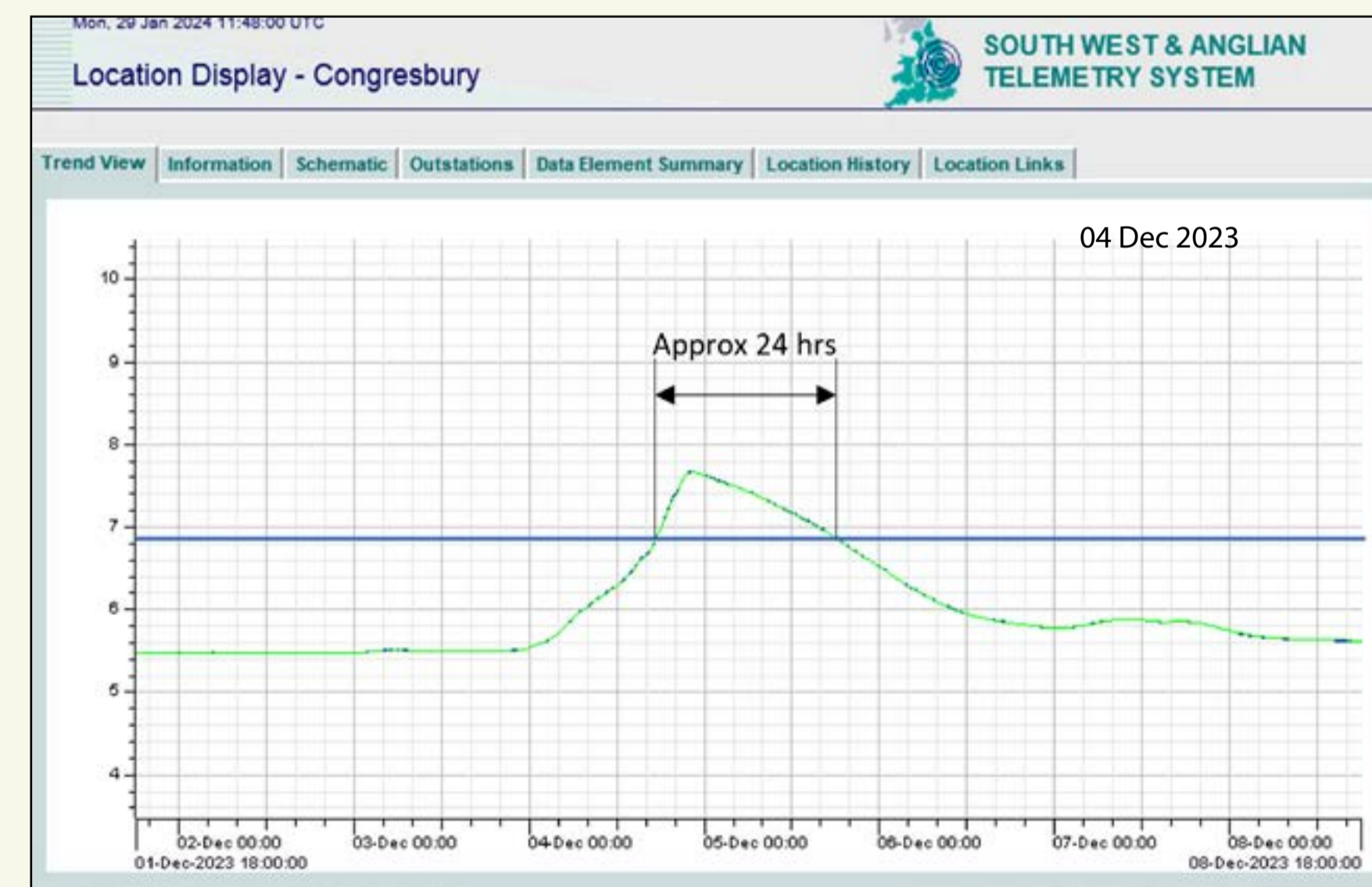
The graphs on the right show the duration the banks would have been inundated for during two recent events if they had been lowered to the proposed level.



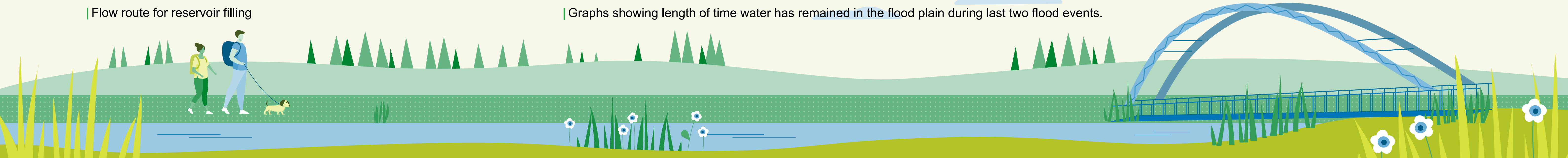
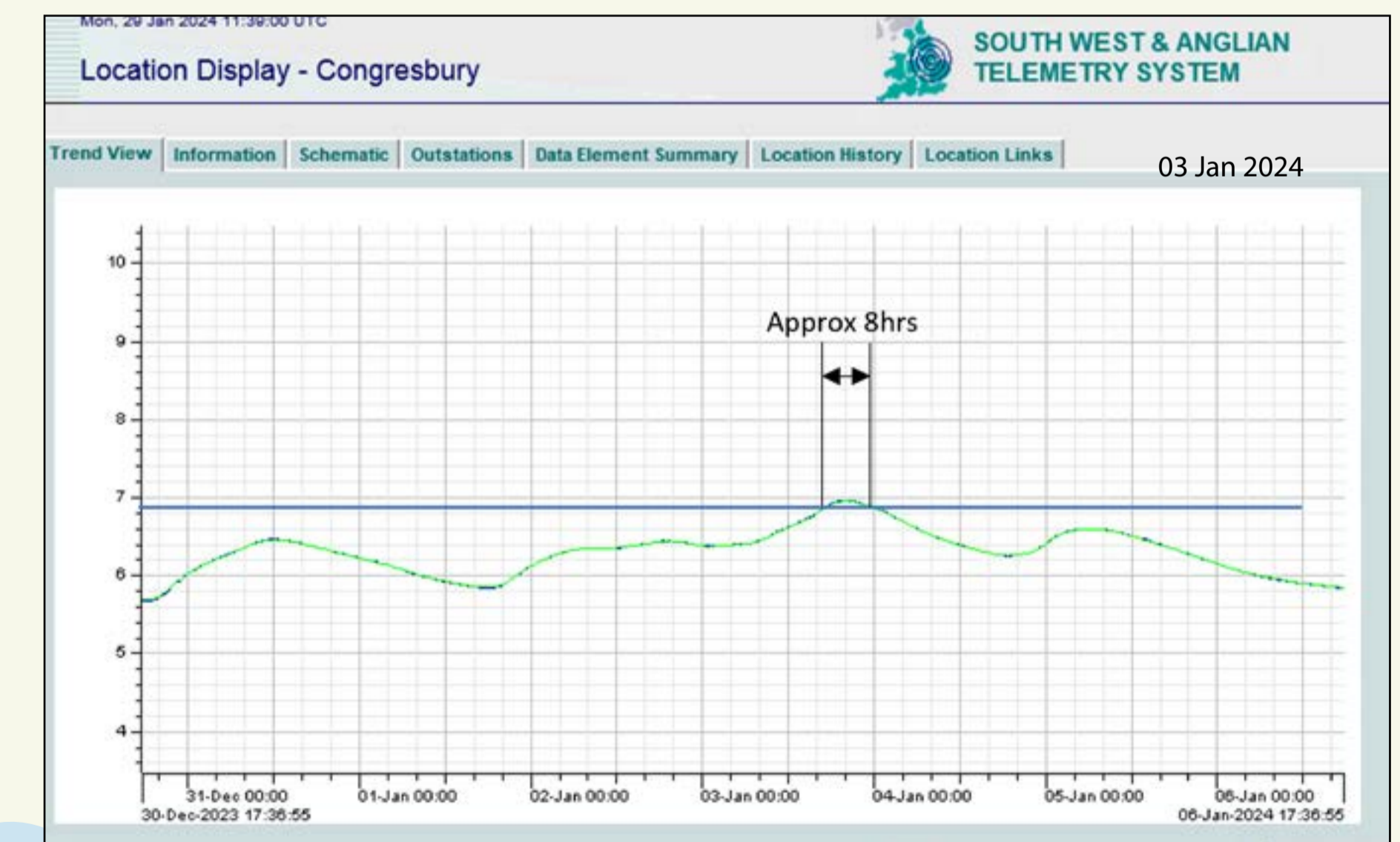
Congresbury Gauge Record



Flow route for reservoir filling



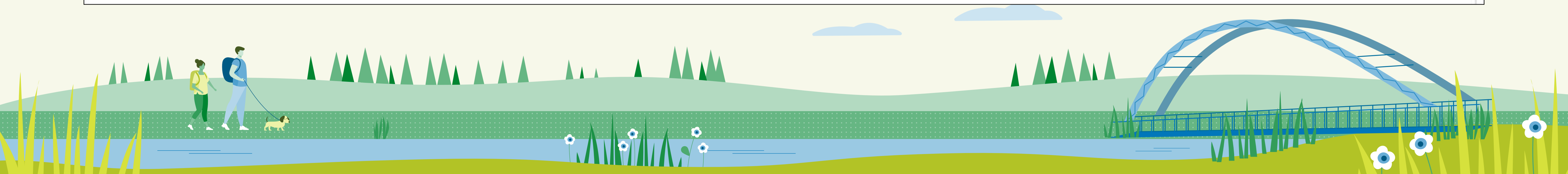
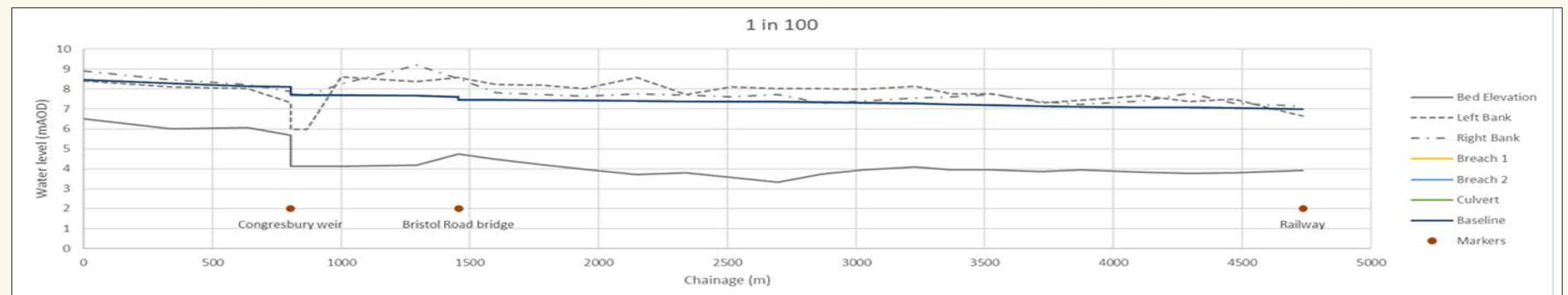
Graphs showing length of time water has remained in the flood plain during last two flood events.



Flood Risk Check along the Congresbury Yeo

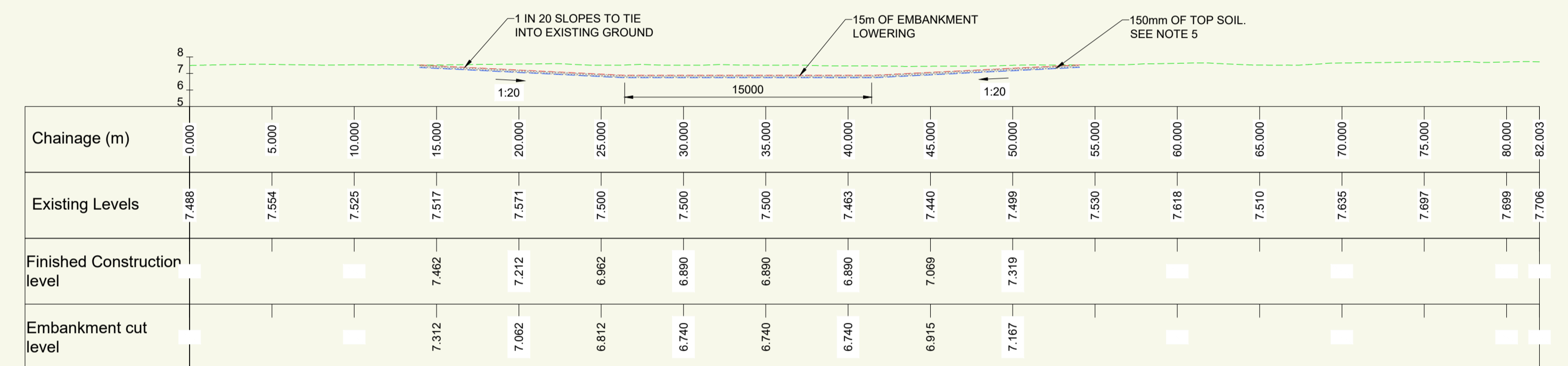
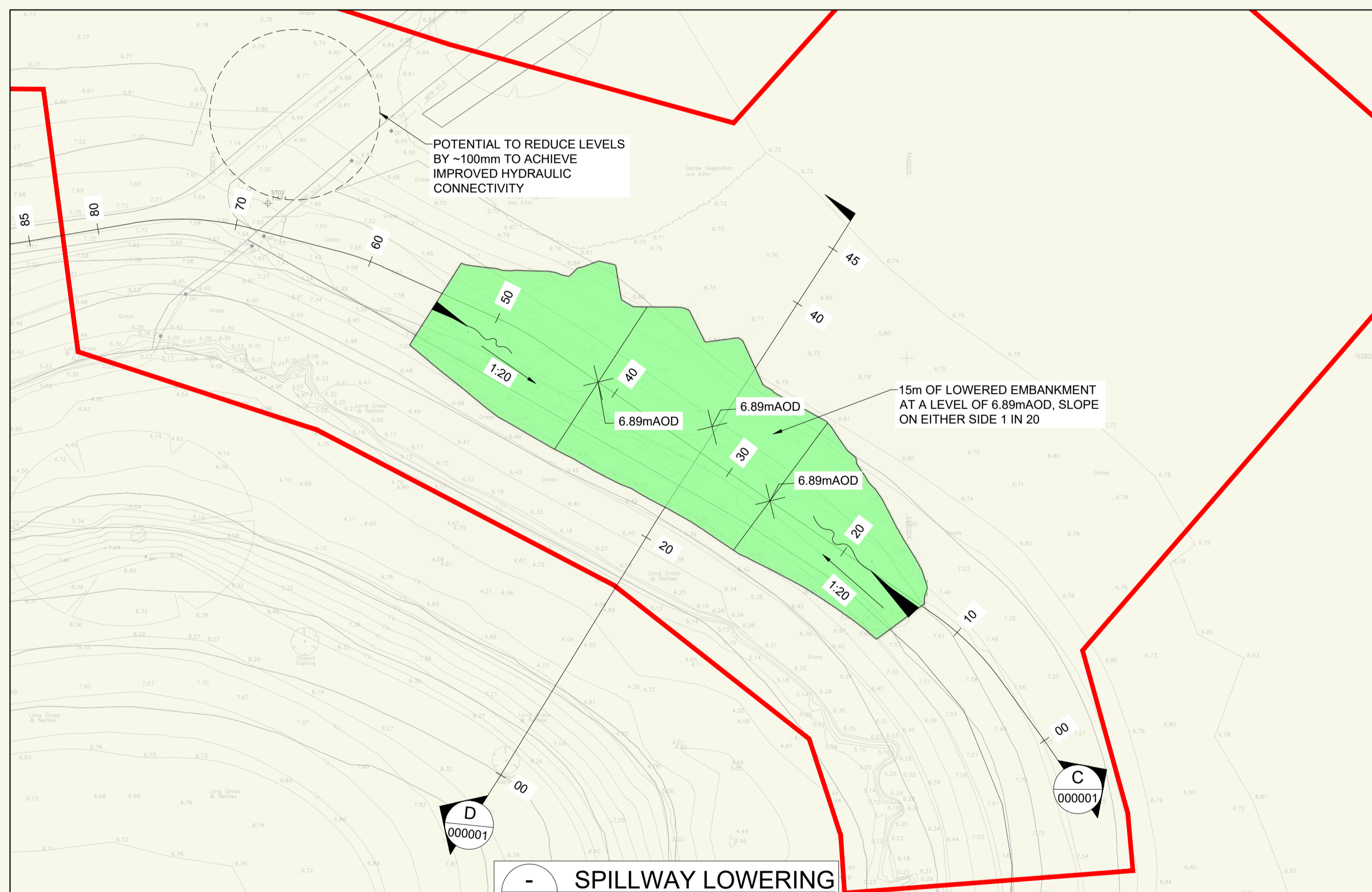
We are carrying out hydraulic modelling to look at the detail of any change in flood risk downstream from the bank lowering.

The long section below is taken from the viability report and shows no difference between the existing river levels and flood river levels for an extreme event.

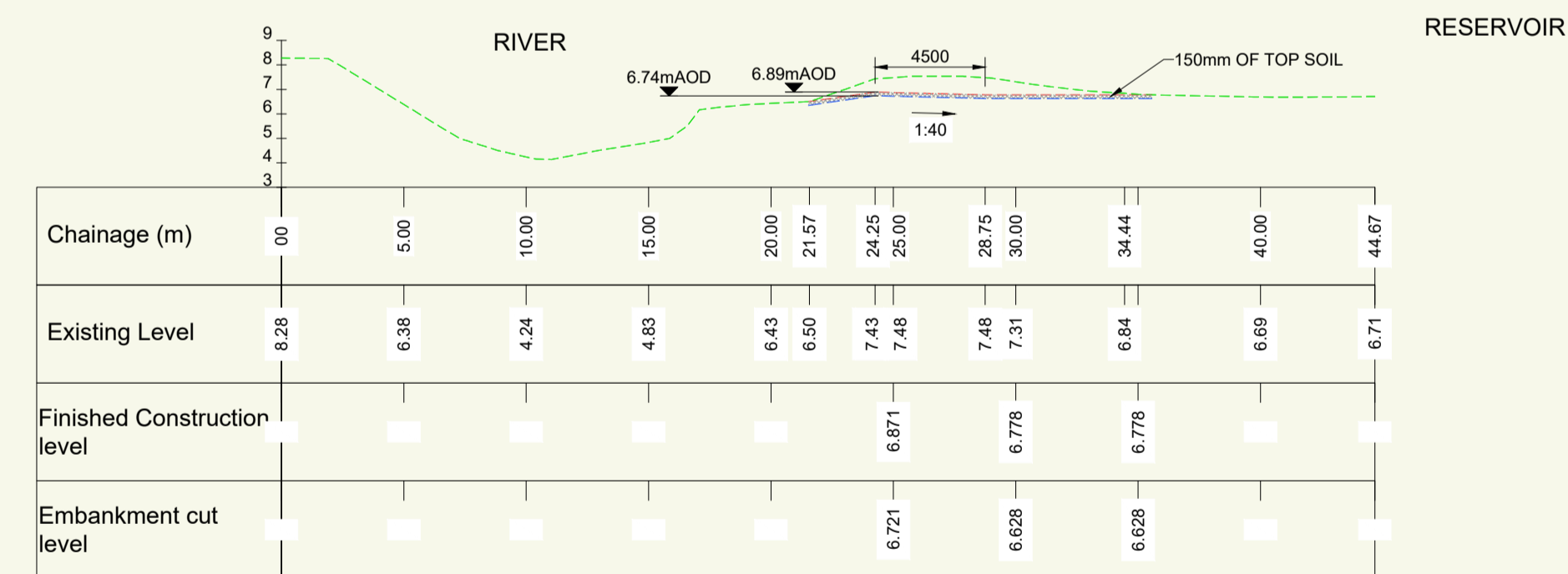


Spillway lowering

The embankment will be lowered by approximately 60cm, for a length of around 15-20 metres, allowing better connectivity between any impounded water in the Millennium Green and the river.

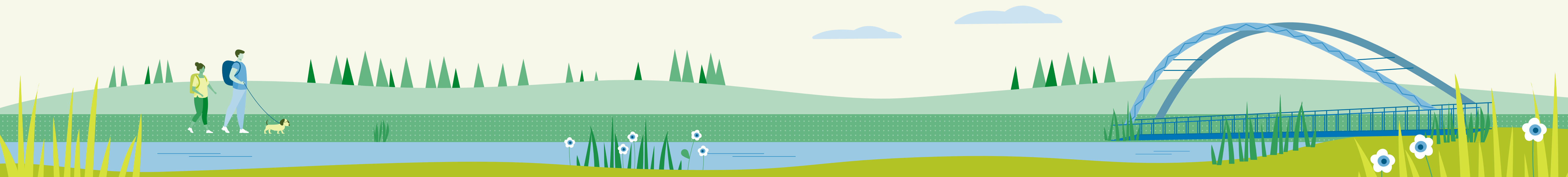


C LONG SECTION
SCALE 1:200



D TYPICAL CROSS SECTION OF EMBANKMENT LOWERING
SCALE 1:200

- LEGEND:**
- EXISTING PROFILE
 - FINISHED CONSTRUCTION LEVEL
 - EMBANKMENT CUT LEVEL
 - SITE BOUNDARY
 - AREA OF PROPOSED LOWERING



Construction

Our construction methodology is still being developed and will be shared at our start of work public drop-in session.

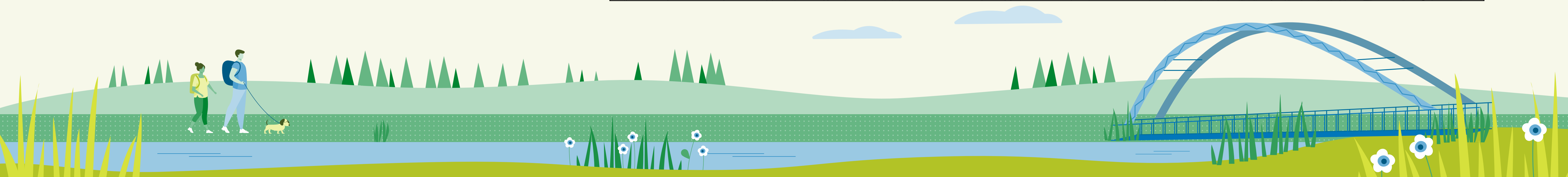
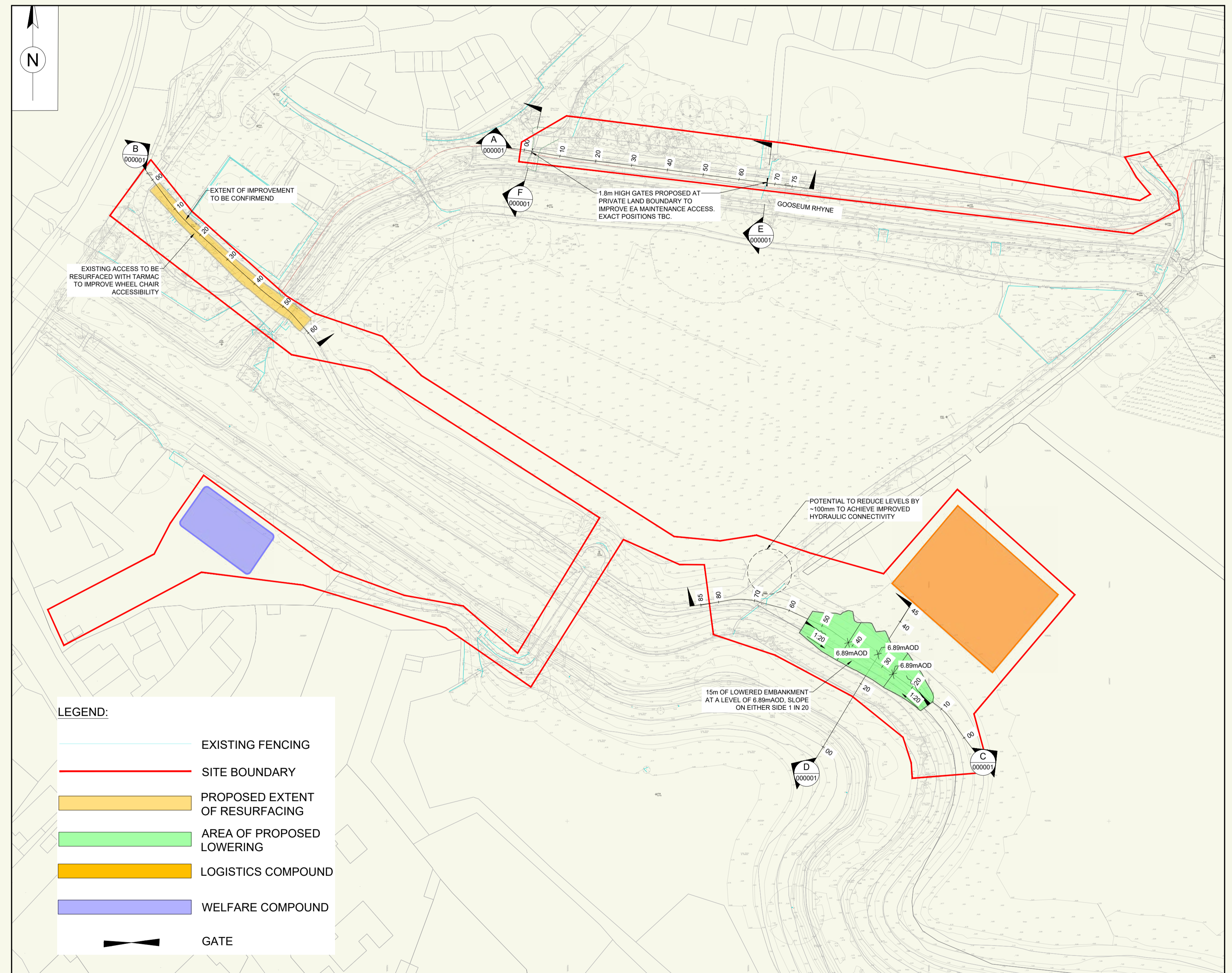
We are working hard to try and get this work carried in summer 2024, although the statutory deadline for addressing the reservoir issues is still September 2026.

Construction is due to last for approximately four weeks. The proposed location for the logistics compound will be adjacent to the spillway works area, with a welfare compound on the other side of the river (see map).

We will maintain access to sections of the Green during the work, although we will need to install a temporary public right of way diversion, the details of which are still to be developed and again, will be shared at the start of works event.

All of work will be carried out under our Permitted Development Rights, meaning no planning application is required.

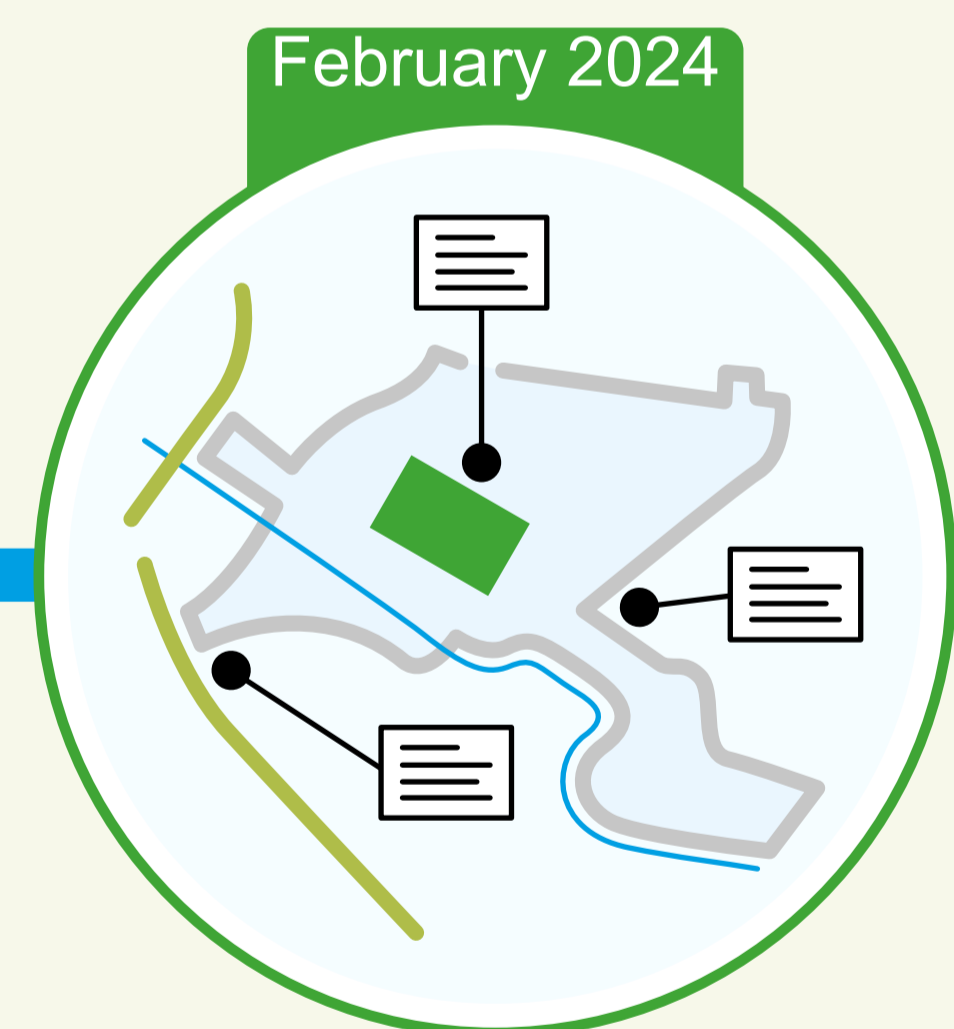
There are two other minor projects planned by the Environment Agency in the area this year. These are the weir improvement works and the badger damage reconstruction works. We are in contact with both teams for these works and we will ensure coordination of our movements and interaction with the community.



Next Steps

Thank you for taking the time to come and look at our proposals, we'd love to hear your thoughts and comments.

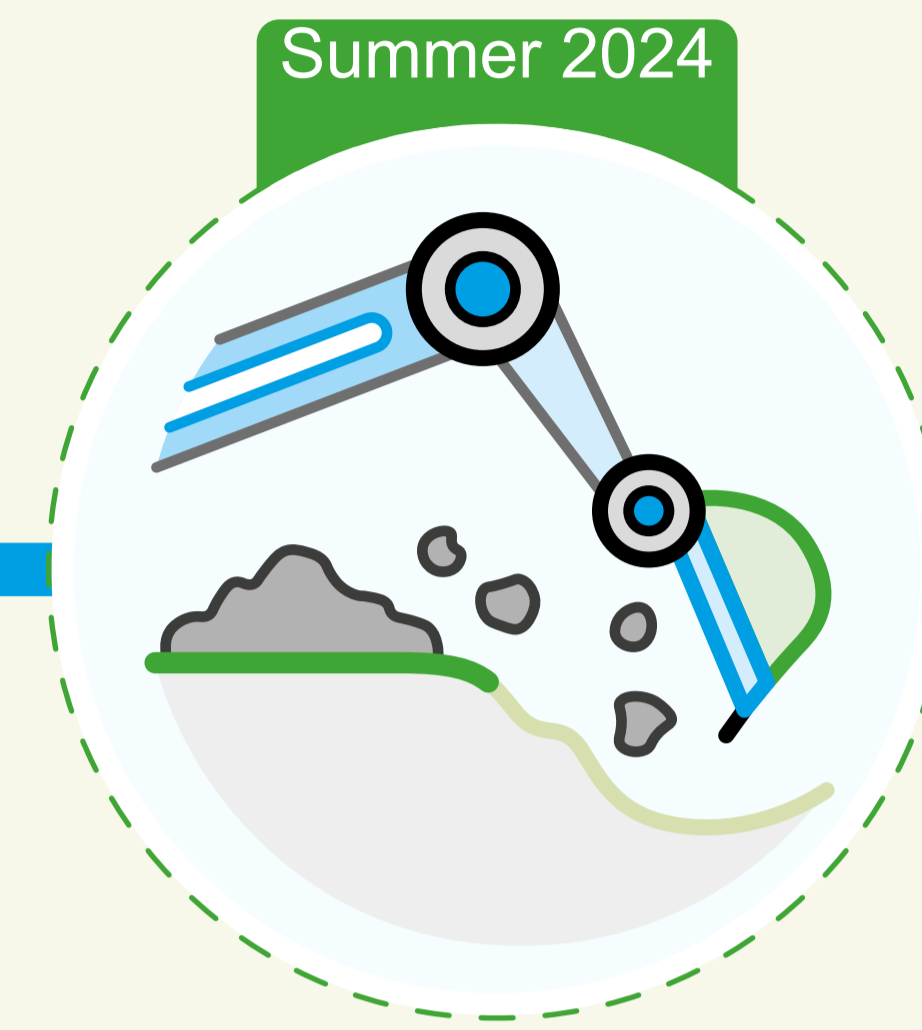
Feedback forms are available in the room. If you'd like an electronic copy of the form, please either give your email address to a project team member, or email our scheme inbox, and one will be sent to you.



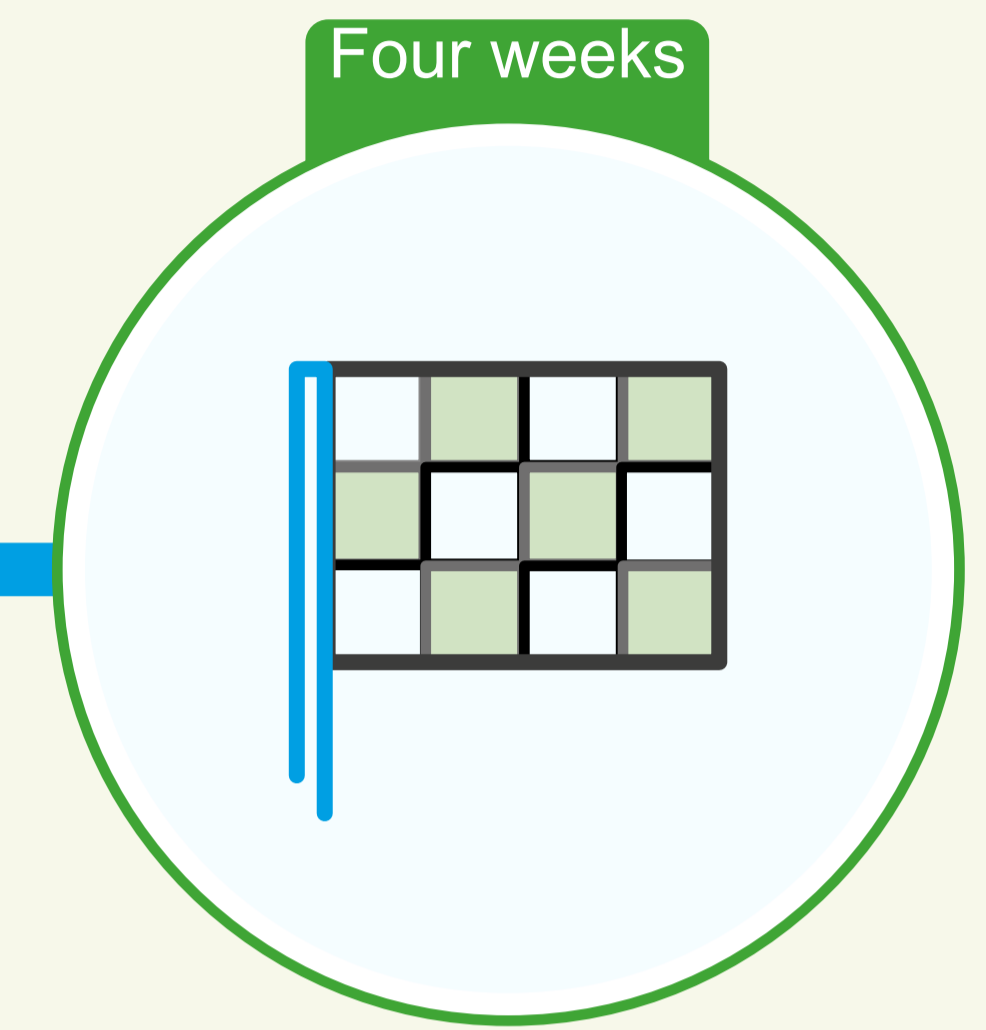
Public drop-in event to share proposals for de-regulating the reservoir



Start of works public information event






Construction start



Construction end

How to contact us:

-  gooseumreservoir@environment-agency.gov.uk
-  03708 506 506
-  <https://consult.environment-agency.gov.uk/wessex/gooseum-rhyme-reservoir-improvement-scheme/>

