

# Dacre Banks, Culvert Investigation

## Site Background

The council was made aware of flooding of residential gardens and the highway in the vicinity of Grange Lane. Grange Lane is currently an unadopted highway and therefore not maintained by the Highways Authority. At present, the LLFA (Lead Local Flood Authority) is not aware of any internal flooding. There is an open watercourse that becomes culverted from the North of School Lane, beneath Grange Lane, travelling east through Dacre Banks becoming an open channel in the fields behind the properties on Grange Road. It is currently understood that this culvert may be contributing to the flooding observed in the area.

The LLFA looked at Historic Maps that are freely available at <https://maps.nls.uk/>. The Yorkshire Map sheet 136, published 1854 is the most recent map that shows the open watercourse. Screenshots of the historic maps can be found in Appendix 1. This historic mapping indicates the watercourse in question is a tributary of the River Nidd.

The council agreed to undertake a survey of the culvert to identify any possible blockages within the culvert and pass this information on to the local Parish Council.

## Site investigation

North Yorkshire Council Highways Officers undertook a site visit on 15th July 2024. The officers originally attempted to access the culvert within the inspection point between “The Alamo” property and Grange Lane (red circle on Map 1). From here it was identified via camera survey that the culvert is an old stone culvert, the camera did not get far downstream into the culvert, as there was a culvert stone that was partially blocking the path. Whilst there is a dislodged culvert stone, the flow of water is not significantly impeded. It was noted that the base of the culvert was uneven, making camera progress difficult.

The officers moved to the next culvert access point, which is located within the grounds of “Railway Cottage” (red square on Map 1). This access point is larger than the first, unfortunately the lid and frame of the culvert access point was firmly stuck, and after many attempts to gain access, it remained resolutely stuck. Future access to the culvert at this point would be beneficial. It was also noted, the assumed route of the culvert passes in close proximity to a willow tree (Appendix 2 taken from Google Street View). Tree routes could further be destabilising and blocking the culvert, however, as the nearest culvert access point is sealed, it is currently not possible to prove this.

The third access point is where the watercourse briefly becomes an open channel near Grange Road and Church View (red triangle on Map 1). At this point the officers attempted

to camera survey the culvert upstream, unfortunately the camera did not progress far due to the flow of the watercourse and the extremely uneven base of the culvert.

The officers then went back to the inspection point on Grange Lane (red circle on Map 1) and carried out a dye test. The dye test emerged to the east of Dacre Banks, in an open channel (red star on Map 1) after a prolonged period. This is an indication that the culvert does have a flow to it, however, it was fairly slow. The officers also noticed that the condition of the watercourse at this point was in a state of disrepair and required maintenance. This may also be limiting onward flows of the watercourse and should be maintained by the riparian owner.

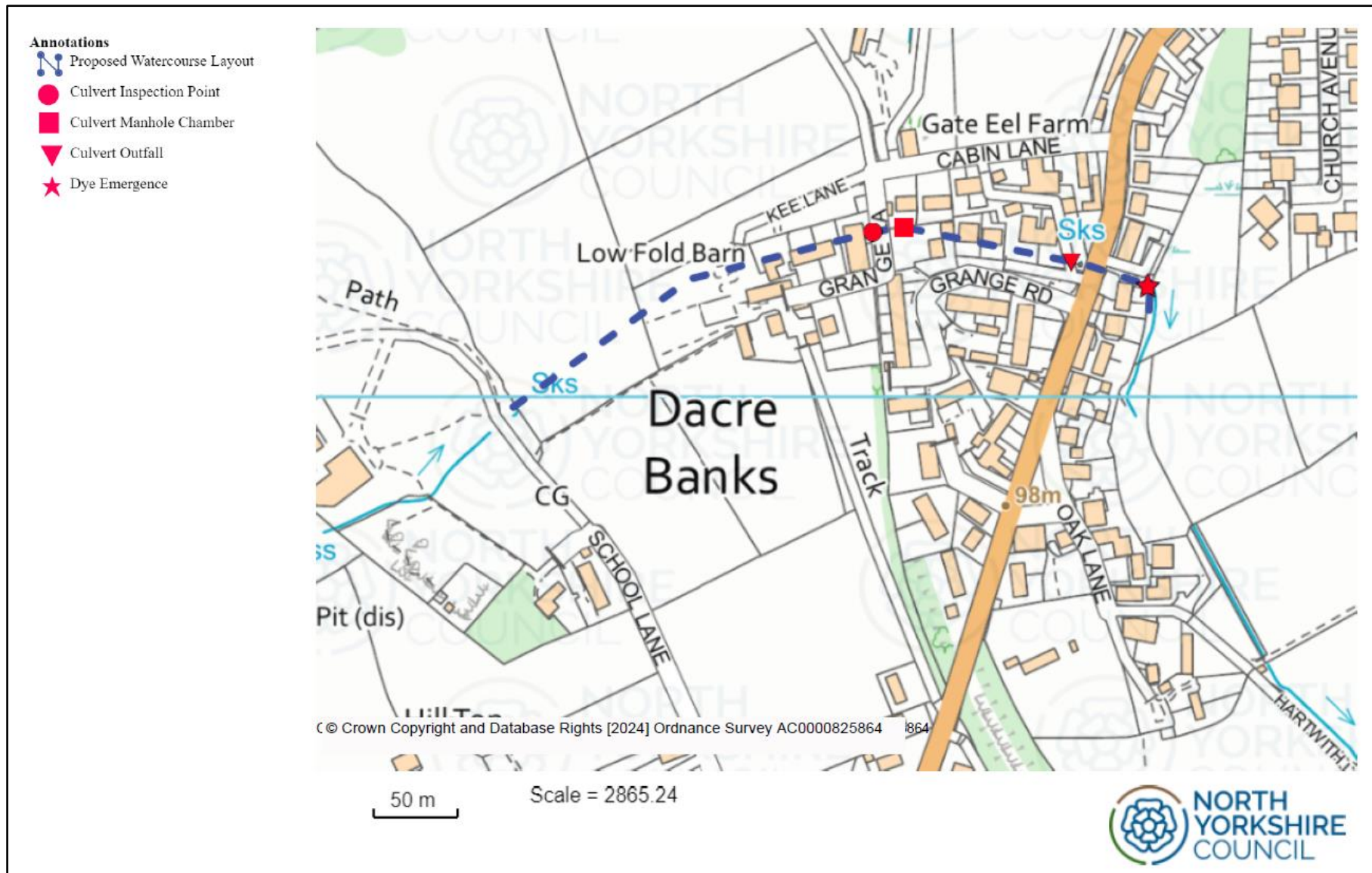
## **Conclusions**

The culverted watercourse is currently freely flowing, however, some of the stones that have become dislodged, and the presence of tree roots may be restricting flows in more intense rainfall events.

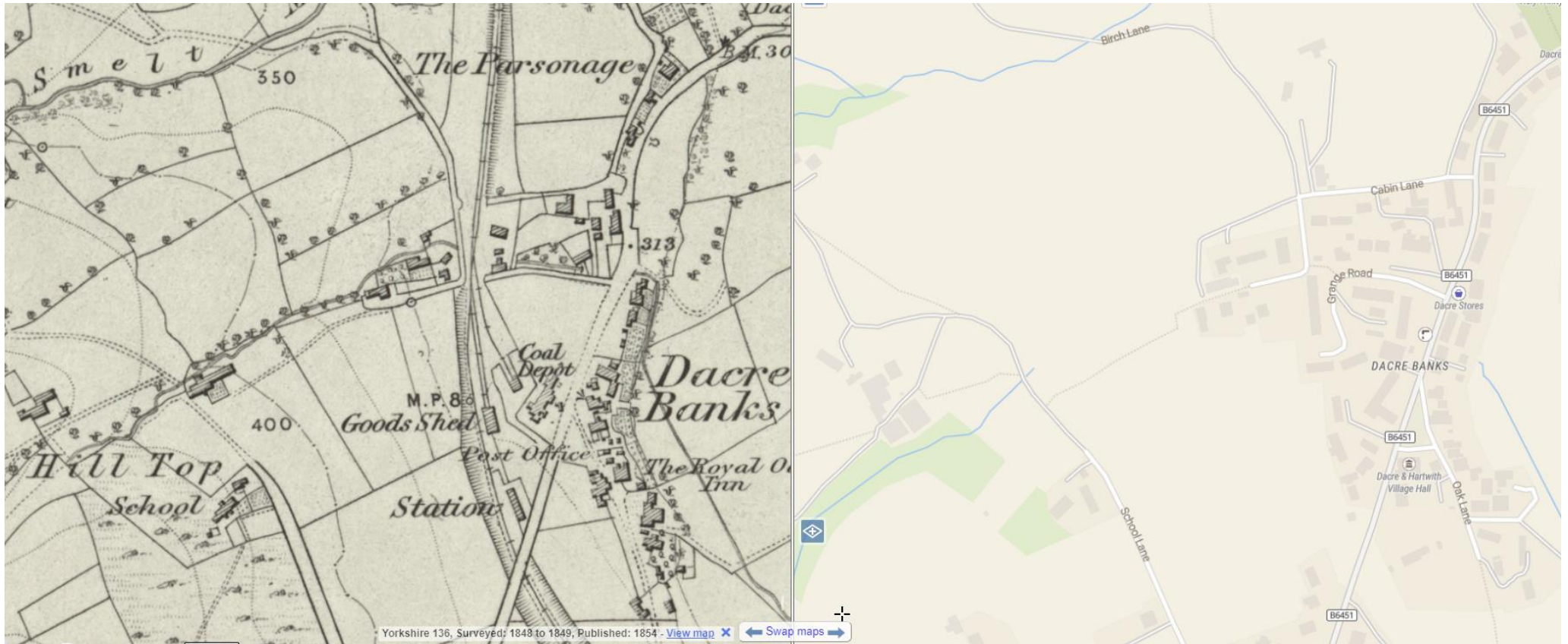
Gaining access to the culvert at the access point within Railway Cottage grounds would be beneficial to further understanding the state of the culvert.

Watercourses are maintained by riparian owners, who have certain responsibilities. A riparian owner is someone who owns the land a watercourse runs through, or whose land abuts a watercourse. Further information can be found within the attached guide "Riparian Ownership basic guide to owning and managing a watercourse".

**Map 1: Suggested location of culverted watercourse from Grange Lane in Dacre Banks**



## Appendix 1: Historical Maps of watercourse



Appendix 1a Side by side comparison of 1854 map and current day map.



## Appendix 1: Historical Maps of watercourse



Appendix 1b Highlighted path of watercourse on 1854 map

## Appendix 1: Historical Maps of watercourse



Appendix 1c Watercourse from 1854 transposed onto satellite map of Dacre Banks



## Appendix 2: Google Street View of Willow Tree

