

Feeder Pipe Bridge

OTTER SURVEY REPORT

August 2021



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Feeder Pipe Bridge
 Otter Survey Report

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GC3880-RED-74-XX-DR-C-0004 -Otter Survey Target Notes

Non-Technical Summary

Site Location	Central Grid Reference for Feeder Pipe Bridge: ST 09208 95484
Proposed Development	Construction of a new bridge crossing at or near the location of the recently demolished Feeder Pipe Bridge, to include associated repairs to abutments /walls and linking infrastructure to facilitate public access to the crossing.
Dates of survey and names of surveyors	Survey carried out on the 16 th October 2020 by Trevor Fletcher (Ecologist) and Rebecca Howells (Graduate Ecologist)
Overview of Results	- The desktop study returned evidence of otter within 300 m of Feeder Pipe Bridge. - Habitat within the survey area provided suitable conditions for otter to commute, forage, rest and breed. - Evidence of otter presence was found during the survey, which included sprainting sites within 85 m of proposed works and potential holt sites within 55 m of proposed works. - There were no suitable sites for otter to establish holts within 30 m of Feeder Pipe Bridge.
Recommendations	- Pollution prevention measures should be in place to avoid polluting the River Taff. - General otter mitigation measures to include covering any excavations when the site is inactive, siting compounds away from watercourses and avoiding night- time working. - If temporary additional lighting is required design and location should be discussed with an ecologist prior to installation. - The design of any new lighting as part of the proposed works should be discussed with an ecologist to avoid any potential for disturbance to otter. - Habitats on site will need to be retained where possible, particularly bankside trees and scrub vegetation. Where this is not possible habitats should be replaced on an at least like for like basis. - A toolbox talk should be delivered by an ecologist to all site staff prior to commencement of works and should include actions to be taken if an otter, or resting place is identified during works.

1. Introduction

Redstart was commissioned by Rhondda Cynon Taf County Borough Council (RCTCBC) to undertake an otter survey along the River Taff and associated riparian habitat 500 m upstream and downstream of Feeder Pipe Bridge, near Abercynon, Rhondda Cynon Taf (Central Grid Reference ST 09208 95484).

The survey was undertaken to identify any constraints that otter may present to the proposed development and to identify the need for further surveys/ mitigation measures.

This report includes details of the survey methodologies, results and discussion and contains recommendations for further survey/ mitigation where appropriate.

1.1 Site Description

Feeder Pipe Bridge spans the River Taff approximately 1 km north-east of Abercynon town centre, Rhondda Cynon Taf. Feeder Pipe Bridge lies between two road bridge crossings carrying the A472 to the north and A470 to the south-west.

Land use in the surrounding area was predominantly agricultural with scattered farmsteads and residential dwellings.

Figure 1: Aerial image adapted from Google Earth showing location of Feeder Pipe Bridge. (Central Grid Reference ST 09208 95484).



1.2 Proposed Works

Works are proposed to construct a new bridge at or near the location of the previous bridge crossing (Feeder Pipe Bridge) which was dismantled and removed from site during September and October 2020. The bridge had been assessed as being irreparably damaged during storm flood events in the winter of 2020. The previous bridge was supported on existing stone piers and abutments, carrying three redundant but structurally intact ironwork pipes.

Options for design and siting of the bridge are currently under consideration.

Works to include:

- Construction of a new bridge crossing
- Repair to existing abutments
- Possible removal of one of the feeder pipes
- Scour repair; and
- Linking works to provide public access

2. Otter

2.1 Ecology

Otters (*Lutra lutra*) are one of Britain's largest land mammals and are accomplished predators, feeding on fish and amphibians in a wide range of coastal and freshwater habitats which include rivers, streams, ditches, wetlands, lakes, ponds and reservoirs. Otters feed on a variety of prey with diet varying throughout the season depending on which prey species are most abundant at a given time of year and accessibility to habitats. Fish and eels are among the favoured prey; amphibians such as frogs and toads become increasingly important prey items between late winter and early spring. An abundant supply of food is vital for breeding otters with young litters.

Otters are not confined to large rivers; small, secluded tributaries may offer breeding locations as well as providing resting places when rivers are in flood. Small tributaries also provide potential routes for otter to commute between larger rivers.

Otters have no more than one litter per year and are known to breed all year round. The cubs remain with the bitch for nearly a year. Despite being predominantly nocturnal they can be active during the day, feeding and moving along their territory. Otters have large territories with females ranging up to 20 km along waterways and males patrolling and feeding in approximately twice this range.

Territories need to include an adequate number of safe resting places or holts along the watercourse. A suitable resting holt would usually be used by the otter to rest up during daylight hours. Holts can take a variety of forms including exposed tree roots at water level, natural cavities along riverbanks, dense areas of vegetation, piles of fallen timber, earth tunnels, man-made structures such as culverts and bankside retention structures and couches in rough grassland.

Breeding holts are generally more secure and secluded than adult resting/ lying up sites and are often located further from watercourses.

2.2 Legislation

The otter is a European Protected Species (EPS) afforded protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, known as the 'Habitats Regulations'.

This legislation makes it an offence to;

- deliberately capture, injure or kill any wild animal of an EPS
- deliberately disturb wild animals of any such species or damage or destroy a breeding site or resting place of such an animal

Disturbance is defined as that which is likely to impair their ability to;

- survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate

or

- to affect significantly the local distribution or abundance of the species.

Otters are also afforded protection under the Wildlife and Countryside Act 1981(as amended) (WCA). Under the WCA it is illegal to;

- Intentionally or recklessly disturb any otter while it is occupying a structure or place which it uses for shelter or protection
- Intentionally or recklessly obstruct access to any structure or place used by an otter for shelter or protection
- Sell, offer or expose for sale, or have in your possession or transport for

the purpose of sale, any live or dead wild water vole, or any part of, or

anything derived from, such an animal

or;

- publish or cause to be published any advertisement likely to be

understood as conveying buying or selling, or intention to buy or sell, any

of those things.

Otter is also considered in the Environment (Wales) Act 2016 and is included in Section 7 of the Environment (Wales) Act 2016. Section 7 lists the living organisms and types of habitat in Wales which are considered to be of key significance to sustain and improve biodiversity in relation to Wales.

The Act states that Welsh Ministers must take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps.

3. Methodology

3.1 Review of previous reports/ Desktop study

The following organisations/ reports were consulted for relevant ecological information about the site, surrounding areas and any records for otter:

- A request was made in June 2021 to South East Wales Biodiversity Records Centre (SEWBRc,2021) for information on otter sightings or evidence for presence of otter within a 1 k radius of Feeder Pipe Bridge.
- Preliminary Ecological Appraisal report currently in preparation for RCTCBC as part of ecological surveys for the Feeder Pipe Bridge optioneering study (Redstart, 2021)

3.2 Otter survey

3.2.1 *Habitat Assessment*

The suitability of the habitats on site to provide opportunities for otter to feed, rest, breed and commute was assessed during the otter survey.

3.2.2 *Field Survey*

The River Taff and associated bankside vegetation, where access allowed, was surveyed for signs of the presence of otter. The River Taff was surveyed 500 m up and downstream of the proposed route. The survey was undertaken following a period of dry weather so that signs of recent otter presence such as spraint would not have been removed by flood conditions in watercourses.

Evidence of otter activity surveyed for included:

- Spraint;
- Anal jelly;
- Footprints;
- Otter holts;
- Otter runs (pathways leading to holts);
- Other otter resting sites; and
- Feeding areas

The identification of otter holts is determined by examining additional evidence found on site. Depending on this additional information, for the purpose of this report, a resting site / holt is categorised as follows (Table 1);

Table 1: Holt category and description

Holt Category	Description
Actual	These show signs that the entrance is well used by otters, including a well-trampled entrance, extra excavation, spraints and/or footprints.
Probable	These sites meet the typical needs of otters and there is known otter activity in the area. There may be signs of otter in close vicinity to the holt but no indication that the entrance is in use.
Potential	These sites show typical features of an otter holt, but no confirming evidence of otter activity could be found.

Resting sites or couches are similar to holts but the animal is unable to enter and 'disappear' from view; sites are above ground in suitable cover. For the purpose of this report resting sites are categorised as follows (Table 2);

Table 2: Otter resting site category and description

Resting site category	Description
Actual	Signs that the site is well used by otters-trampled entrance, spraint and/or footprints evident.
Possible	Site typical of an otter resting site. Signs that it is being used by a mammal but no actual evidence of otter use.
Potential	Cover or sites which could be used by otter but no signs of use.

The location of sprainting sites and the numbers and estimated ages of the spraints found were recorded. This information assisted in determining the extent of otter activity and gave an indication as to how recently otters have been utilising a given stretch of river or wetland. Within this report spraints are categorised in Table 3.

Table 3: Otter spraint classification and description

Spraint	Description
Fresh	Wet and oily with strong odour.
Recent	Compact and firm, some odour.
Old	Dry, pale and disintegrating. Faint odour.

3.3 Survey constraints

Direct access to the south-east bank of the river was not possible owing to the presence of a very steep slope/ natural rock outcrop between the river and the access road (Tram Side Road) which presented a health and safety risk to surveyors. The south-east bank was remotely observed from the opposite bank using binoculars and high-magnification telescope which allowed for potential holts, resting sites and the presence of spraint to be detected.

Any ecological survey can only identify what was present on site at the time it was conducted, and habitat use by species can change over time. The length of time that the survey data remains valid will depend on a case-by-case basis, but it is generally considered that if the development does not begin within 2 years of the date of this report an update may be required.

4. Results

4.1 Review of previous reports/ Desktop study

A total of five records for otter were returned from the SEWBRc data search within a 1 km radius of the site within the past 10 years. The closest record (and most recent) was for a spraint site 292 m upstream of Feeder Pipe Bridge on the River Taff in November 2020. All otter evidence from the desk study was from the River Taff with records upstream and downstream of Feeder Pipe Bridge.

The Preliminary Ecological Appraisal survey (Redstart, 2021) carried out in October 2020 recorded no evidence for the presence of otter but noted habitat suitable for otter to feed, commute and rest within 100 m of the bridge.

4.2 Habitat Assessment

The River Taff within the survey area had varied morphology with fast flowing sections, deep sheltered pools, shallow shoals and riffles. The north-west side of the river had gently sloping stony banks and pebbly shoals were present immediately upstream of Feeder Pipe Bridge and approximately 25 m downstream. There were several large, flat stones present within the stream with suitability for otter to deposit spraint.

Riparian habitat was sparse along the north-west side of the river and a stone wall approximately 2 m high was present along approximately 100 m of the upstream side of the bridge. Habitat downstream was dominated by large stony shoals extending from the bank to mid-stream. Bankside vegetation was predominantly semi-natural broadleaved woodland.

Habitat on the south-east bank was dominated upstream and downstream for approximately 30 m by the presence of structural stonework associated with the original crossing, forming a barrier between the river and semi-natural woodland. Further upstream and downstream on the south-east side of the river there were stands of vegetation, including Japanese knotweed (*Fallopia japonica*). The bank on the south-east side of the river rose steeply to the road running parallel to the river. Sections of the bank were formed by near vertical natural rock outcrop.

A road bridge carrying the A472 carriageway crossed the River Taff approximate grid reference ST 09288 95678, 220 m upstream of Feeder Pipe Bridge. There were numerous flat stones and ledges suitable for otter to use as sprainting sites. Immediately north of the A472 crossing there was a weir and associated rocky outcrop. The river section upstream of the weir was approximately 2 m deep with shallow shelving rocky outcrops forming the banks.

4.3 Field survey

Detailed survey target notes are shown in Table 4. Target notes refer to Drawing GC3880-RED-74-XX-DR-C-0004.

Evidence for the presence of otter, in the form of fresh spraint, was recorded 85 m upstream of Feeder Pipe Bridge at approximate grid reference ST0926695538 (photograph 1, Target note [TN] 1) and 115 m upstream at approximate grid reference ST 0928495561 (photograph 2, TN2). All spraint was located on the south-east bank of the river. The location of spraint sites are presented in Drawing GC3880-RED-74-XX-DR-C-0004.

There was a log/ debris pile 55 m upstream of the bridge on the south -east bank at approximate grid reference ST 0924995515 (Photograph 3, TN3). The debris provided a potential site for an otter holt to be established. A section of redundant concrete pipe was noted on the riverbank at approximate grid reference ST 09270 95557 (photograph 4, TN4) and the natural rock face at this location appeared to have gaps which could provide an opportunity for otter to establish resting sites or holts (TN4). Target note 3 was the closest site to Feeder Pipe Bridge with potential to support an otter holt.

There were no holt sites, or potential for holts to be established within 30 m of the bridge on either side of the river due to the presence of steep sided natural outcrop and stone walls associated with the original bridge structure (photographs 5 and 6, TN5 and TN6)

There was no evidence for the presence of otter recorded downstream of Feeder Pipe Bridge.

Photograph 1: Fresh otter spraint on rock at ST0926695538. Image taken using phone camera through telescope lens from opposite bank.



Photograph 2: Fresh spraint on rock within watercourse at ST0928495561. Image taken using phone camera through telescope lens from opposite bank.



Photograph 3: Potential holt site at ST 0924995515. Image taken using phone camera through telescope lens from opposite bank.



Photograph 4: Concrete pipe section and potential holt sites in natural cliff face at approximate grid reference ST 09270 95557.



Photograph 5: Stone built abutments and steep sided natural outcrop on upstream and downstream side of the south-west bank of River Taff; unsuitable for otter to establish holts



Photograph 6: Stone wall at least 2 m high on upstream side of the north-east side of feeder pipe bridge; unsuitable for holts to be established and preventing otter from accessing bankside vegetation.



Table 4: Target notes and descriptions

Target note number	Grid reference	Target note description
1	ST0928495561	Fresh otter spraint on rock. Approximately 115 m upstream of Feeder Pipe Bridge on the south-east bank.
2	ST0926695538	Fresh otter spraint on rock approximately 85 m upstream of Feeder Pipe Bridge on the south-east bank of River Taff
3	ST0924995515	Log and tree branch debris on bankside with potential for otter holt to be established, approximately 55 m from Feeder pipe Bridge on south -east side of river.
4	ST 09270 95557	Concrete pipe section and cliff face with spaces suitable for otter to establish holts/ resting sites.
5	ST 09211 95471	Stonework and natural outcrop on south-east side of Feeder Pipe Bridge (unsuitable for otter holts to be established within 30 m of the bridge)
6	ST 09218 95502	Stone built wall on north-west side of Feeder Pipe Bridge, unsuitable for otter to establish holts within 30 m of the bridge.

5. Evaluation of Results / Potential Impacts and Conclusions

Habitat within the survey area was varied in terms of river structure and riparian vegetation with suitability for otter to feed, hunt, commute, rest and spraint.

Signs of use of the River Taff by otter for feeding, foraging and commuting were evident on the upstream side of Feeder Pipe Bridge. Signs of fresh spraint on rocks within the watercourse indicated that the river had been used by otter within a few days of the survey.

Habitat within 30 m of the bridge was unsuitable for otter to establish holts as it comprised steep sided natural outcrop and vertical stone-built walls on both sides of the river.

The area around the bridge on the north -west side at time of survey was subject to high levels of disturbance with walkers and unrestrained dogs present, conditions likely to inhibit otter from using the area to rest during the day.

As otter was present within 85 m of the proposed works and there were potential holt sites present (closest 55 m from the bridge) mitigation in terms of working practice will be required. Otter can be susceptible to disturbance from noise, pollution and new or temporary lighting. They are naturally curious animals and are known to explore new features in their landscape.

All the potential holts recorded were located close to the riverbank and are unlikely to represent breeding holts which are generally located further from the riverbank in secluded places.

As no potential holt sites were identified within 30 m of the proposed works (and there were no sites suitable for subsequent holts to be established) there is no potential for otters and their resting places to be directly impacted by the proposed work and consequently no requirement for a European Protected Species (EPS) Licence to be obtained.

In absence of mitigation there is likely to be short-term negative impact such as noise, pollution and increased human disturbance on the local otter population during the construction phase. If additional lighting is incorporated in the design, there is potential for long-term negative impact through increased light levels which may alter otter behaviour and disrupt established commuting routes and feeding patterns.

There is potential for works, particularly if in channel activity is required, to cause indirect adverse impact on otter through disturbance of substrate causing silting of the watercourse downstream of Feeder Pipe Bridge which may reduce availability of aquatic food resources such as brown trout (*Salmo trutta*).

In the absence of mitigation there is unlikely to be any more than moderate adverse impact on otter due to the works.

Adopting general otter mitigation measures as outlined in section 6.2 will minimise any risk of disturbance due to the works.

Recommendations to ensure that the proposed development is compliant with current legislation relating to otter are provided in Section 6.

6. Recommendations

6.1 Pollution prevention

Standard best practice and pollution control measures should be implemented in accordance with relevant guidance (e.g. CIRIA, 2001) and reference should also be made to current best practice guidelines regarding working in or near water (NetRegs, 2018) to ensure that the River Taff is not adversely impacted by dust, uncontrolled surface water run-off, inappropriate storage of materials and inappropriate refuelling of machinery. These measures should be detailed in a Construction Environmental Management Plan (CEMP) with reference made to Pollution control measures should be detailed within a Construction Environmental Management Plan (CEMP).

Recommendations should include the following:

- Avoiding dropping polluting materials from a bridge or riverbank, pumping out water from excavations into a watercourse.
- Preventing contaminated water from working site to flow or seep into a watercourse.
- All materials (especially if hazardous or toxic) should be stored at least 7m away from the watercourse;
- All static machinery should be placed on drip-trays or oil absorbent nappies. Trays should be emptied regularly to ensure that they contain any spills.

6.2 General otter mitigation

General otter mitigation measures should be adopted as follows;

- Any excavations should be securely fenced off and covered over at the end of the working period, at weekends or when not in use. If it is not possible to cover excavations an escape ramp should be installed to limit the possibility of otters becoming trapped.
- The watercourse should remain unobstructed where possible during construction work. The river should be kept open as much as possible during the night. Fencing should not occupy or obstruct the River Taff to ensure free movement of otters that may be commuting or feeding.
- The site compound (and all machines and materials) should be located away from the watercourse. A suitable location for the compound should be agreed with an ecologist to ensure that this doesn't conflict with other ecological considerations.
- Materials and machinery should be locked away in the site compound when not in use, day, night or weekend.
- Night-time working should be avoided and working hours should be restricted to commence one hour after sunrise and stop one hour before sunset, this should allow otters using the watercourses to carry out their normal nocturnal activities. Where this is not possible, and temporary lighting is required for health and safety or security, the layout and specification should be discussed with and agreed by an ecologist – directional lighting and screening may be required.

- The specification and layout of any new lighting that may be included within the design should be agreed with an experienced ecologist at the design stage.
- In the unlikely event that a holt is discovered during construction, a work exclusion zone of 30m must be established immediately and Natural Resources Wales contacted for advice before works recommence.

6.3 Habitat retention

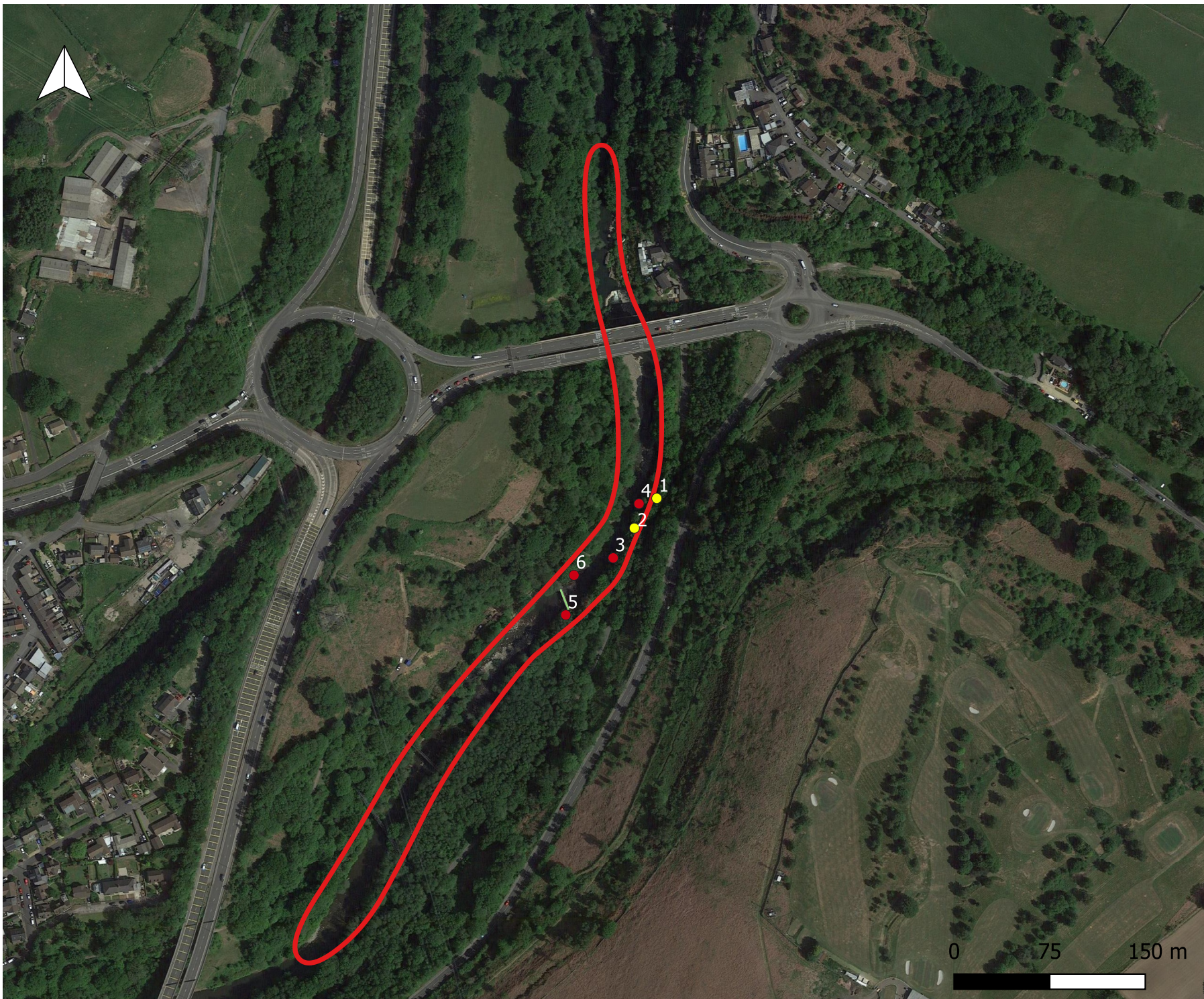
Existing habitats should be retained as far as possible and any habitat clearance minimised. Where possible at least 50% of high canopy tree cover, tall vegetation and other semi-natural habitats should be retained on the riverbanks. If habitat loss is unavoidable the removed habitat should be replaced on at least a like-for-like basis.

6.4 Tool-box talk

All site operatives should receive a toolbox talk prior to the commencement of work regarding the constraints relating to otter. The toolbox talk should be delivered by a suitably experienced ecologist and should cover the actions to be taken in the event of unexpectedly discovering an otter or holt.

Drawings

GC3880-RED-74-XX-DR-C-0004 – Otter Survey Target Notes



Key

-  Feeder Pipe Bridge
- Target Note Type
 -  Feature
 -  Spraint
 -  Survey Area

Purpose of issue

S2 - For Information

Classification

Commercial in Confidence

Client

Rhondda Cynon Taf
County Borough Council

Project

Feeder Pipe Bridge, Abercynon

Drawing

Otter Survey Target Notes

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7. References

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