South Yorkshire Passenger Transport Executive (SYPTE)

Old Mill Lane, A61

Bat Survey Report

0-15-08

Issue | 12 May 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 253511-00

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Drawing 1.1: Site Location

Executive Summary

Ove Arup and Partners Ltd. was commissioned by South Yorkshire Passenger Transport Executive to undertake an update Preliminary Ecological Appraisal at the Old Mill Lane site, Barnsley. Old Mill Lane Local Wildlife Site is located within the site boundary. This Local Wildlife Site is designated for a Daubenton's bat roost within a culvert to the east of Old Mill Lane. Bat emergence/re-entry surveys at the culvert were therefore recommended.

This bat survey report summarises the bat emergence/re-entry surveys that have been undertaken and makes recommendations in relation to mitigation and licencing requirements.

The Daubenton's bat roost was confirmed to still be present within the Old Mill Lane culvert. Soprano pipistrelle were also recorded roosting within the culvert in smaller numbers. Common pipistrelle were recorded using the River Dearne corridor for socialising, and all three species, (i.e. Daubenton's, soprano pipistrelle and common pipistrelle) were recorded using the river corridor for foraging and commuting.

Further surveys are needed to ascertain the hibernation potential of the roost before any works may proceed. These may include acoustic monitoring, visual monitoring and/or monitoring of climatic conditions, which should be completed during the winter hibernation period (i.e. November to February inclusive). All internal inspections should be undertaken by a suitably licensed ecologist.

Any works which are likely to impact the roost, e.g. by noise and vibration, should be carried out within the time of year least likely to cause disturbance to the bat roost. If the roost is a summer roost only, the suitable period would be when the roost is vacated (November to February). However, if the roost is confirmed to also be a hibernation roost, the stress resulting to bats from disturbance is far greater during this period and works should take place when temperatures are above 5°C in spring (end of March to end of April) or autumn (September to early November). Following confirmation of roost type, a mitigation licence for roost disturbance will be required from Natural England. This will require a comprehensive working method statement, detailing measures to reduce disturbance as much as possible, for example increasing the distance between works and the roost, limiting the amount of time per day that works are undertaken, or limiting overnight lighting associated with the works.

Scattered scrub, scattered broadleaved trees and broadleaved semi-natural woodland should be retained where possible. Where the loss of any tree is unavoidable, it is recommended that it is replaced on a 2:1 ratio, using native species of local provenance.

1 Introduction

Ove Arup and Partners Ltd. (Arup) was commissioned by South Yorkshire Passenger Transport Executive (SYPTE) to undertake an update bat survey in relation to a proposed scheme to upgrade the A61 in Barnsley, South Yorkshire (Drawing 1.1).

1.1 Site and Scheme Description

The Old Mill Lane site is located north of Barnsley town centre (national grid reference SE 35043 07232) and encompasses a section of the A61 where it crosses the River Dearne. The proposed scheme involves widening of the A61 along the Old Mill Lane Bridge and re-decking of the existing road. The site area is approximately 1.17ha.

A Preliminary Ecological Appraisal (PEA)[1] of the site was undertaken in August 2020 which identified the requirement for further bat surveys. As Old Mill Lane culvert is a known bat roost, three confirmatory emergence/re-entry roost surveys were scheduled to ascertain numbers of roosting bats and species present. No other structures or trees identified within or adjacent to the scheme footprint presented features with significant potential for roosting bats.

1.2 Report Objectives

The purpose of the bat surveys was to ascertain the presence or likely absence of bats at the site. The surveys also provide up-to-date information on the known Daubenton's bat *Myotis daubentonii*, roost within the culvert on site. This report presents the findings of the surveys and provides recommendations for additional survey requirements, licensing, mitigation and enhancement measures as appropriate.

1.3 Report Structure

This report is structured as follows:

- Section 2: Legal and Policy Context.
- Section 3: Methodology.
- Section 4: Results.
- Section 5: Discussion and Recommendations.

[1] Ove Arup & Partners (2020) *Old Mill Lane, A61 Preliminary Ecological Appraisal*

2 Legal and Policy Context

All native UK bat species are protected through their inclusion in Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended), and in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 as "European Protected Species" (EPS).

2.1 Wildlife and Countryside Act 1981 (as amended)

This is the primary legislation covering endangered species in England and sets out the framework for the designation of Sites of Special Scientific Interest (SSSIs). It confers differing levels of protection on species themselves, their habitats or both, depending on their conservation status.

Bats and their roosts are fully protected through their inclusion in Schedule 5 of the WCA 1981 (as amended). Under the legislation it is an offence to:

- intentionally kill, injure or take (capture) a bat; and
- intentionally or recklessly disturb, damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat or disturb an animal while it is occupying a structure or place which is uses for that purpose.

2.2 Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019

The Habitats Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna provides legal protection for habitats and species of European importance. This Directive was transposed into UK law by the Conservation of Habitats and Species Regulations 2017.

The Regulations for the protection of European Protected Species (EPS) have been amended and consolidated with key changes including the removal of most of the defences from regulation 40 and regulation 43 including the removal of the '*incidental result of an otherwise lawful operation*' defence, and the increase in the threshold for the offence of deliberately disturbing an EPS. Proposals that will affect EPS may require a licence from Natural England to allow an otherwise unlawful act. In 2009 a new offence of '*breaching condition of an EPS licence*' was added to the regulations. All UK native species of bat are EPS.

2.2.1 'Brexit' Implications

To ensure continued protection of these habitats and species, the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019 came into force on 1 January 2021. The EU Exit Regulations amend the 2017 Habitats Regulations, primarily to enable the transfer of functions from the European Commission to the appropriate authorities in England and Wales, and to ensure the 2017 Habitats Regulations continue to be operable. The Government's Explanatory Memorandum to these regulations states:

"*This instrument provides changes to those parts of the 2017 and 2001 Regulations which would no longer work when the UK leaves the EU... The intention is to ensure habitats and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU. There is no change to policy*."[2]

The EU Exit Regulations therefore ensure that habitat and species protections and standards as derived from EU law will continue to apply now that the UK has left the EU. As a result, the obligations of a competent authority in relation to the protection of European sites or species have not changed. Within this report, reference to the 'Habitats Regulations' should be taken to mean the 2017 Habitats Regulations as amended by the EU Exit Regulations.

2.3 Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act 2006 is designed to help achieve a rich and diverse natural environment and thriving rural communities. The Act implements key elements of the Government's Rural Strategy published in July 2004 and includes under Section 40 a Duty to conserve biodiversity; specifically Subsection (1) states '*Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.'*

Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40, above.

The S41 list in England includes barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum* and lesser horseshoe *Rhinolophus hipposideros*.

2.4 National Planning Policy Framework

The revised National Planning Policy Framework (NPPF) was published in February 2019 and is a material consideration in all planning decisions. The NPPF refers to the responsibilities of the local authorities to conserve the natural environment with respect to the use of the '*Circular 6/2005: Biodiversity and Geological Conservation – Statutory Obligation and their Impact within the Planning System*' as guidance in this process. This places a duty on all public bodies, including local planning authorities, to consider habitats and species of Principal Importance listed in S41 of the NERC Act and Priority Species/Habitats within Biodiversity Action Plans when considering a planning application.

[2] Explanatory Memorandum to The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 No. 579. Available at: https://www.legislation.gov.uk/uksi/2019/579/pdfs/uksiem_20190579_en.pdf.

3 Methodology

3.1 Desk Study

Bat records and information on non-statutory designated sites with citations for bat species, within a 2km buffer surrounding the site, were requested from the Barnsley Biological Records Centre, which is run by Sheffield Biological Records Centre (SBRC).

The Multi-Agency Geographic Information for the Countryside (MAGIC) website[3] was consulted for:

- statutory designated sites with citations for bat species within 2km of the site; and
- previously granted EPS licences within 2km of the site.

Previous reports for the site that were made available to Arup were also reviewed to provide additional site context and history. These include:

- Bat Survey Report by Eric Bennett Consultancy Ltd (2004)[4];
- Structural Survey Report by Up and Under Ltd (2011)[5];
- Ecology Survey Report by Whitcher Wildlife Ltd (2017)[6]; and
- Bat and Otter Survey Report by Middleton Bell Ecology (2018)[7].

3.2 Field Surveys

3.2.1 Emergence/ Re-entry surveys

Three survey visits were recommended for the culvert, in accordance with the Bat Conservation Trust (BCT) Good Practice Guidelines (Collins, 2016).[8] No other features within the site boundary provided significant bat roosting potential.

All surveys were undertaken by two experienced surveyors of BL Ecology Ltd (minimum four years of experience). Surveyors were positioned with clear sight-lines of the culvert entrance and up and down stream of the river corridor.

All weather conditions were suitable for bat activity; with no precipitation, a minimum temperature of 10°c and wind speed not exceeding 2 on the Beaufort scale. A summary of all emergence/re-entry survey dates and conditions is provided in Table 3.1.

[3] https://magic.defra.gov.uk/MagicMap.aspx. Accessed 20/10/20.
[4] Eric Bennett Consultancy Ltd (2004) *Old Mill Lane (A61) Culvert Barnsley Bat Survey*
[5] Up and Under Ltd (2011) *Survey of Old Mill Lane (A61) Culvert, Barnsley*
[6] Whitcher Wildlife Ltd (2017) *Old Mill Lane Bridge Ecology Survey*
[7] Middleton Bell Ecology (2018) *Old Mill Lane, Barnsley Bat and Otter Survey Report*
[8] Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). London: The Bat Conservation Trust.

Table 3.1: Survey timings and weather conditions.

Date	Survey time	Sunset/ sunrise time	Wind speed (Beaufort)	Temperature (°C)	Precipitation (type)	Cloud cover (Oktas)
12 August 2020 (Dusk)	20:24 – 22:09	20:39	1	24 – 21	None	3/8
28 August 2020 (Dawn)	04:20 – 06:10	06:10	1	10	None	8/8
16 September 2020 (Dusk)	19:03 – 20:48	19:18	2	14 - 12	None	8/8

3.2.2 Survey Limitations

Due to the timing of the commission, ecological surveys at this site did not commence until August 2020. For this reason, the surveys undertaken may not reflect bat activity throughout the year, particularly during the maternity period (i.e. when pregnant female bats congregate to raise pups) and the hibernation period. As a result, the population size, species assemblage and peak activity levels of bats at the site cannot be fully interpreted until data are captured by surveys throughout the various seasons of the year – including the maternity period and hibernation period. As a result, further surveys are required.

Ecological surveys are limited by factors that affect the presence of plants and animals, such as the time of year, migration patterns and behaviour. Therefore, the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. However, professional judgement allows for the likely presence of these species to be predicted with sufficient certainty to not significantly limit the validity of these findings.

Any grid references provided within this report are approximate (obtained through handheld GPS devices) and are to be used as a guide only.

4 Results

4.1 Desk Study

The full results of the data search provided by SBRC are detailed in the PEA Report.[1]

4.1.1 Designated Sites for Bats

Details of designated sites with citations for bat species within a 2km search radius are provided in Table 4.1. The full details are provided in the PEA Report.[1]

Table 4.1: Relevant designated sites within 2km of the site.

Site	Description	Location
Old Mill Lane Local Wildlife Site (LWS)	The site is located on the River Dearne where it flows in a south-eastern direction just to the north-east of Barnsley town centre. The site covers an area of 10.27ha. Since 1990, the culvert under the A61 bridge has been known to support an important maternity roost for Daubenton's bat *Myotis daubentonii*. The River Dearne is tree-lined, both upstream and downstream of the A61 bridge and is used by foraging bats. Upstream of the A61, the landscape of the floodplain opens into recreation grounds and bodies of standing water.	Within site boundary.

4.1.2 Bat Species Records

Records of bat species provided by SBRC within a 2km search radius surrounding the site are summarised in Table 4.2. Any records over 25 years old have been omitted from the table as these are not considered to reflect the current species assemblage. In addition, records with less than a six-figure National Grid Reference have been omitted as an accurate location relative to the site could not be determined. Full desk study data is provided in the PEA Report.[1]

Table 4.2: Summary of bat species records within 2km.

Taxonomic group	Common name	Approximate distance and direction of closest record	Number of records within 2km
Bats	Common pipistrelle *Pipistrellus pipistrellus*	Within site boundary	16
	Daubenton's bat *Myotis daubentonii*	Within site boundary	144
	Pipistrelle species *Pipistrellus* sp.	0.1km east	65
	Soprano pipistrelle *Pipistrellus pygmaeus*	0.2km north west	6
	Noctule *Nyctalus noctula*	0.2km north west	22
	Leisler's bat *Nyctalus leisleri*	1.0km west	5

There was one previously granted EPS licence application within 2km of the Old Mill Lane site identified on MAGIC.[3]

- EPSM2013-6477: common pipistrelle, licence start date 18/10/2013 – licence end date 30/09/2014, for the destruction of a resting place. Located approximately 650m west of the site.

4.1.3 Previous Bat Reports

The bat report provided by Eric Bennett Consultancy Ltd (2004)[4] provides a summary of roost count data for Old Mill Lane culvert between 1990 and 2003, with a peak count of 412 Daubenton's bat in July 1990 and a count of 293 Daubenton's bat in June 2003.

A culvert survey by Up and Under Ltd (2011)[5] established the dimensions of Old Mill Lane culvert under ecological supervision, and found some defects in the structure.

The bat report provided by Whitcher Wildlife Ltd (2017)[6] noted that numbers of bats seemed to have declined since a flooding event in 2007, but had increased again between 2007 and 2013. No survey results were reported between 2014 and 2017.

The bat report provided by Middleton Bell Ecology (2018)[7] detailed bat surveys undertaken in 2018, including a peak count of 31 Daubenton's bat in Old Mill Lane culvert. The roost was still considered to be a maternity roost at that time.

4.2 Field Surveys

4.2.1 Emergence/Re-entry surveys

12 August 2020 (Emergence)

A peak count of 24 Daubenton's bats were observed emerging from Old Mill Lane culvert. No other emergences of any species were observed. Some common pipistrelle foraging activity was observed along the River Dearne.

28 August 2020 (Re-entry)

A peak count of approximately 18 Daubenton's bats were observed returning to roost in Old Mill Lane culvert. One soprano pipistrelle also returned to roost in the culvert. No foraging activity by any bat species was observed.

16 September 2020 (Emergence)

A peak count of at least two Daubenton's bats were observed emerging from the culvert, and one soprano pipistrelle also emerged from the culvert. Foraging was observed over the River Dearne by Daubenton's bats, soprano pipistrelle and common pipistrelle (including social calls for common pipistrelle).

5 Discussion and Recommendations

The Old Mill Lane culvert was confirmed to still be a Daubenton's bat maternity roost. Three species of bat were recorded foraging and/or commuting within the site during the surveys:

- Daubenton's bat;
- common pipistrelle; and
- soprano pipistrelle.

Daubenton's bat was the most frequently recorded species throughout all surveys and the only species observed roosting within Old Mill Lane culvert in group numbers. Additional individual soprano pipistrelle were observed roosting within the culvert. Common pipistrelle were observed socialising within the River Dearne corridor.

Due to the presence of the confirmed roost within the culvert, a mitigation licence will be required from Natural England to proceed with the works. This is due to the potential for disturbance of bats within the culvert during the works. A licence application can only be submitted once planning consent has been attained.

Natural England specify that survey information to inform a licence application must be from the most recent bat survey season. Therefore, to inform a licence application for works to proceed in 2022, update bat emergence/re-entry surveys at the culvert will be required to be completed between May and September 2021. The surveys should be spread out between these months ensuring the maternity season is covered adequately.

In order to inform the best method by which to proceed with works and the required licensing and mitigation strategy, further surveys are also required to determine if the roost is used during hibernation. Hibernation surveys may include internal inspection by an appropriately licensed ecologist, acoustic monitoring using a static bat detector, video monitoring using an appropriate motion-sensor trail camera, and/or temperature and humidity monitoring during the months of November to February.

If Old Mill Lane culvert is not used for hibernation during winter months then works with the greatest potential to disturb the roost (i.e. road resurfacing above the culvert) may be able to proceed under licence when the roost is vacated (e.g. November to February). However, if the roost is found to contain hibernating bats (which is feasible in this instance) winter works must be avoided as the risk of disturbing hibernating bats would be too great. The works with the greatest potential for disturbance would then need to be undertaken when temperatures are above 5°C in spring (end of March to end of April) or autumn (September to early November). This avoids both the bat maternity period and the bat hibernation period, when bats are most sensitive to disturbance. The mitigation licence from Natural England will be required in order to permit works that would otherwise be illegal.

It is recommended that scattered scrub, scattered broadleaved trees and broadleaved semi-natural woodland should be retained where possible. Where the loss of any tree is unavoidable, it is recommended that it is replaced on a 2:1 ratio, using native species of local provenance.

It is also recommended that opportunities for creating or improving habitats for bats are integrated within any wider ecological enhancements at the site. Specifically, this should consider reducing light spill onto suitable habitat for foraging and commuting bats (i.e. the tree-lined river corridor), artificial roosting provision and/or planting of native trees with appropriate management to a level of maturity that will create natural roosting provision.

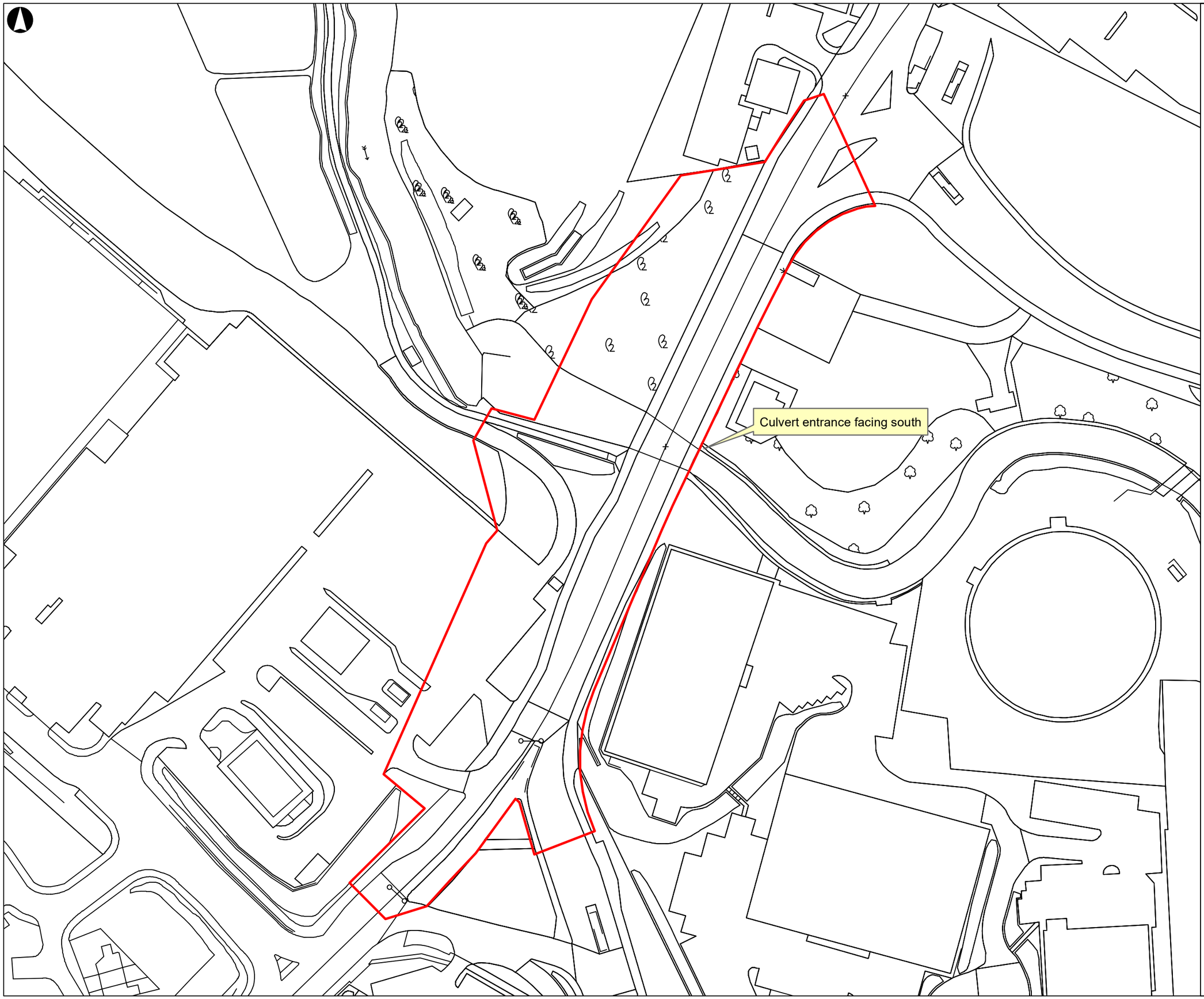
This report is the result of survey work undertaken in August and September 2020. This report refers, within the limitations stated, to the condition or proposed development of the site at the time of the inspections. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. It is also advised that if there is a delay of over two years in undertaking the works, a re-survey may be required. No warranty is given as to the possibility of future changes in the condition of the site.

This report is produced solely for the benefit of SYPTE and no liability is accepted for any reliance placed on it by any other party. This report is prepared for the proposed uses stated in the report and should not be used in a different context.

Drawings

Drawing 1.1: Site Location

A3



Key

Site Boundary

Metres

0 12.5 25 50

Rev	Date	By	Chkd	Appd
A	30/10/20	VN	AM	RC

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Client

South Yorkshire Passenger Transport Executive (SYPTE)

Project Title

A61 Old Mill Bridge

Drawing Title

Drawing 1.1
Site Location

Scale at A3

1:1,000

Role

Ecology

Suitability

Issue

Arup Job No	Rev
253511-00	**A**

Name

Site Location

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