

Ecology Technical Note

Document Number: B10237-123532-XX-XX-ME-NB-PN0210

Project	Pengarnddu Service Reservoir				
Partner	MMB				
Prepared by	Elliott Hughes	Checked by	Paul Renshaw	Approved by	M Thorpe
Date	14/04/2021	Date	15/04/2021	Date	15/04/2021
Subject	Pengarnddu Ecology Addendum – Proposed Temporary Haul Road				

1. Introduction

This Ecology Technical Note has been produced by the Welsh Water (WW) Capital Delivery Alliance to provide ecological information to the Merthyr Tydfil County Borough Council Planning Team to support a planning application for a temporary haul road to support the construction of the new Pengarnddu Service Reservoir

The objective of this note is to detail the ecology surveys which have been undertaken, to provide the results and to outline recommendations for actions during design and construction.

2. Background

An Ecological Impact Assessment and additional Fungi survey report were submitted as part of a planning application for a new service reservoir at Pengarnddu SRv in December 2020.

Due to concerns around the protection of services and valves along the originally proposed access route, Welsh Water requested a design change post planning approval to avoid the at risk services under the existing access track (further details can be found later in this report).

All options were considered to avoid the requirement for the modified access track to be outside of the original redline planning boundary, however this could not be achieved without risking damage to the services around the existing service reservoir. Therefore a new planning application for a temporary haul road was required. This ecological addendum report is to be submitted to support this new planning application. (as confirmed by David Cross - Principal Planning Officer, email dated 1st April 2021).

3. Site Description

The Site (Figure 1 for site in the context of the wider landscape and Appendix B for drawings) is an area of semi-improved acid grassland located to the south of the existing Pengarnddu service reservoir and comprises of an area of common land which has recently been acquired by Welsh Water; the common land forms part of Blaenmorlais SINC. The Site is situated approximately 3.4km north east from the centre of

Merthyr Tydfil and approximately 3.7km north west of Rhymney. To the west and south of the site lies the Blaenmorlais SINC and a traveller site, whilst to the east and further south lie industrial estates. It is situated at NGR: SO 07595 08856 within the county borough of Merthyr Tydfil.

Figure 1: Site Location



Source: ESRI 2019. ArcGIS Desktop: Release 10. Redlands, CA: Environmental Systems Research Institute.

4. Scope of works

The additional scope of works is summarised in 'Appendix B – Site Plan' and consists of the creation of a temporary haul road to the south of the existing site (0.15ha temporary road footprint, with a redline boundary area of 0.69ha), the haul road is expected to be in place until December 2022. The scope of works are detailed in the site plan drawing and the Construction Management Plan.

5. Justification for the Revised Haul Road Location

Other routes for the temporary haul road have been explored by the design team within the existing operational site, however there are a number of live water mains and chambers that would have to be crossed and some of these are of insufficient cover to prevent possible damage to these critical assets . We have also redesigned our proposals from the preferred access solution and site setup to have the minimal possible impact on the areas known to have high and low value fungi.

Further justification has been outlined below:-

- The existing site access road has only been built for light traffic and there are a number of existing watermain (cast iron construction and of an unknown age) and chambers with minimal ground cover. Heavy plant could affect the integrity of these assets and lead to disruptions in water supply

These mains supply treated water directly to people's homes. The pipes have limited means of isolation, which means if they were comprised it would not be possible to repair the section of pipe that had failed and water supply would be impacted. Providing suitable protection to these pipes would not be possible due to the number of lorry movements and the requirement for Welsh Water to easily access the pipes in an emergency.

- The existing service reservoir is stone block built (over 100 years old) with a clay liner and for reservoir safety reasons, heavy plant and lorries are required to be kept away from this structure to avoid undermining it.
- The proposed temporary haul road keeps the heavy plant away from the operational site.
- These restrictions listed above have been advised by Welsh Water following detailed discussions regarding our proposed methods of construction.

6. Habitat and Ecological Features to be Impacted by the Revised Haul Road

Based on the findings of the EcIA, the following habitats and species are to be impacted by the proposed temporary haul road (see Phase 1 Habitat Map in Appendix B for reference).

6.1 Habitats

Semi-improved acid grassland (horse grazed)

0.15ha of grassland habitat will be temporarily lost for the new haul road. The area of land within the red line boundary of the new application is 0.69ha. This is not all additional loss as some is covered by the existing planning application. The grassland forms part of Blaenmorlais SINC which is a large area supporting a mosaic of upland habitats at the western edge of Merthyr Common. The SINC comprises mainly acid grasslands with acidic flushes, grass-heaths, dry heathlands, marshy grasslands, bracken (*Pteridium aquilinum*) slopes and smaller areas of wet heathland and scrub. The area to be impacted comprises only of acid grassland, with no other habitats listed above to be impacted.

The grassland is closely grazed by horses with several areas of fly-tipping, and disturbed ground from off-roading activities.

Watercourse

A small brook will also be culverted to allow the temporary haul road to be constructed (see 'Appendix B – Water Crossing' for further details). An ordinary water course consent has been submitted for these works. The culverts will be removed and the banks of the stream reinstated on completion of the works.

Figure 2 Picture of the proposed temporary haul road route looking towards the existing access track (polluted stream visible)



Source: MMB

6.2 Species

Waxcaps

The grassland supports a number of fungi species and is of particular importance for waxcaps. A survey was undertaken by Peter Struggess in October 2020 which recorded the species present as well as the areas of higher and lower ecological value (these are shown in relation to the temporary haul road route on the proposed works drawing in Appendix B – Site Plan). The full Fungi report can be found in Appendix C.

Table 1: Waxcap species present within/adjacent to the proposed temporary haul road

Scientific Name	Common Name	Rarity (UK)
<i>Hygrocybe ceracea</i>	Butter Waxcap	Common
<i>Hygrocybe chlorophana</i>	Golden Waxcap	Infrequent
<i>Hygrocybe conica</i>	Blackening Waxcap	Common
<i>Hygrocybe insipida</i>	Spangle Waxcap	Common
<i>Hygrocybe laeta</i>	Heath Waxcap	Uncommon
<i>Hygrocybe mucronella</i>	Bitter Waxcap	Infrequent
<i>Hygrocybe pratensis</i>	Meadow Waxcap	Common
<i>Hygrocybe psittacina</i>	Parrot Waxcap	Common
<i>Hygrocybe quieta</i>	Oily Waxcap	Infrequent
<i>Hygrocybe reidii</i>	Honey Waxcap	Common
<i>Hygrocybe russocoriacea</i>	Cedarwood Waxcap	Common
<i>Hygrocybe virginea</i>	Snowy Waxcap	Common
<i>Clavaria acuta</i>	Pointed Club	Common
<i>Clavaria fumosa</i>	Smoky Spindles	Common
<i>Clavulinopsis helvola</i>	Yellow Club	Common
<i>Clavulinopsis luteoalba</i>	Apricot Club	Infrequent
<i>Entoloma</i> spp.	Pinkgill (at least 4 species present)	Infrequent
<i>Geoglossum fallax</i>	An earthtongue	Common

Source: Peter Struggess

Reptiles

The area within the redline boundary was surveyed for reptiles in May 2020, however, no reptiles were recorded this is likely due to the extremely short sward height resulting from horse grazing. Low numbers of common lizard and slow worm were recorded however within the existing Welsh Water site boundary where the grassland is not grazed.

Based on the findings of the previous surveys (detailed in the EclA produced for the main planning application) no other species/ species groups are considered to be at risk as a result of the development.

7. Mitigation and Control Measures

- A toolbox talk will be provided to the permanent staff before works commence and any ecological risks will be included in the site induction. The toolbox talk will highlight the value of the SINC grassland for fungi and reiterate that the working area should be kept to a minimum with no storage or plant movements outside of the demarcated works area.
- Control measures to minimise the risk of sedimentation and pollution run-off into the surrounding habitat will be implemented during construction works. These measures are set out in a Construction Management Plan. The primary measure will be silt fencing installed along the southern boundary of the proposed haul road working area and either side of the of the culverted stream.
- Non-calcareous stone (e.g. sandstone) should be used for the temporary haul road to prevent a change in the PH of the soil.
- Sandbags filled with pre-washed non-calcareous stone will be installed either side of the culvert. The culvert pipes will also be covered in visqueen plastic sheeting before the stone is laid on top. These measures will significantly reduce the amount of run-off.
- On completion of the temporary haul road, herras fencing should be installed along the southern length of the temporary haul road to prevent plant and lorries leaving the route and ensure the areas on the southern side of the road are not used for storage of materials.
- The turf in the high value fungi area will be carefully lifted and stored on wooden pallets in an area of ephemeral vegetation to the north of the existing service reservoir (see Figure 3 below). The turfs should be at least 15cm in depth. During dry spells (over 7 days of no/negligible rain) the turfs will be watered to ensure survival of the turf.
- The low value fungi area will be protected outside of the working area using herras fencing to ensure no extra habitat is lost as a result of the works.
- Construction in the low and high value fungi areas has been minimised by locating the site compound, car park and material storage areas away from the edges of temporary haul road; which was the construction team's preferred location and the standard way to layout a construction site.
- Areas within MMB control but not within the working area will be regularly mown/strimmed (except for between September and November) and the clippings removed to encourage waxcaps to fruit. This will ensure the waxcaps continue to thrive in the absence of horse grazing.
- On completion of the works the temporary haul road will be removed and the turfs will be reinstated in the high value fungi area, with the site reinstated as per the landscaping drawing (Appendix B – Landscaping and Planting General Arrangement).

Figure 3 Proposed turf storage area to the south of the proposed temporary haul road



8. Conclusions

We accept that waxcap mitigation/reinstatement is extremely difficult to achieve, therefore we have looked at all possible design options to avoid the area. As it is not possible to complete the works safely without crossing the grassland to the south of the existing site (see justification section), we have designed the site setup to reduce the footprint as much as we can in the waxcap areas. This includes placing the site offices and storage areas away from the temporary haul road. We hope that by reinstating the turfs from the high value areas that some of the spores will be maintained, or at least that by maintaining the same soil composition waxcaps will be able to recolonise.

Appendices

- A Legislation and Planning Policy
- B Drawings
- C Fungi Report

Appendix A Legal Context and Policy Framework

The legal context for ecological survey is provided by a framework of international and domestic legislation which aims to protect specific sites, habitats and species, to conserve biodiversity and promote the resilience of ecosystem services.

Biodiversity and Ecosystem Resilience

Welsh Water has an obligation under Section 6 of the Environment (Wales) Act 2016 that requires all public bodies to seek to maintain and enhance biodiversity so far as is consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems.

Also relevant is the Wellbeing of Future Generations (Wales) Act 2015, which requires Public Bodies listed in the Act to embed sustainable development principles, aiming at achieving the seven well-being goals, including to maintain and enhance a biodiverse natural environment. Whilst Welsh Water is not a Public Body under the Well-being Act, it is aiming to contribute to Wales achieving the well-being goals and has embedded well-being objectives in its '2050 vision'¹. To maintain and enhance biodiversity as part of its function will support Welsh Water's contribution to the Well-being goals, and the company's '2050 vision'.

Protected Sites

Statutory protected sites include:

- European Sites (Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the International Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention);
- National Sites (Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR)) protected under the Wildlife and Countryside Act 1981 (as amended); and
- Local Sites (Local Nature Reserves (LNRs)), protected under the National Parks and Access to the Countryside Act 1949 (as amended).

These sites are protected by the relevant legislation regardless of whether planning permission is required. Where planning consent is required, they will also be protected by Planning Policy.

Country Parks, Local Wildlife Sites (LWS) including Sites of Importance for Nature Conservation (SINC), and Ancient Woodlands are protected by Planning Policy, which will apply to schemes which require planning consent.

Protected Species

Statutory protected species include:

- European Protected Species (EPS) protected under the Conservation of Habitats and Species Regulations 2017 (as amended); and
- Nationally Protected Species, protected under the Wildlife and Countryside Act 1981 (as amended) (WCA); Protection of Badgers Act 1992; Countryside and Rights of Way Act 2000 (CROW); and Salmon and Freshwater Fisheries Act 1975.

This legislation protects different species to varying degrees, and in most cases their habitats also, regardless of whether planning permission is required. In addition, these species are also afforded protection through Planning Policy, which requires that they are a 'material consideration' of any planning application.

¹ Welsh Water 2050 Vision (March 2018) <https://www.dwrwymru.com/en/Company-Information/Business-Planning/Welsh-Water-2050.aspx>

Species and habitats of conservation concern include:

- Section 7 species and habitats listed in the Environment (Wales) Act 2016 (the Environment Act). These species and habitats are also known as 'Species and Habitats of Principal Importance for the Conservation of Biodiversity in Wales and England'; and
- Locally Protected Species which may be identified within County Local Biodiversity Action Plans (LBAP)

Invasive Non-Native Species

Invasive Non-Native species (INNS) listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) may also occur within or adjacent to where schemes are to be delivered. It is illegal to plant or otherwise cause to grow in the wild any plant listed in [Schedule 9](#) or to release or allow to escape into the wild any animal which is listed in Schedule 9.

The Invasive Alien Species (Enforcement and Permitting) Order 2019 strengthens the legislation in relation to widely spread species of European Union concern; requiring effective management measures to be put in place to minimise their impacts. It is an offence to import, keep, breed / grow, transport, sell, use, allow to reproduce, or release into the environment the species listed in Schedule 2 of this Order.

National Planning Policy

At national level, Planning Policy Wales² Chapter 6 (Distinctiveness and Natural Places) requires Local Authorities, when formulating development plan strategies, policies and development proposals to consider the need to:

- Support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily and non-statutorily designated sites are properly protected and managed;
- Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- Secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Planning Policy Wales is supplemented by Technical Advice Note (TAN) 5³ (Nature Conservation and Planning) which provides further advice and detail about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN brings together advice on sources of legislation relevant to various nature conservation topics which may be encountered by local planning authorities.

Local Planning Policy

At a local level, planning policies are set out within Merthyr Tydfil County Borough Council Replacement Local Development Plan (Adopted January 2020).

The existing Welsh Water site is located within a Policy EnW5: 'landscape protection' area with the proposed extension including the new service reservoir being situated within a Policy EnW3: 'Regionally important geological sites, sites of importance for nature conservation, local nature reserves and priority habitats and species' area. As the proposed development is located within Blaenmorlais SINC, Policy EnW1: 'Nature Conservation and Ecosystem Resilience' is also relevant to the scheme. Such developments which are deemed to have an adverse impact on these sites will only be permitted where it can be demonstrated that:

- The need for the development clearly outweighs the conservation value of the site;

² Planning Policy Wales Edition 10 (December 2018) Welsh Government

³ Technical Advice Note 5 Nature Conservation and Planning (September 2009) Welsh Government

- Adverse impact on nature conservation features or geological features can be avoided;
- Appropriate and proportionate mitigation and compensation measures can be provided; and
- The development maintains and where possible enhances biodiversity and geodiversity interests.

The following Supplementary Planning Guidance (SPG) documents are also relevant to the scheme:

- SPG 4 – Sustainable Design (July 2013); and
- SPG 5 – Nature and Development (May 2015)

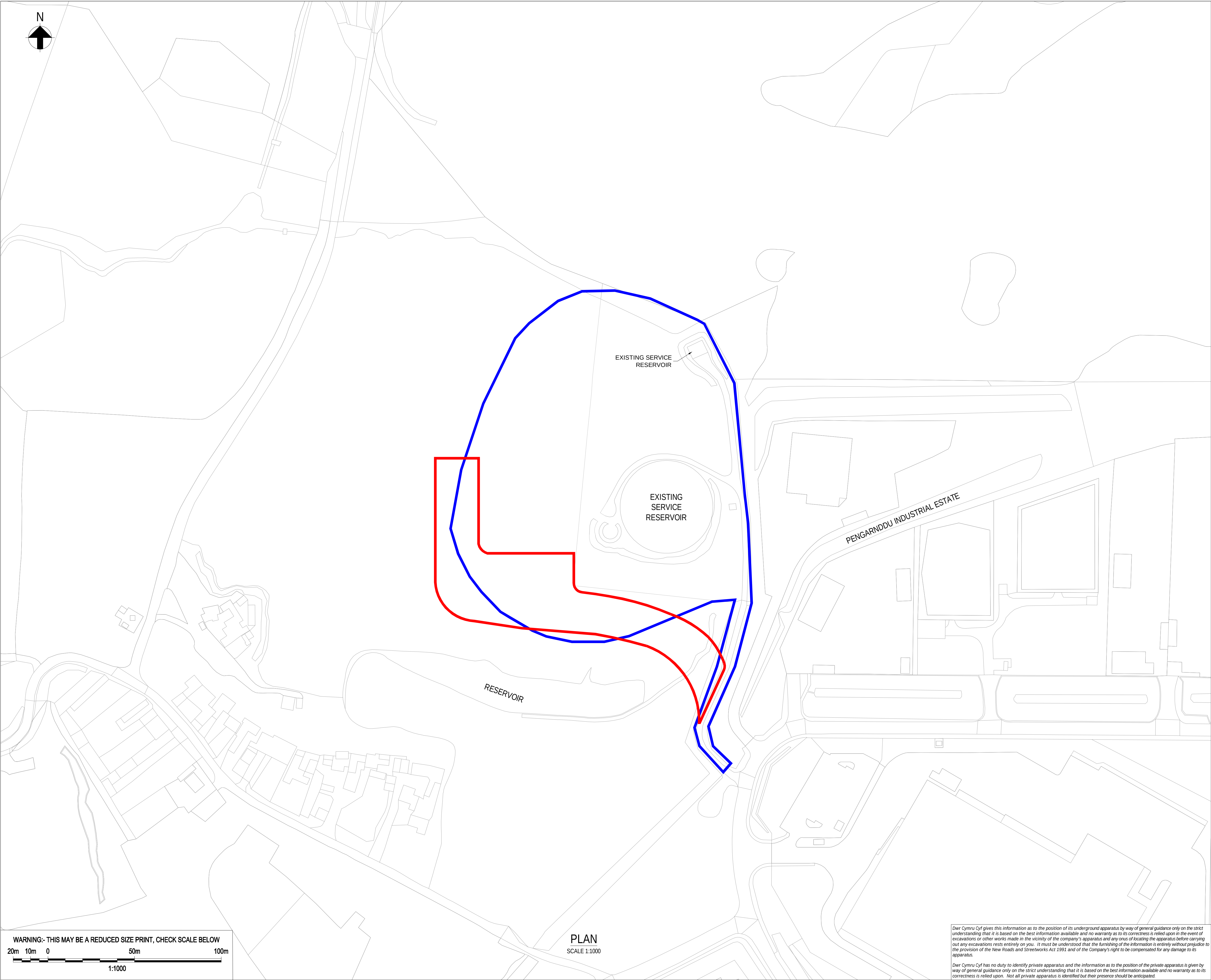
Welsh Water Plans and Policies

Welsh Water have translated their legal obligations into several internal policies, strategies and reports including;

- Welsh Water 2050 (March 2018) Strategic Response 14: Supporting Ecosystems and Biodiversity which states; *“We will look for ways to help nature, enhance biodiversity and promote ecosystem resilience while we carry out our water and sewerage activities”*.
- Making Time for Nature (2017): Welsh Water’s Plan for Maintaining and Enhancing Biodiversity under Section 6 of the Environment (Wales) Act 2016.
- Doing the right thing for nature (December 2019) Welsh Water’s statutory report on the Biodiversity Duty under Section 6 of the Environment (Wales) Act 2016.

Developers must ensure that they comply with the above legislation and policy by fully assessing the potential impacts on protected and priority species and habitats from the proposed development. Where planning permission is required, this assessment must be finalised prior to and included with the submission of the planning application. The Planning Authority can then ensure that the necessary protected species and habitats information has been provided to inform an assessment and that proposals are in full accordance with relevant legislation and planning policy.

Appendix B Drawings



NOTES:

1. DRAWING IS TO SUPPORT PLANNING APPLICATION ONLY.

SITE ADDRESS:
UNNAMED ROAD
PENGARNDU INDUSTRIAL ESTATE
MERTHYR TYDFIL
CF48 2TA

LEGEND:

- TEMPORARY HAUL ROAD PLANNING
APPLICATION BOUNDARY (0.69 HA)
- APPLICANT OWNERSHIP BOUNDARY (2.83 HA)

P01	08.04.21	CY	FOR TEMPORARY HAUL ROAD PLANNING APPLICATION	NA	MT	08.04.21
Rev.	Date.	Drawn.	Description.	Chkd.	Appd.	Date.
Capital Delivery Alliance Cyngghrair Cyflawni Cyfalaf Ty Awon, Spooner Close, Coed Kearnaw, Newport, NP108FZ						
Project Name.			PENGARNDU SERVICE RESERVOIR			
Drawing Title.			SITE LOCATION PLAN (TEMPORARY HAUL ROAD)			
Suitability.					Suitability Code.	
FOR INFORMATION					S2	
Originator. CY		Designer. SC			Date. 06.04.20	
Internal Project Number. IS44		Scale. 1:1000 @ A1			Rev. P01	
Drawing Number. B10237-123532-XX-XX-DR-TA-DI0204						

Dwr Cymru Cyf gives this information as to the position of its underground apparatus by way of general guidance only on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. It must be understood that the furnishing of the information is entirely without prejudice to the provision of the New Roads and Streetworks Act 1991 and of the Company's right to be compensated for any damage to its apparatus.

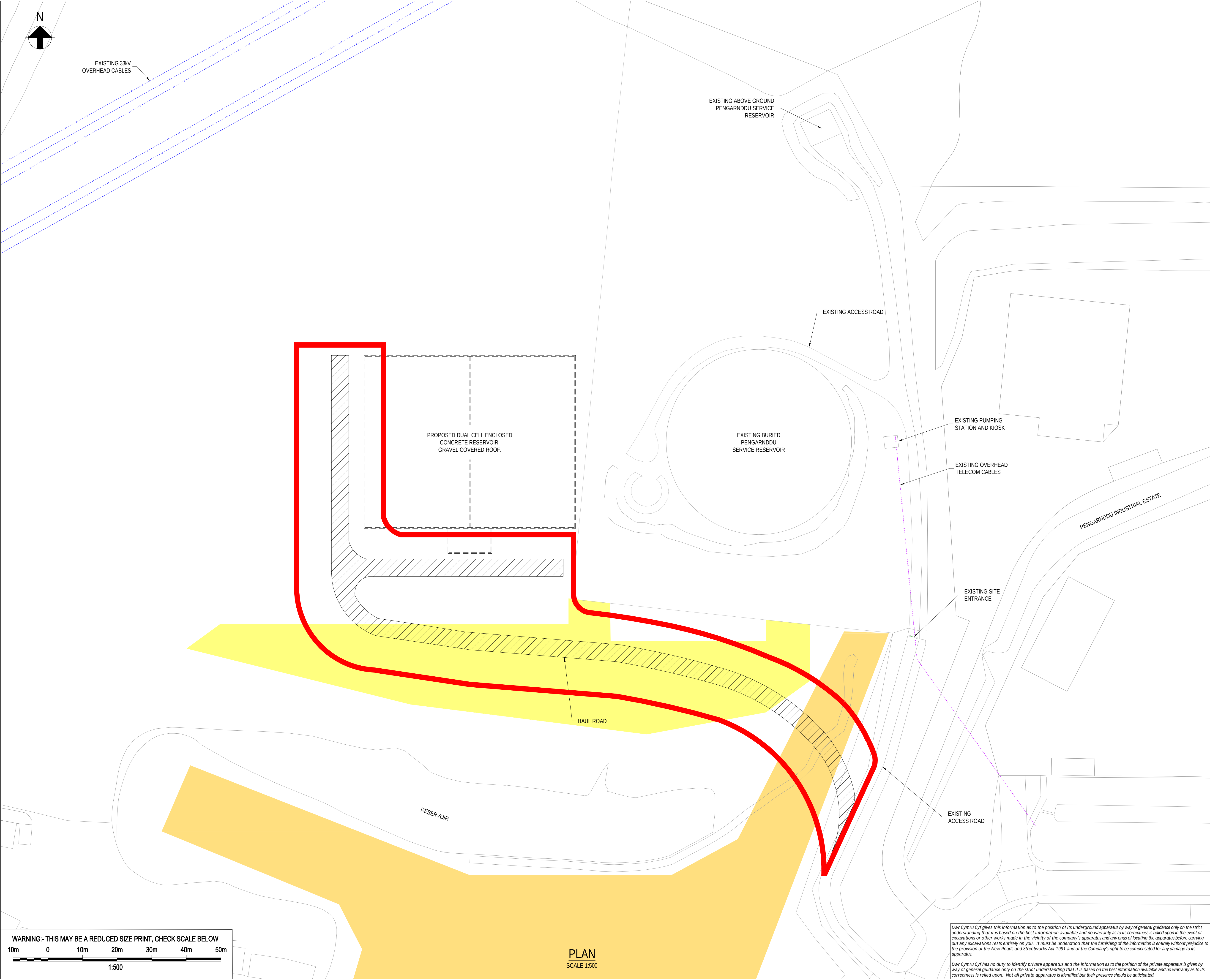
Dwr Cymru Cyf has no duty to identify private apparatus and the information as to the position of the private apparatus is given by way of general guidance only on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon. Not all private apparatus is identified but their presence should be anticipated.

WARNING:- THIS MAY BE A REDUCED SIZE PRINT, CHECK SCALE BELOW

20m 10m 0 50m 100m

1:1000

PLAN
SCALE 1:1000



NOTES:

1. DRAWING IS TO SUPPORT PLANNING APPLICATION ONLY.

SITE ADDRESS:

UNNAMED ROAD

PENGARNDU INDUSTRIAL ESTATE

MERTHYR TYDFIL

CF48 2TA

LEGEND:

T

EXISTING OVERHEAD TELECOMS

E

EXISTING OVERHEAD ELECTRICITY CABLE

EXISTING STRUCTURES

TEMPORARY HAUL ROAD PLANNING APPLICATION BOUNDARY (0.69 HA)

AREA OF HIGH VALUE FOR GRASSLAND FUNGI (FROM STURGESSES ECOLOGY REPORT OCT 2020)

AREA OF SMALL NUMBER OF COMMON FUNGI SPECIES (FROM STURGESSES ECOLOGY REPORT OCT 2020)

HAUL ROAD

P01	08.04.21	CY	FOR TEMPORARY HAUL ROAD PLANNING APPLICATION	NA	MT	08.04.21
Rev.	Date.	Drawn.	Description.	Chkd.	Appt.	Date.
Capital Delivery Alliance Cyngdrair Cyflawni Cyfalaf Ty Awon, Spooner Close, Coed Karnew, Newport, NP108FZ Project Name. PENGARNDU SERVICE RESERVOIR Drawing Title. SITE PLAN (TEMPORARY HAUL ROAD) Suitability. FOR INFORMATION Suitability Code. S2 Originator. CY Designer. SC Date. 06.04.21 Internal Project Number. IS44 Scale. 1:500 @ A1 Rev. P01 Drawing Number. B10237-123532-XX-XX-DR-TA-DI0205						

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PLAN

SCALE 1:500

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Appendix C Fungi Report



Dr Peter Sturgess CEnv MCIEEM
12 Lon Ysgubor
Rhiwbina
Cardiff
CF14 6SG

Tel: 02920 652 459
Mobile: 07969 352131
e-mail: peter@sturgess-ecology.co.uk
web: www.sturgess-ecology.co.uk

Elliott Hughes
Mott MacDonald Bentley
Ty Awen
Spooner Close
Celtic Springs Business Park
Newport
NP10 8FZ

30 October 2020

Dear Elliott,

Proposed works at Pengarnddu service reservoir, Dowlais Top, Merthyr Tydfil.

Notes following check for fungi, 29 October 2020

I carried out a check for grassland fungi at Pengarnddu yesterday morning as requested, accompanied by your colleagues Huw and Ashley, who were able to clarify the extent of the proposed construction works.

Survey conditions were poor due to rain and strong wind, but it was still possible to find and identify grassland fungi. However, the sub-optimal weather did limit taking photographs and meant that a higher proportion of specimens had to be collected for subsequent confirmation by microscope. The survey was undertaken by a simple walk-over method, covering the area by a series of informal transect lines, aiming to pass within approximately 5-10m of all parts of the search area.

Search effort was focussed on waxcaps (*Hygrocybe* spp.), Fairy Clubs (*Clavariaceae*) and Earthtongues (*Geoglossaceae*), because these are recognised as being valuable indicators of grassland with high nature conservation value. *Entoloma* species were not identified to species due to potential for misidentifications, especially from such weather-beaten specimens. Other genera that were present included *Panaeolus*, *Stropharia*, *Galerina* and *Psilocybe*, but these were not recorded as they have little significance for nature conservation.

On arrival at the site it was evident that there was an area with abundant waxcaps on old spoil heaps to the south of the existing reservoir. It was decided to search this area too, to provide a comparison with the proposed construction area and help to place the findings in a wider context.

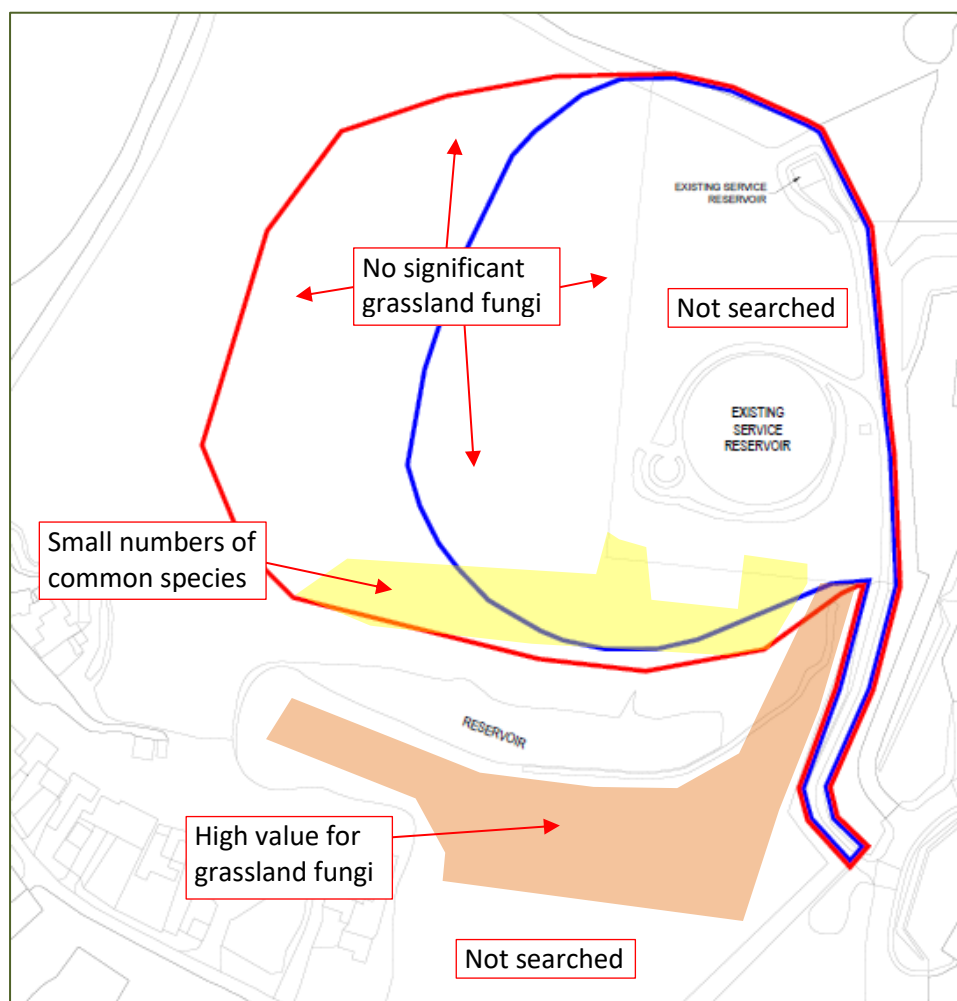
Some areas were excluded from the search because they have been subject to recent earthworks and compaction by heavy machinery. Others were excluded because of standing water or marshy vegetation that would not be suitable for grassland fungi. In addition, it was not possible to access within the existing reservoir compound (and the grass in the compound had only just been mown). On looking through the railings it seemed unlikely that the compound would have held any notable fungi, although a few patches of *Hygrocybe virginea* were noted within about 5m of the fence in a few places.

The observations from today's visit are summarised in Table 1 below. I have also marked up one of your plans to show the approximate distribution of fungi in the areas that were searched, as Figure 1. I've included a few photographs as an appendix, but unfortunately the poor weather and a wet camera means that most of the images are poor quality, and I haven't included many fungi pictures.

Table 1. Grassland fungi observations 29 October 2020

Species	Common name	Construction area	Adjacent southern area
<i>Hygrocybe ceracea</i>	Butter Waxcap		✓
<i>Hygrocybe chlorophana</i>	Golden Waxcap		✓
<i>Hygrocybe conica</i>	Blackening Waxcap		✓
<i>Hygrocybe insipida</i>	Spangle Waxcap		✓
<i>Hygrocybe laeta</i>	Heath Waxcap		✓
<i>Hygrocybe mucronella</i>	Bitter Waxcap		✓
<i>Hygrocybe pratensis</i>	Meadow Waxcap		✓
<i>Hygrocybe psittacina</i>	Parrot Waxcap	✓	✓
<i>Hygrocybe quieta</i>	Oily Waxcap		✓
<i>Hygrocybe reidii</i>	Honey Waxcap		✓
<i>Hygrocybe russocoriacea</i>	Cedarwood Waxcap		✓
<i>Hygrocybe virginea</i>	Snowy Waxcap	✓	✓
<i>Clavaria acuta</i>	Pointed Club	✓	✓
<i>Clavaria fumosa</i>	Smoky Spindles		✓
<i>Clavulinopsis helvola</i>	Yellow Club		✓
<i>Clavulinopsis luteoalba</i>	Apricot Club		✓
<i>Entoloma spp.</i>	Pinkgill (at least 4 species present)		✓
<i>Geoglossum fallax</i>	An earthtongue		✓

Figure 1. Grassland fungi observations, 29 October 2020



On the basis of yesterday's findings I would conclude that the majority of the proposed construction area has negligible value for grassland fungi. It is usually not possible to say this with certainty on the basis of just one survey visit, but the confirmation of abundant fungi to the south indicates that the timing was ideal on this occasion. The observation of large areas of disturbance and soil compaction from recent ground investigations also means that this area is likely to have already lost any value that it may have had.

The southern part of the construction area does support a few common species, and I recommend that this should remain undisturbed if possible. This is because fungi populations only develop very slowly over time, and there may be species that are present within the soil that are not yet at the stage where they produce fruiting bodies. In particular, I hope that it would be possible to retaining the area immediately adjoining the eastern end of the compound fence, which was the only location for *Hygrocybe quieta* on today's survey.

I recommend that the area of high fungi diversity beyond the south of the proposed construction area should be protected from disturbance during the proposed works. Grassland habitat such as this, with 9 or more species of waxcaps, is assessed as being important in a county context¹. The value of the area should be made known to Dwr Cymru Welsh Water so that they can ensure that it is protected during any future works. The Merthyr Tydfil County Borough Council Ecologist should also be informed, so that the information can be added to the data for the Blaenmorlais Site of Importance for Nature Conservation (SINC) (the study area lies within the designated SINC).

Fungi surveys are usually undertaken by repeat visits over several months through the fruiting season, which enables a wider range of species to be recorded. I do not think this is necessary for the proposed construction area, although further surveys would almost certainly record additional species in the land to the south.

Please let me know if you require any further information.

Yours sincerely,

A handwritten signature in blue ink, reading 'P.W. Sturgess', is shown on a light blue rectangular background.

Peter Sturgess

¹ Criteria for the Selection of Sites of Importance for Nature Conservation in the County Boroughs of Blaenau Gwent, Caerphilly, Merthyr Tydfil and Rhondda Cynon Taf (the 'Mid-Valleys Area') Prepared by Caerphilly County Borough Council, Merthyr Tydfil County Borough Council and Rhondda Cynon Taf County Borough Council. June 2008.

Appendix. Photographs from site visit



*The grassland within the compound was not accessed, but it appears to be mostly too damp and disturbed to be of high value for fungi, although small numbers of *Hygrocybe virginea* were observed through the railings.*



Some of the grassland south of the reservoir compound fence has been subject to recent ground investigations. This would have removed any potential interest for grassland fungi from these areas.



Much of the proposed construction area west of the compound has been disturbed by recent earthworks. This would not be expected to support any grassland fungi and was therefore not included in the search area.



Recent track marks from heavy machinery and puddles of standing water indicate that much of the construction area is disturbed, compacted and waterlogged, and so is unlikely to have value for grassland fungi.



*Formerly disturbed ground in the south of the construction area has been colonised by small numbers of common grassland fungi, such as these *Hygrocybe virginea*.*



The land to the west of the proposed reservoir supports very few fungi. Factors contributing to this may include water-logging, ground compaction, off-road vehicles and pollution (e.g. from burned out cars or fly-tipping).



Hygrocybe virginea – *Snowy Waxcap*. A very common species, and the most frequent species in the construction area.



Hygrocybe psittacina – *Parrot Waxcap*. A very common species, present within the construction area.



A large *Hygrocybe pratensis* specimen. This was one of the more frequent species south of the proposed construction area.



Hygrocybe laeta – *Heath Waxcap*.
Found in several places south of the
construction area.



Hygrocybe mucronella – *Bitter
Waxcap*. Only seen in 2 locations
south of the construction area.



A patch of *Hygrocybe ceracea* south
of the proposed works area.



A mix of Hygrocybe virginea and H.pratensis on old spoil heaps south of the proposed works area.



A very weathered specimen of Clavaria fumosa (Smoky Spindles) south of the construction area.



Geoglossum fallax (an earthtongue), south of the construction area.