

Ynysarwed Mine Water Treatment Scheme Otter and Water Vole Survey Report

The Coal Authority

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Quality information

Prepared by	Checked by	Verified by	Approved by
PM Graduate Ecologist	HM Senior Ecologist	KW Associate Director	UJ Principal Ecologist

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V2	22/06/2020	Updated the report with the results of the survey of the ditches and pond not accessible during the survey in May 2020.	UJ	UJ	Principal Ecologist
V3	19/09/2020	Updated the report with the results of the second water vole survey in September 2020.	UJ	UJ	Principal Ecologist
V4	12/04/2021	Updated the report with revised Proposed Development description & Site Boundary	UJ	UJ	Principal Ecologist

Prepared for:

The Coal Authority

Prepared by:

AECOM Limited
1 Callaghan Square
Cardiff CF10 5BT
United Kingdom

T: +44 29 2067 4600
aecom.com

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1. Executive Summary

AECOM was instructed by the Coal Authority to carry out an otter (*Lutra lutra*) and water vole (*Arvicola amphibius*) survey of the River Neath, the Neath Canal, reedbeds and wet ditches at Ynysarwed (hereafter referred to as 'the Site').

The Preliminary Ecological Appraisal completed by RSK in 2019 (RSK, 2019) recorded suitable habitat for otter and water vole. This included the Neath Canal and wet ditches and reedbeds. The River Neath was recorded as suitable habitat for otter, with both potential for holts and couches and tree's and thick vegetation for otters to 'rest up' in.

The development proposals are for the replacement of the existing mine water treatment facility and comprises construction of a new building to house a new active treatment scheme, and installation of the new treatment plant; modifications to elements of the existing treatment scheme to allow continuous treatment during construction, and re-use of certain elements of the existing scheme; decommissioning and removal of the existing plant within the existing building, the building will be retained; works around the area of the existing active treatment site to improve landscape, accessibility and water management; and, works to the existing reed beds to improve accessibility and water management. This will include construction of new pipework around the reed beds and improvements to the existing access track (infilling of potholes). Tree removal from the Neath Canal Site of Importance for Nature Conservation (SINC) is required to facilitate construction (shown as Category C trees on Drawing Number MWTS-AEC-YN-XX-DR-C-2009). Further vegetation removal works may be required to facilitate a pipeline along the eastern and southern edges of the reedbed. The Proposed Development will be undertaken via permitted development and is due to commence in March/April 2022.

Otter

Evidence of otter including an active otter holt was recorded during the survey within the survey boundary. An active otter holt was recorded on the bank of the River Neath between two boulders. This holt showed clear evidence of use with several otter footprints and a spraint at the entrance to the cavity between two boulders. A further three spraints were identified in close proximity to the holt within the survey boundary. The holt is a non-breeding holt.

At the time of the survey no evidence of otter was found adjacent to the Neath Canal but is likely to be used for commuting and foraging otter. The reedbed, wet ditches and pond provide suitable habitat for use by otter. However, no evidence of this was recorded during the survey.

Water Vole

The watercourses and pond on Site are surrounded by vegetated banks which provide suitable habitat for water vole, therefore two water vole surveys were undertaken. However, no evidence of water vole was found during the surveys and no records were received during the desk study undertaken in December 2019. It appears likely water vole are absent from the survey area.

Recommendations

Recommendations are as follows:

- **Pre-Construction Survey:** Due to the time that would have elapsed between the otter and water vole survey and the proposed construction start date it is recommended that a pre-construction survey for otter and water vole is undertaken on suitable watercourses to check for activity or any newly created holts or couches, or burrows, and to confirm that the non-breeding status of the holt has not changed. It is considered extremely unlikely that it will change given the current level of disturbance in the vicinity of the holt.
- **Otter Mitigation:** Minor improvement works on the access track and pipeline installation (including access to the pipeline area) must not be undertaken during the period one hour either side of dusk and dawn.
- **Pollution Control During Construction:** Pollution control measures will be implemented in order to avoid and minimise adverse effects of pollution and runoff on the pond and surrounding environment.

The Executive Summary is not a substitute for the full report. Refer to the full text for further detail.

2. Introduction

AECOM was instructed by The Coal Authority to carry out an otter (*Lutra lutra*) and water vole (*Arvicola amphibius*) survey of the River Neath and the adjacent canal, reedbeds and wet ditches at Ynysarwed Mine Water Treatment Works (hereafter referred to as 'the Site').

The Site is in two parts, a linear built area and areas of woodland in the north-east and a reedbed in the south-west. A central grid reference between the two parts is SN 80638 01442 and the boundary of the Site is shown in Appendix A.

The Preliminary Ecological Appraisal completed by RSK in 2019 (RSK, 2019) recorded suitable habitat for otter and water vole. This included the adjacent canal and on-site wet ditches and reedbeds. The River Neath was identified as suitable habitat for otter, with both potential for holts and couches and tree's and thick vegetation for otters to 'rest up' in.

This report outlines the status of otter and water vole within the otter and water vole survey area and makes initial indications of potential effects and recommendations for further surveys, mitigation and enhancement.

The otter and water vole survey area encompasses all suitable and accessible watercourses, reedbeds and wet ditches within the Site and within a 100m radius from the Site boundary.

2.1 Site Location and Description

The total area of the Site is approximately 4 ha. The northern area of the Site is located adjacent to the B4242 and either side of the Neath Canal. There is also an area of woodland adjacent to the B4242 and a reedbed of approximately 1.9 ha included within the Site boundary between the A465 and River Neath to the south. The Neath Canal runs through the north-east section of the Site (see Appendix A). Wet ditches run adjacent to the canal bordering agricultural land surrounding the Site. Trees and thick vegetation run throughout the site and border the river and canal and surround the reedbeds.

2.2 Proposed Development

The development proposals (hereafter referred to as the 'Proposed Development') are for the replacement of the existing mine water treatment facility and comprises the following principal operations:

- Construction of a new building to house a new active treatment scheme, and installation of the new treatment plant;
- Modifications to elements of the existing treatment scheme to allow continuous treatment during construction, and re-use of certain elements of the existing scheme;
- Decommissioning and removal of the existing plant within the existing building. The building will be retained;
- Works around the area of the existing active treatment site to improve landscape, accessibility and water management. This will include changes to surfaces and path levels and new soft landscape areas; and,
- Works to the existing reed beds to improve accessibility and water management. This will include construction of new pipework around the reed beds and improvements to the existing access track (infilling of potholes).

It is uncertain whether trees with limbs overhanging the B4242 may require felling or limb removal, to allow for construction traffic and machinery. Tree removal from the Neath Canal Site of Importance for Nature Conservation (SINC) is required to facilitate construction (shown as Category C trees on Drawing Number MWTS-AEC-YN-XX-DR-C-2009). Further vegetation removal works may be required to facilitate a pipeline along the eastern and southern edges of the reedbed, which may impact upon the reedbed edges and areas of grassland verge adjacent to the public footpath and vehicular access. There is also potential for the reedbed to undergo works to improve accessibility, treatment capacity and water management, but plans are not confirmed at the time of writing and it is assumed for the purposes of this report that no major de-vegetation or de-sludging works are being undertaken within the reedbed.

The Proposed Development will be undertaken via permitted development and is due to commence in March/April 2022.

2.3 Objectives

The purpose of this report is to inform the proposed development prior to submission of an Ecological Impact Assessment report to the local authority for consideration. The report outlines the findings from the survey and puts forward recommendations for further survey and potential options for avoidance, mitigation or compensation of the potential impacts of the proposed development (if required).

The objectives of the otter and water vole survey were to:

- identify the presence or absence of otter and water vole within the Site using recognised survey methodologies;
- make an initial ecological assessment of the Site in respect to otter and water vole;
- highlight any initial potential ecological constraints and potential impacts in respect to otter and water vole;
- outline further survey work that may be required; and,
- make initial suggestions for mitigation, compensation and enhancement of the natural features identified on the within the Site in respect to otter and water vole.

2.4 Legislation

2.4.1 Otter Legislation

Otter is protected under The Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence to:

- deliberately capture, injure or kill an otter;
- deliberately disturb an otter; and/or,
- damage or destroy a breeding site or resting place of an otter.

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,
- in the case of animals of a hibernating or migratory species, to hibernate or migrate; or,
- to affect significantly the local distribution or abundance of the species to which they belong.

Otter is also protected under the Wildlife and Countryside Act 1981 (as amended) making it 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 obstructs access to any structure or place used by an otter for shelter or protection; and,
- sell, offer or expose for sale any otter.

A Natural Resources Wales licence would be required for any works likely to constitute an offence in respect to otters.

2.4.2 Water Vole Legislation

Water vole is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), for which the following are offences:

- intentional killing, injuring or taking;

- intentionally or recklessly damaging/destroying a place of shelter/protection;
- intentionally or recklessly disturbing an animal in its place of shelter/protection;
- intentionally or recklessly obstructing access to its place of shelter/protection; and/or,
- possession (live or dead, including derivatives), sale and offering for sale.

A Natural Resources Wales conservation licence would be required for any works likely to constitute an offence in respect to water vole.

2.5 Quality Assurance

The survey and subsequent report were undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to maintaining our certification to the international standards BS EN ISO 9001:2015 and 14001:2015 and BS ISO 45001 2018. In addition, our IMS requires careful selection and monitoring of the performance of all sub consultants and contractors.

3. Methodology

3.1 Desk Study

A data search was undertaken by RSK in December 2018 (RSK, 2019). The objective of the desk study was to review the existing information available in the public domain concerning species and habitats to identify the following:

- protected and noteworthy species-records (including otter and water vole);
- designated site locations and citations (with reference to otter and water vole);
- designations and legal protection of noteworthy species (including otter and water vole); and
- details of species and habitats listed on the Local Biodiversity Action Plan.

A search was made for information on statutory designated sites (often internationally and nationally important sites for ecology) within 2 km of the Site and non-statutory designated sites (often important in a local context) within 1 km. A search was also made for records of noteworthy species within 1 km of the Site.

This information was collected using the following resources:

- South East Wales Biodiversity Records Centre Limited;
- Natural Resources for Wales;
- Joint Nature Conservation Committee (JNCC) website;
- South East Wales Biodiversity Records Centre Limited; and,
- Local Biodiversity Action Plan (BAP) website.

3.2 Field Survey

The survey area included the River Neath and canal as well as the surrounding vegetation and reedbeds and wet ditches. The Site boundary and 100m buffer make up the 'survey area' which is shown in Appendix A.

3.2.1 Otter Survey

Surveys for otter were conducted by two AECOM ecologists on 28 May 2020 and 19 June 2020 under suitable weather conditions. A detailed visual search of the watercourses within the otter survey area was undertaken. Only one otter survey of the entire Site was undertaken 19 June 2020.

Searches for otter activity were undertaken following guidance provided in Monitoring the Otter (Chanin and Smith, 2003). The survey methodology involved recording all evidence of otter activity, as detailed below:

- Holt entrances – holes characteristically in riverbanks or under tree roots at river edges.
- Couch – typically an above-ground nest-like structure used as a resting place.
- Footprints – five toes which arch around the front of a large pad. In soft ground claw marks and webs between toes may show. Often seen in sand or soft mud deposits along rivers and under river bridges.
- Otter trails through vegetation – otters use the same routes within their territory to access rivers, so the paths are usually worn leading down the banks to the river and may have a 'slide' at the end of well-worn mud as they slide into the water.
- Spraint – found in prominent locations adjacent or along a river, for example on tree stumps, large rocks and ledges under bridges. Sometimes otters may build a 'castle' of soft mud or sand along a river to spraint on top of. Spraints are made up of clearly visible fish bones and scales, with some other small bones, fur, feather and insect fragments sometimes present. Fresh spraint is usually black, tarry and sticky. It has a distinctive sweet-musky odour, which is not unpleasant.
- Anal jelly – a jelly-like secretion that smells strongly of otter and can vary in colour from pale brown, greenish to amber.
- Other signs – for example, occasionally remains of dead otters can be seen on roads.

3.2.2 Water Vole Survey

Surveys for water vole were conducted by AECOM ecologists on 28 May 2020, 19 June 2020 and 15 September 2020. A detailed visual search of the watercourses within the water vole survey area was undertaken.

It was not possible to access the entire survey area on the first visit in May, and as such a second visit was required in June to cover the areas missed in May. The September visit covered the entire survey area.

The survey methodology used was in accordance with the Water Vole Mitigation Handbook (Dean *et al*, 2016). This consisted of identifying the extent and distribution of water vole through searches of both banks (where possible) of watercourses for field signs indicating recent activity (i.e. feeding stations and latrines), as well as signs of past and potentially present activity (i.e. burrows). Where conditions allowed, a surveyor walked in the watercourse channel to check for field signs along the water's edge.

The survey methodology involved recording all evidence of water vole activity, as detailed below:

- Faeces – these are 8 – 12mm long and 4 – 5mm wide, with a smooth 'tic tac' like shape, varying in colour from green to black, and odourless with a putty-like texture.
- Latrines – found throughout the territory, often comprising a pile of flattened droppings, with fresh droppings on top, used to mark range boundaries or favoured spots close to burrows.
- Feeding stations – comprise a neat pile of chewed feeding remains, often comprising lengths of vegetation up to 10cm long, showing the marks of the two large incisors.
- Burrows – these are typically wider than they are high, with a diameter of 4 – 8cm, and are usually located along the water's edge.
- Lawns – around burrows there is often an area of grazed vegetation, surrounded by taller vegetation, these are most often produced when the female is nursing young.
- Nests – these comprise a large ball of shredded material, often woven into the bases of rushes and reeds, and are normally found in areas where the water table is high, such as wetlands.
- Footprints – as with other rodents, the footprints of the fore foot, show four toes in a star arrangement, with the hind foot showing five toes. The size of footprints for the hind foot is 26-34mm.
- Runways – these are low tunnels within the vegetation, often adjacent to the water's edge.
- The presence of water vole can also be confirmed by sightings and from the characteristic 'plop' of the water vole entering the water, which acts as a warning to other voles.

Latrines are indicators of territorial behaviour, which in turn generally correlates with water vole breeding activity. For the presentation of water vole distribution data, sections of the ditch where latrines were identified would be illustrated as "Breeding Activity", and sections of the ditch where evidence other than latrines was identified would be illustrated as "Non-Breeding Activity".

The Water Vole Mitigation Handbook (Dean *et al*, 2016) recommends that two surveys are conducted throughout the year – once April – June, and another July – September, each separated by at least two months.

3.3 Limitations

Ecological surveys are limited by factors which affect the presence of animals such as the time of year, migration patterns and behaviour. Therefore, absence of evidence is not always conclusive proof that the species is not present or that it will not be present in the future. Nevertheless, the results of this survey have allowed an evaluation of the potential for water vole and otter to be present and whether there will be an impact in relation to the Proposed Development.

Access to the river was limited as not all the bank could be accessed directly. Binoculars were used to view opposite sides of bank and up and downstream where direct access was not possible. Direct access was available for approximately 30% of the river, 60% was able to be viewed from the opposite side of the riverbank and 10% was unable to be accessed due to thick vegetation obscuring the view of the riverbank (indicated on the map in Appendix A). This was not considered to present a significant constraint to the survey as the thick vegetation created darkly shaded areas which are unsuitable for water vole. It is possible that signs of otter could have been missed in the unsurveyed areas, and any works within 30 m of this area could potentially cause an offence in relation to otter if a holt/couch was present.

Access to the wet ditches on Ynysarwed Farm land was not possible at the time of the first survey on 28 May 2020 due to access not being granted. However, access was granted on 19 June 2020 and survey was completed. Immediately prior to the survey there was rain for a 24-hour period. This is a limitation as the water levels in the watercourses were higher than usual and, in combination with the rain could have washed away potential indicators of otter and water vole. However, other indicators such as holts, couches and burrows are not affected by the rain and would still be identifiable if present.

4. Results

4.1 Desk Study

A desk study conducted by RSK in 2019 (RSK, 2019), found that many noteworthy and protected species have been recorded within the Site, including otter. Otter have been recorded 67 times within 100m of the site with the most recent record being from 2017. No records of water vole were found during the desk study.

The designated habitats, sites and features, in relation to otter and water vole, within proximity to the Site are listed in Table 3.1 below.

Table 4-1: Non-Statutory sites within 1km of the Site boundary

Site Name	Designation	Approximate Distance (m)	Description
Neath Canal	Site of Important Nature Conservation (SINC)	Within the Site boundary	The Neath Canal SINC supports diverse aquatic and emergent flora along much of its length. Adjacent habitats include wet woodland, fen, marshy grassland and saltmarsh, and species including otter and water vole.
Neath Port Talbot Watercourses	SINC	Within the Site boundary	There are two SINC watercourses running across the site in a roughly north-west.
Ancient semi natural woodland	SINC	Within the Site boundary	The Ancient semi natural woodland SINC borders the site boundary to the north, on the other side of the Neath
Sarn Helen	SINC	Approximately 370 m from the Site boundary	Sarn Helen supports a range of habitats including native woodland, scrub, hedgerows, upland acid

Site Name	Designation	Approximate Distance (m)	Description
			grassland, upland heathland and rush pasture, blanket bog and ffridd

Source: RSK, 2019

4.2 Field Survey

4.2.1 Otter Survey

Evidence of otter including an active otter holt was recorded during the survey within the survey boundary. Photographs of the watercourses/habitats are provided in Appendix B. Habitat information on the watercourses and surrounding area surveyed and a summary of the survey results is provided in Table 3.2.

An active otter holt was recorded on the bank of the River Neath between two boulders. This holt showed clear evidence of use with several otter footprints and a spraint at the entrance to the cavity between two boulders. A further three spraints were identified in close proximity to the holt within the survey boundary.

The River Neath is suitable for otter with good foraging and commuting potential. Fish were recorded during the survey. The habitat immediately adjacent to the river provided suitable areas for otter to "rest up" including trees, thick scrub and reeds.

The Neath Canal is suitable for otter with good foraging and commuting potential. At the time of the survey no evidence of otter was found adjacent to the canal but it is likely to be used for commuting and foraging otter. The surrounding reedbed and wet ditches also provide potential habitat good for use by otter. However, no evidence of this was recorded during the survey.

Otter are present and active within the Site and surrounds and are likely using the area within the Site in conjunction with wider territories on the River Neath.

Due to the presence of anglers on the banks of the River Neath opposite the holt location, the farm land behind, the Neath Canal used for recreation and the A465 dual carriageway 100 m north the holt is already subject to high levels of noise and visual (human presence) disturbance, and as such is unlikely to be used for breeding. Furthermore, the level of activity outside the holt (spraints and footprints) were not at the level indicative of breeding use; this evidence is typically at much higher instances at a breeding holt due to ongoing heavy use than were observed at the time of survey.

The wet ditches and pond on Ynysarwed Farm were surveyed for evidence of otter in June once access was granted, no evidence of otter activity was found. However, it is likely otter use the wet ditches for commuting as they are in close proximity to known areas of otter activity and are suitable for otter.

4.2.2 Water Vole Survey

The watercourses on Site are surrounded by vegetated banks which provide suitable habitat for water vole. However, no evidence of water vole was found during the surveys and no records were received during the desk study undertaken in December 2019.

Water vole are considered to be absent from the Site and immediate surrounds given that access was possible to the majority of the watercourse and no evidence of presence was recorded in the surveys or preceding desk study. The wet ditches and pond on Ynysarwed Farm land were surveyed for evidence of water vole in June once access was granted, and found to be suitable for supporting water vole. However, no evidence of water vole was found.

As per the Water Vole Mitigation Handbook (Dean *et al*, 2016) a second visit to survey for water vole was carried out in September 2020. No evidence of water vole was found.

Table 4-2. Habitat information for the watercourses surveyed

Watercourse	Evidence of otter or water vole	Likelihood of otter presence	Likelihood of water vole presence	Field signs		Comments	Photograph reference (Appendix B)
				Grid reference	Habitat type		
River Neath	Evidence of otter, no evidence of water vole	Present	Likely absent	SN 80448 01065	Main river	Holt, Gap between boulders extending into cavity. Footprints leading into hole and spraint at entrance.	1,2
				SN 80331 01099	Main river	Spraint on rock, intact, dry.	3,4
				SN 80372 01089	Main river	Spraint on rock, intact, dry.	5,6
				SN 80380 01079	Main river	Spraint on rock, intact, dry.	7
Neath Canal	No evidence of otter or water vole	Likely present	Likely absent	n/a	Canal	Suitable habitat for commuting and foraging otter. Abundance of fish. Well connected to main river.	9,10,11
Reed bed	No evidence of otter or water vole	Likely present	Likely absent	n/a	Reed bed	Suitable habitat for resting otter.	14,15, 17, 18
Wet ditches	No evidence of otter or water vole	Likely present	Likely absent	n/a	Wet ditch	Suitable for commuting otter. Suitable for water vole.	19, 20
Pond	No evidence of otter or water vole	Likely absent	Likely absent	n/a	Standing water	Suitable for resting and foraging otter and water vole.	21, 22

5. Potential Impacts

5.1 Otter

The otter holt is considered to be used by non-breeding otter due to the existing levels of noise disturbance and visual disturbance from human presence.

The holt is located 31.42 m from the Proposed Development on the opposite riverbank. Research by Bureau Veritas has identified that most construction activities involving ground penetration or noise (i.e. excluding percussive activities such as impact piling) would not result in disturbance (i.e. noise levels above 50 dB (*Lutra lutra*)) if undertaken over 30 m from their resting locations (holts and couches).

Therefore, given the existing levels of noise disturbance and visual disturbance from human presence the construction works are unlikely to cause disturbance to otters using the holt outside of peak use (i.e. outside of the period one hour either side of dusk and dawn).

Otter activity is unknown in one area of the River Neath due to dense vegetation preventing access to and visual observation of the riverbanks. At its closest point the unsurveyed stretch of river is 35 m from the access track. Works on the access track will be limited to infilling of potholes with gravel or asphalt and use of a whacker plate to flatten. Works will be undertaken during daylight hours, avoiding one hours either side of dusk and dawn. Existing noise levels generated by the A465 that, if present, otter in this area would be habituated to. The works are unlikely

to generate noise that would be above background levels over 35 m. The dense vegetation between the access track and river forms a visual barrier. Therefore, there are no potential impacts on otter as a result of access track improvement works.

Lighting is not required during construction or operation in the as part of the pipeline installation or access track improvement works. There will be no impacts of lighting disturbance on otter.

5.2 Water Vole

Water vole are considered absent from the Site and the immediate surrounds. There will be no impacts on water vole.

6. Recommendations

6.1 Pre-Construction Survey

Two weeks prior to construction commencing a pre-construction check should be undertaken to confirm that the non-breeding status of the holt has not changed. It is considered extremely unlikely that it will change given the current level of disturbance in the vicinity of the holt.

Two weeks prior to construction commencing a pre-construction check should be undertaken to check for any new water vole burrows or otter holts/couches that may have been created since the last survey.

6.2 Otter Mitigation

Works on the access track must not be undertaken during the period one hour either side of dusk and dawn.

Works including access to the pipeline installation must not be undertaken during the period one hour either side of dusk and dawn.

6.3 Pollution Control During Construction

Pollution control measures as required Guidance for Pollution Prevention (GPPs) and where these have not been replaced the Environment Agencies Pollution Prevention Guidelines (PPGs) will be implemented in order to avoid and minimise adverse effects of pollution and runoff on the pond and surrounding environment. This will be implemented via a Site Construction Management Plan (CMP).

As of the 17 December 2015 all Pollution Prevention Guidance Documents published by the UK environment agencies were withdrawn. Although they provide useful advice on the management of construction to avoid, minimise and reduce environmental impacts, they should not be relied upon to provide accurate details of the current legal and regulatory requirements and processes. They are referred to in this document alongside other current guidance and in the context of scheme and site-specific mitigation measures.

Measures will be employed to ensure that dust is minimised during the construction works. Measures will be in place in order to deal with pollution incidents efficiently.

In order to avoid potential pollution effects to the site and surrounding habitats during construction, all refuelling and servicing of vehicles will be carried out within a designated area with an impermeable base. To prevent spillages, refuelling will be carried out by pumping through a trigger delivery nozzle. Fuel, oil and other potential contaminants will be stored within bunded tanks to 110% of the volume stored and only the minimum quantity required will be stored on site. The designated area will be maintained in a secure and clean manner. An adequate quantity of oil absorbent material will be stored on site and spillages cleared up immediately. All construction equipment will be maintained in good working order and checked regularly for spillages/leaks.

Concrete will either be imported from a local batching plant or a concrete batching plant will be established on Site. The final choice will depend on the chosen contractor, the availability of local supply and the time of year. If concrete is to be batched on site, appropriate containment and clean-up measures and procedures will be put in place that are in accordance with industry standards. Particular care will be taken when pouring concrete at foundations, following specific method statements to ensure there is no spillage risk or contamination of soils and vegetation.

7. References

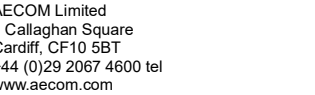
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Appendix A Site and Boundary and Field Survey Results



WYNYSARWED MINE WATER TREATMENT SCHEME

THE COAL AUTHORITY

LEGEND

-  Site Boundary
-  100m Buffer
-  30m Buffer around Otter Holt/Couch
-  Otter - Spraint (dry, intact)
-  Otter - Holt or couch
-  Accessed, no limitations
-  Viewed from opposite bank or upstream/downstream with binoculars
-  No access and unable to view
-  Watercourse

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AECOM Internal Project No:

60624809

Drawing Title:

LOTTER AND WATERVOLE SURVEY RESULTS - MAY 2020

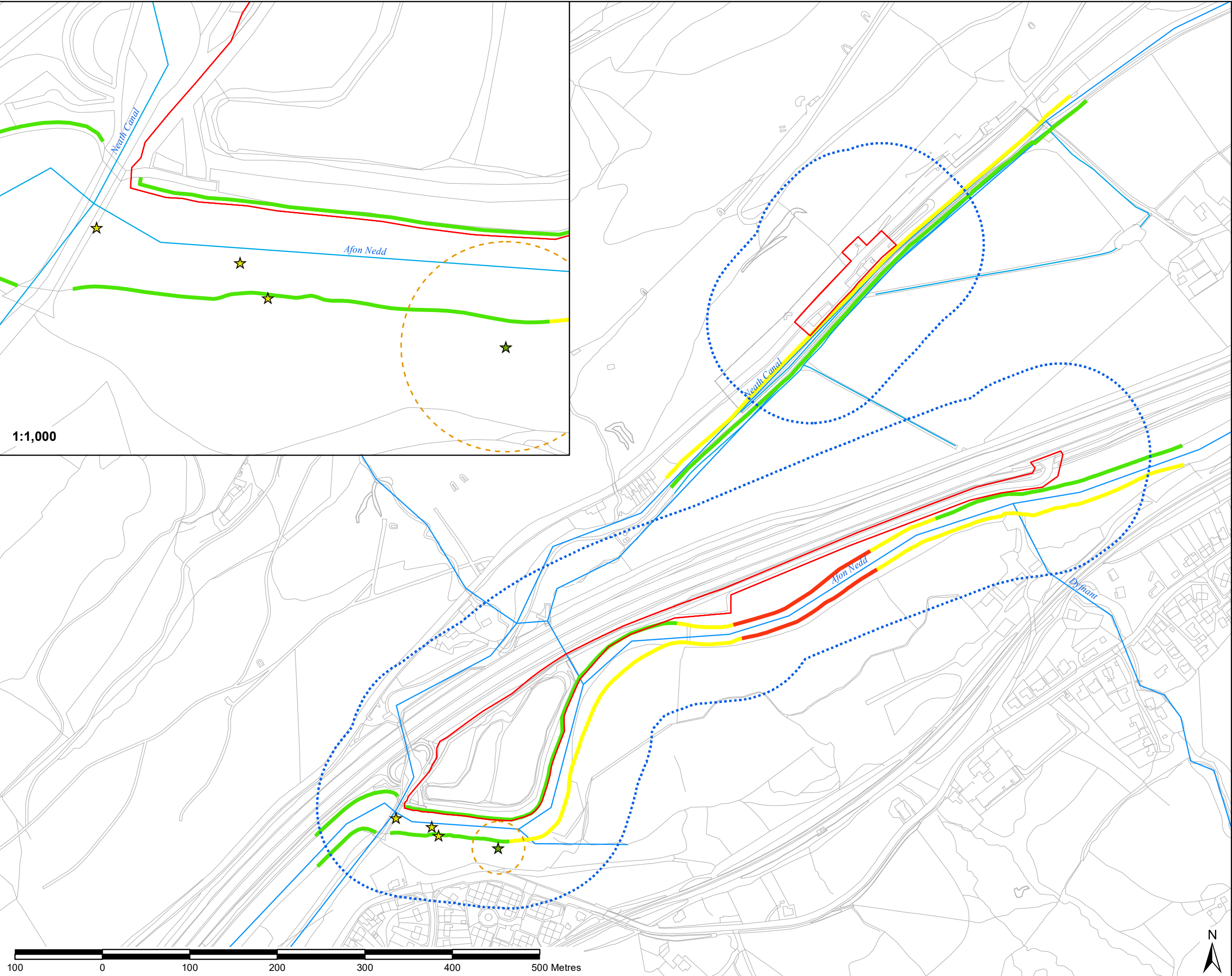
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Drawing No: Rev:

FIGURE 1 A

Drawn: Chk'd: App'd: Date:

AM BM UJ 12/04/21



Appendix B Photographs of Site and Otter evidence



Photograph 1. Otter holt recorded on bank of River Neath



Photograph 2. position of holt on river



Photograph 3. Otter spraint found on rock in River Neath



Photograph 4. Location of rock on which spraint was recorded



Photograph 5. Spraint on rock in River Neath



Photograph 6. Spraint recorded on rock in River Neath



Photograph 7. Spraint recorded on rock in the River Neath



Photograph 8. Area of River Neath in which spraints were recorded



Photograph 9. Neath Canal showing vegetation cover



Photograph 10. Neath Canal facing south-west direction



Photograph 11. Neath Canal leading to car park



Photograph 12. River Neath towards southern boundary of site. Vegetation becoming thicker and restricting access



Photograph 13. River Neath facing south-west direction



Photograph 14. River Neath facing north-east direction, showing areas which could not be accessed directly



Photograph 15. River Neath at the southern boundary of the site



Photograph 16. Track running adjacent to River Neath, thick vegetation cover obscuring view of river



Photograph 17. Northern end of Neath Canal



Photograph 18. Neath Canal



Photograph 19. Wet ditch running parallel to the Neath Canal



Photograph 20. Wet ditch running across agricultural fields (red line marks location)



Photograph 21. Ynysarwed Farm Pond



Photograph 22. Ynysarwed Farm Pond showing recently raised or cleared banks

