



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

Ein cyf/Our ref: CAS-144980-M7J2
Eich cyf/Your ref: 21/0273/08

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24/05/2021

Annwyl Syr/Madam / Dear Sir/Madam,

BWRIAD / PROPOSAL: PROPOSED BYPASS

LLEOLIAD / LOCATION: LAND TO THE WEST OF LLWYDCOED AND THE EAST OF PENYWAUN, LINKING THE A465 AT CROESBYCHAN WITH THE A4059 AT THE SOUTH EAST CORNER OF PENYWAUN

Thank you for consulting Cyfoeth Naturiol Cymru / Natural Resources Wales about the above, which we received on 09/04/2021.

We have significant concerns with the proposed development as submitted. We recommend you should only grant planning permission if the following requirements are met and you attach the following conditions to the permission. Otherwise, we would object to this planning application.

Section 106 Agreement : Long term management, monitoring and maintenance of new and retained habitats and structures.

Requirement 1: Further information is required to demonstrate that the proposal will not be detrimental to the maintenance of the favourable conservation status of Bats (European Protected Species).

Requirement 2: Commitment to longer term dormouse habitat management and monitoring, and dormouse monitoring, to be reflected in the submitted ES.

Requirement 3: Submission of a Detailed Groundwater Monitoring Plan.

Requirement 4: Submission of baseline groundwater level monitoring information.

Requirement 5: Submission of baseline groundwater quality monitoring information.

Requirement 6: Submission of a groundwater monitoring report.

Requirement 7: Landscape – further mitigation is considered.

Condition 1: Designated Sites - Construction Environmental Management Plan – Habitat Protection and Mitigation.

Condition 2: Designated Sites - Landscape and Ecological Management Plan – SSSI and Habitats.

Condition 3: Immediately prior to felling, all trees with potential roost features must be inspected for the presence of bats.

Condition 4: Mitigation and conservation strategy for dormouse.

Condition 5: Agreement on the design of planting and otter fencing at each crossing point to facilitate safe passage by bats, dormice and otter under the road.

Condition 6: A Landscape and Ecology Management Plan (LEMP) – Protected Species, which sets out the proposals for the long-term management of the habitats provided in mitigation for impacts on protected species, and species monitoring proposals.

Condition 7: Prior to its installation, full details of lighting shall be submitted and agreed in writing.

Conditions 8 -11: Land Contamination.

Please note that the list of conditions above should not be considered to be exhaustive; if further information is provided to satisfy the requirements, it may then be necessary to request further conditions to avoid / mitigate other environmental effects. Further details in relation to each requirement and condition are given below.

We received a statutory pre application consultation notice for this proposal under Article 2D of the Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2012. We provided a substantive response to that consultation on 25/11/2020.

We attach a copy of our statutory pre-application consultation response for your information. We note a number of additional documents have been submitted at planning application stage that were not available at statutory pre-application consultation stage.

Section 106 Agreement and Conditions 1 and 2 : The proposal and control over environmental Impacts and Statutory Designated Sites

The proposed development bisects the main southern block of Tir Mawr a Dderi Hir, Llwydcoed SSSI and also affects another, smaller parcel of the site. This SSSI contains important species and habitat features. As such, the development will have a substantial impact on the site, through direct (and permanent) land-take (2.52ha) of SSSI habitats

along the footprint of the final alignment; additional impacts during construction; indirect effects such as reductions in air quality (dust during construction and incremental effects of increased NOx levels during operation); and issues for future management of the site which will be divided by a major road.

With regards to our requirements 1 and 2 at statutory pre-application stage, we note additional information submitted at planning application stage, including the 'A4059 CYNON GATEWAY NORTH - OUTLINE PHASED ECOLOGICAL CONTROL PLAN' ref. GC3144-RED-0074-XX-RP-L-0088. The document is comprehensive in its scope, although the necessary detail is lacking at this stage. (It is noted this document forms part of the Outline Construction Environmental Management Plan submitted.)

While the various measures outlined in the document appear to provide the necessary scope for minimising damage to ecological features of interest pre-, during and post-construction; the specific details for the planning, implementation and long term security of the various measures will be key in deciding whether or not the impacts of the proposed scheme will be sufficiently and effectively mitigated and/or compensated for.

While we are generally supportive of the various measures outlined in the document, the details of individual measures will need to be agreed at appropriate stages of the project, as soon as is practicable but at the very latest, a suitable time ahead of any impacts occurring from commencement of on-site works.

We would wish to be consulted on the detailed Construction Environmental Management Plan (CEMP) and Designated Sites Landscape and Ecological Management Plan (LEMP) covering Tir Mawr a Dderi Hir, Llwydcoed SSSI and other ecologically important areas.

We note the outline CEMP states that the full CEMP will be submitted to RCTCBC 12 weeks prior to start of construction. This will need to be sent to us for review and approval as early as possible to allow us sufficient time to review and to allow for any necessary amendments. For your information, at statutory pre-application stage, we advised '*Minded of the potential likely complexities of managing the construction and environmental protection, we would wish to see a fully worked up detailed CEMP in good time, ideally 6 months, ahead of the start of construction in case there are substantive issues that need considered further with the projects construction and environmental team.*' As such we highlight that submitting detailed information well in advance of the anticipated start date of works, should planning permission be granted, is important.

We would point out that the success of the measures outlined in the above document depends upon the detail yet to be put forward and the use of competent specialists working in liaison with your LPA ecologist and NRW, through all stages of the development, from pre-commencement of works, through construction to post construction phase in relation to both the application site, its environs and compensation land. As such, we welcome the opportunity to be included in the Project Environmental Management Board (PEMB) and will endeavour to send NRW representative to all meetings where possible.

Ecological compensation sites

We continue to advise that the ecological compensation sites should not only be 'secured' ahead of construction commencing but their condition (effected by a suitable management regime) should be such that they are functioning ecologically to offset the effects of the development for which they are compensating, ahead of the point of impacts occurring from on-site works. The habitat management programme for the scheme (including all compensation areas) will need to be sufficiently flexible to adapt as needed to unforeseen changes in construction programme and respond to the changing requirements of the various habitats as they develop.

Compounds and storage areas

We note that site compounds and storage areas will not be located within Tir Mawr a Dderi Hir, Llwydcoed SSSI or on habitat suitable for use by the marsh fritillary butterfly. We advise areas of other species-rich habitats or otherwise high ecological interest should also be avoided to help reduce impact of scheme.

Non-Native Invasive Species

We welcome the outline measures proposed to manage invasive non-native species (INNS) during the project and also implementation of control of these species as part of project delivery. It will also be important to ensure that the detailed CEMP (and other method statements as appropriate) contain rigorous biosecurity controls to ensure that species (INNS in particular) are not spread into the construction footprint from elsewhere by plant movements or other activities on site.

Nationally rare fungi

We note that the proposals are likely to affect the populations of the nationally rare fungi *Hypocreopsis lichenoides* (Willow Gloves) and *Hypocreopsis rhododendri* (Hazel Gloves). As previously advised, impacts on these species should be minimised by avoidance as far as is possible. Where impacts are unavoidable, every effort should be made to translocate these species to alternative suitable areas, as suggested in the Fungus Survey by Sturgess Ecology, dated April 2020.

Air Quality

At statutory pre-application consultation stage, we advised that impacts to the SSSI from the proposal included indirect effects including reductions in air quality (dust during construction and incremental effects of increased NO_x levels during operation). Dust deposition must be avoided on the SSSI but a deposition limit of 200mg/m²/day would be acceptable to limit damage to the SSSI. In addition, any damage that may occur due to any direct and indirect construction activities must be restored to SSSI quality and incorporated into the restoration plan to bring habitats back to SSSI quality.

Section 106 Agreement: Long term management, monitoring and maintenance of new and retained habitats and structures

We note the commitment to the provision of compensation land and long term management, monitoring and maintenance of new and retained habitats.

Long term management, monitoring and maintenance is required of all areas proposed to mitigate or compensate impacts of the scheme, including retained, enhanced and newly created habitats and crossing points created to provide safe passage for species across the road.

To ensure the long term management, monitoring and maintenance of new and retained habitats and structures, we advise a section 106 or similar planning obligation be put in place which:

- i. Delivers the long-term management of all retained, enhanced and newly created areas of habitat associated with the scheme, and crossing points for species, for a period of no less than 25 years
- ii. Ensures that financial measures are in place to secure ongoing habitat management and species monitoring provisions;
- iii. details the management and monitoring of all areas referred to in i;
- iv. Ensures agreement with local landowners upon whom aspects of the compensation proposals depend;
- v. details and provides assurance that an appropriately skilled body will be employed to implement the management and monitoring provisions.

With respect to controlling the further detail needed, we repeat our statutory pre-application request for conditions 1 and 2 relating to a detailed CEMP and LEMP. We also refer you to our comments relating to the CEMP in our Groundwater and Contamination section below:

Condition 1 Construction Environmental Management Plan – Habitat Protection and Mitigation

We require a Construction Environmental Management Plan (CEMP) Construction Environmental Management Plan – Habitat Protection and Mitigation, which sets out the measures to be used during construction to minimise habitat loss and for the protection of the environment during construction. We would request submission of a CEMP to be conditioned.

We advise the following condition:

No development or phase of development, including site clearance, shall commence until a site wide or phase Construction Environmental Management Plan (CEMP), Habitat Protection and Mitigation, has been submitted to and approved in writing by the Local Planning Authority. The CEMP should include:

- Construction methods, including details of plant, machinery materials and methods of working;
- Procedures to ensure only approved works occur
- Site preparation and habitat protection, including the delineation of areas to be protected, and measures for protection e.g. fencing, buffer zones.

- Soil Management, including methods of stripping, turfing, storage methods location and protection, and its reinstatement or re-use; re-establishment of vegetation and after-care.
- Detail of temporary works on habitats, such as temporary access routes, with detail of methods and mitigation to minimise the extent and duration of damage to the habitat.
- The role and level of authority of the Ecological Clerk of Works (ECoW) and details of other persons and bodies responsible for activities associated with the CEMP and emergency contact details
- Project level construction policies and procedures relevant to implementing the CEMP and minimising habitat and environmental impacts.
- Details of the construction programme including timetable for all phases,
- General Site Management: details of the construction programme including timetable, details of site clearance; details of site construction drainage, containments areas, appropriately sized buffer zones between storage areas (of spoil, oils, fuels, concrete mixing and washing areas) and any watercourse or surface drain.
- Biosecurity controls with regard to invasive non-native species
- Groundwater Management Plan
- Resource Management: details of fuel and chemical storage and containment; details of waste generation and its management; details of wastewater.
- Details of wheel wash facilities.
- Pollution Prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures and incident response plan.
- Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details

The CEMP shall be implemented as approved during the site preparation and construction phases of the development.

In preparation of the CEMP, we would recommend referring to the Guidance for Pollution Prevention documents, particularly GPP5:

https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf?utm_source=website&utm_medium=social&utm_campaign=GPP5%2027112017

We will be pleased to comment further on the above aspects and others, as relevant, when more detail is available

For the post construction phase we seek:

Condition 2: Landscape and Ecological Management Plan – SSSI and Habitats

A Landscape and Ecology Management Plan (LEMP), which sets out the proposals for the long-term management of affected habitat locations and sites identified for habitat enhancement and compensation, and the monitoring required.

We advise the following condition:

No works on site shall commence until a Landscape Ecological Management Plan (LEMP) – SSSI & Habitats, for the long-term management of affected habitat locations and sites identified for habitat enhancement and compensation has been submitted to and approved by RCTCBC. The LEMP must include:

- Details of habitats and ecological features present at habitat locations to be affected and to be managed, with suitable baseline surveys;
- Details of the desired condition of the habitat to be achieved at the habitat locations;
- Details of scheduling and timings of aftercare, habitat enhancement and compensation measures
- Details of short and long-term management, monitoring and maintenance for existing, enhanced and compensatory habitat, to deliver and maintain the desired condition;
- Details of management and maintenance responsibilities and delivery mechanisms;
- Details of the method to review and update plans (informed by monitoring) at specific intervals as agreed
- Details of the financial mechanisms to ensure delivery

The LEMP – SSSI and Habitat shall be carried out in accordance with the approved details.

Please also note that enhancement and compensation on the SSSI land outside of the redline boundary will need to be agreed with NRW and land owners as part of agreeing a SSSI Notice of Assent for those operations and activities.

Water Framework Directive Assessment

We note that the additional document, 'River Habitat Survey Report' by Redstart dated 18/11/2020, revision P01, states a Water Framework Directive Assessment is required prior to construction. We support this and we advise this is forwarded to us for comment as the River Cynon is designated as poor under the Water Framework Directive, and we need to ensure that the watercourse experiences no deterioration.

Marsh Fritillary Butterfly and Habitats Regulations Assessment (HRA)

Our advice regarding Habitats Regulations Assessment (HRA) made at statutory pre-application stage remains relevant, namely:

Under the Conservation of Habitats and Species Regulations 2017, a Habitats Regulations Assessment (HRA) should be undertaken by your Authority to assess the likely significant effects of the proposals on relevant Natura 2000 sites, including Blaen Cynon SAC. We note that a Statement to Inform the Appropriate Assessment (SIAA) has been produced as part of the application and are in broad agreement with its conclusion of no adverse effect on the integrity of Blaen Cynon SAC, given that the impacts on marsh fritillary habitat are outside of the SAC core habitat area and beyond 2km from the SAC.

We note, however, that the scheme will result in a loss of 3.85ha of marsh fritillary habitat, some of which is located within Tir Mawr a Dderi Hir, Llwydcoed SSSI. While the habitat which will be lost lies outside of the Core Habitat Area of Blaen Cynon Special Area of Conservation (SAC), it is nonetheless a very important resource which currently supports the species in good numbers. Furthermore, it is all within the Upper Cynon Valley Functional Landscape Area and any losses will affect the degree of resilience of the metapopulation within the functional area which includes the SAC. The areas of marsh fritillary habitat which are to be lost to the proposed development are also located less than 2km from other significant populations of this species such as that at Bryncarnau Grasslands, Llwydcoed SSSI. Comprehensive mitigation measures and compensation for the impacts, must be delivered by the scheme, with compensation for loss being in perpetuity.

Section 106 Agreement and Requirements 1 and 2 and Conditions 3 - 7: European Protected Species

We have reviewed the updated submitted information provided in relation to European Protected Species (EPS).

European Protected Species: Legislation and Policy

Dormice, otters and all species of British bats are European Protected Species, legally protected under The Conservation of Habitats and Species Regulations 2017 (as amended). Legal protection relates to the animals themselves and the places they use to rest and breed.

Where a European Protected Species is present and development proposal is likely to contravene the legal protection they are afforded, the development may only proceed under licence issued by Natural Resources Wales, having satisfied the three requirements set out in the legislation. One of these requires that the development authorised will 'not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range'. These requirements are translated into planning policy through Planning Policy Wales (PPW) February 2021, section 6.4.22 and 6.4.23, and Technical Advice Note (TAN) 5 , Nature Conservation and Planning (September 2009). The planning authority should take them into account when considering development proposals where a European Protected Species is present.

Section 106 Agreement: Long term management, monitoring and maintenance of new and retained habitats and structures

As outlined above, long term management, monitoring and maintenance is required of all areas proposed to mitigate or compensate impacts of the scheme, including retained, enhanced and newly created habitats and crossing points created to provide safe passage for species across the road. We have advised a condition relating to the preparation and implementation of a management plan and bespoke advice relating to species is set below. However, we also advise that it is essential that the long-term delivery of ecological mitigation and management is covered by Section 106 or similar. We refer you to our advice on pages 4 & 5 above.

Bats

We note that the submitted documents are the same as we commented on at the statutory pre-application consultation stage, with the exception of the technical note on the favourable conservation status of bats.

Bats in buildings

As indicated at statutory pre-application consultation stage, we note that some buildings within a 250m corridor centred on the proposed scheme have not been surveyed due to Covid-19 restrictions. We advise that, as a minimum, emergence surveys of the buildings concerned (S17, S27, S28 and S30 as indicated by Table 8.7 in the ES) will be required.

Bats in Trees

Our advice remains as per our statutory pre-app advice, that is we note from the information submitted that soft-felling of trees containing potential roost features (PRF) is recommended, with an inspection of the PRFs following felling. We advise that all trees with PRF must be inspected for the presence of bats *immediately prior* to felling, and that this pre-felling survey be secured through a condition.

In view of the above, we advise of the need for the following requirement and condition in relation to bats:

Requirement 1: Further information regarding bats - Additional surveys and updating of documents

We advise that at minimum, emergence surveys of the buildings not yet surveyed as a result of Covid-19 restrictions will be required. Should any significant roosts, which could be adversely affected by the proposals, be discovered during survey, we advise that mitigation proposals are established appropriate to the impacts and set out in the ES.

Condition 3: Pre-felling bat survey

No tree felling works with the potential to impact on bats shall commence until a pre-felling survey has been carried out for bats immediately prior to any works starting. If the survey confirms the presence of bats, the results of the survey together with proposed mitigation measures shall be submitted to and approved in

writing by the Local Planning Authority. The measures shall be carried out in accordance with the approved details.

Should bats be found to be present during either survey, works to the tree must not be undertaken until a European Protected Species licence has been obtained from Natural Resources Wales.

Dormice

Requirement 2: Commitment to longer term dormouse habitat management and monitoring, to be reflected in the submitted ES.

Further to our statutory pre-application consultation advice, we welcome the preparation and submission of the 'Outline Dormouse and Management and Monitoring Plan' by Redstart dated 08/02/21 revision P01. In addition to the submission of the version of the Environmental Statement which we previously commented on. We note and welcome that the outline plan indicates a commitment for the long-term management of habitat for dormice, and dormouse population monitoring for a minimum 25 year period. This should be reflected in the ES 8.6.10 which still refers to 5 years.

We accept that the loss of dormouse habitat arising from this scheme is not extensive. However, we note that there is no agreement presently with the local landowners to deliver the proposed mitigation. The applicant should note that this will need to be legally assured before NRW could issue a licence in this regard. We advise that this land is covered by the implementation of a S106 agreement or similar, as indicated above, and addressed in the Conservation plan below.

Whilst the 'Outline plan' provides the general principles of long-term dormouse habitat management and monitoring, and dormouse population monitoring, there will still be a need for detailed conservation strategy which provides further clarity and assurance as to the mitigation to be delivered.

In view of the above, we advise the following conditions in relation to dormice:

Condition 4: Mitigation strategy for dormouse (as stated in our statutory pre-application advice)

No development, including site clearance, shall commence until a site-wide dormouse conservation plan have been submitted to and approved in writing by Rhondda Cynon Taff County Borough Council (RCTCBC). The conservation plan shall build upon the principles outlined in the submitted information, and shall include:

- A written assessment of the impacts of the scheme supported by drawings showing habitat to be retained, habitat to be lost and habitat to be created which should identify the extent and location and species composition on an appropriate scale
- Details of measures to be employed to minimise severance, including drawings showing proposed dormouse crossing design at Underpass 2; we would

anticipate these drawings including detailed planting information associated with the features.

- Details of timing, phasing and duration of construction activities and conservation measures, including timetable for planting
- Timetable for implementation demonstrating that works are aligned with the proposed phasing of the construction
- Details of initial aftercare and long-term maintenance
- Ecological Compliance Audit, including key performance indicators
- Details of monitoring proposals, including timescales for the long-term monitoring, timescales for submission of monitoring reports, details of any necessary contingency and remedial actions and timescales for these actions

The Dormouse Conservation Plan shall be carried out in accordance with the approved details.

Further Advice

We also advise that the delivery of the proposed landscape planting will need to be coordinated with the adjacent consent A465 scheme, particularly in the area of the roundabout at the northern end of the scheme. We will consider this aspect in more detail when agreeing the detailed dormouse conservation strategy and at the EPS licensing stage.

Condition 5: Agreement on the design of planting and otter fencing at each crossing point to facilitate safe passage by bats, dormice and otter under the road.

Further to our statutory pre-application consultation comments on the landscape drawings GC3144-RED-61-XX-DR-L-3001, GC3144-RED-61-XX-DR-L-3002 and GC3144-RED-61-XX-DR-L-3003, we note that the same drawings have been submitted in support of this application.

Our statutory pre-application consultation comments 'We note from drawings GC3144-RED-61-XX-DR-L-3001, GC3144-RED-61-XX-DR-L-3002 and GC3144-RED-61-XX-DR-L-3003 that the colours within the key are too similar for different habitat types to be easily distinguished, and that it is difficult to tell which habitats are to be lost, retained, existing or proposed. Enhanced habitat seems not to be included.'

We advise that drawings depicting planting should be provided both at the existing scale, but additionally scaled up for accuracy, and the colours for different habitat types selected to be easy to discern. Any drawings illustrating planting for the scheme must cover, and clearly distinguish between, all existing, proposed, retained, lost and enhanced habitat. Long-term management of all retained, created and enhanced habitat to be subject to a condition.'

Therefore, our previous advice still applies and we advise that the following condition is attached to any consent granted for the scheme:

No works on site shall commence until drawings setting out the arrangement of planting at each crossing point intended to function for protected species, and design of fencing at each location where it is intended to provide safe passage by otter under the road, has been submitted to and approved by RCTCBC. The drawings shall be implemented as agreed.

Condition 6: Landscape and Ecological Management Plan – Protected Species

Our statutory pre-app advice still stands; we advise the following condition is attached to any consent granted:

No works on site shall commence until a Landscape Ecological Management Plan (LEMP) – Protected Species for the provision, management and maintenance of the landscaping and ecological features at the site has been submitted to and approved by RCTCBC. The LEMP must include:

- Details of habitats and ecological features present or to be created at the site;
- Details of the desired condition of features (present and to be created) at the site;
- Details of scheduling and timings of habitat creation and management activities
- Details of short and long-term management, monitoring and maintenance of new and existing habitats and ecological features at the site, to deliver and maintain the desired condition;
- Details of management and maintenance responsibilities and delivery mechanisms
- Details of the method to review and update plans (informed by monitoring) at specific intervals as agreed
- Details of the financial mechanisms to ensure delivery

The LEMP shall be carried out in accordance with the approved details.

Condition 7: Lighting

The submitted street lighting details appear to be the same as we commented on at the statutory pre-application stage, and therefore our previous comments still apply. We stated:

'We note and welcome that, when operational, lighting on the scheme will be restricted to the vicinity of the two roundabouts at each end of the bypass. However, we advise that the nature of this and construction lighting is agreed under a condition in order to manage the potential environmental impacts of external lighting during construction and operation of the project. We advise the following condition:'

We advise that the following condition is attached to any consent granted:

Prior to its installation, full details of lighting shall be submitted to and agreed in writing by the Local Planning Authority. The Lighting Plan should include:

- Details of the siting and type of external lighting to be used
- Drawings setting out light spillage in key sensitive areas, in particular at river crossings, underpasses and culverts intended to function as wildlife corridors
- Light spill from the proposed roadside lighting to be modelled in three dimensions, to illustrate any downward light spill and light levels surrounding the protected species crossing points most likely affected, namely, north to south: River Bridge 2, Underpass 1, and Culvert 1
- An Environmental Lighting Impact Assessment against conservation requirements for protected species
- Details of lighting to be used both during construction and operation
- Measures to monitor light spillage once development is operational

The lighting shall be installed and retained as approved during construction and operation.

European Protected Species Licence

We advise that the applicant seeks a European Protected Species licence from Natural Resources Wales under Regulation 55 of The Conservation of Habitats and Species Regulations 2017 before any works on site commence that may impact upon dormice, bats or otters. Please note that the granting of planning permission does not negate the need to obtain a licence.

Birds

We refer you to your ecologist for advice regarding birds.

Use of Culverts and Fish Migration

At statutory pre-application stage we advised of our concerns with installing new culverts into watercourses as these often hinder fish migration. We advised *'If the use of culverts in these works are justified then we strongly recommend over-sized box culverts are used and the invert of any culvert should be at least 150mm below and parallel to the natural bed of the watercourse. To minimise the effect of the culverts on the natural bed, baffles could be precast into the culvert to increase the retention of natural gravel bed. This would slow the water flow to make fish migration through the culvert easier.'*

We have considered the application information and still have concerns about the culverts being suggested, as culverts can inhibit fish passage within a watercourse. Culverts tend to cause a high flow velocity, inadequate water depth, high turbulence and the excess drop at many culvert outlets during low flows makes the culvert impassable to fish.

One way to make the culverts passable to fish would be to have baffles installed into the precast concrete prior to installation into the watercourse. This would decrease flow velocity, increase water depth and help to maintain the natural gravel bed within the culvert which would allow for fish passage through the culvert. If it is not possible to have baffles cast into the concrete prior to installation, baffles can still be put into place afterwards. We have attached some pictures with examples of baffle designs for your information.

Requirements 3 - 6 and Conditions 8 - 11: Groundwater and Contamination

We have reviewed the information submitted in relation to Groundwater and Contamination and advise as follows. We note the following Requirements are outstanding, further details are given below.

Requirement 3: Submission of a Detailed Groundwater Monitoring Plan

This remains outstanding. The nature of the proposed additional groundwater monitoring to complete a 12-month monitoring programme is to be provided. The Plan should also include a rationale for why additional monitoring locations have been proposed.

Requirement 4: Submission of baseline groundwater level monitoring information

This is partially completed but 'worst-case' groundwater conditions data still need to be provided based on a 12-month monitoring programme. (Please see Requirement 6 below).

Requirement 5: Submission of baseline groundwater quality monitoring information

Additional site investigation is currently underway as such we await additional data/report. Water quality information was obtained in January/February 2020 and was provided as part of the GIR from October 2020.

Requirement 6: Submission of a groundwater monitoring report

This remains outstanding. A baseline groundwater monitoring report has been provided although the data is not reflective of 'worst-case' conditions. Twelve months of monitoring is planned; the current groundwater monitoring report will form part of the 12-months of monitoring.

The Addendum Report on Existing Monitoring by Redstart dated 21/01/21 revision P01 states that groundwater monitoring took place along the scheme from 12th February 2020 to 24th June 2020. This period is more reflective of conditions where high groundwater levels are receding and therefore are generally not reflective of 'worst-case' groundwater levels which typically occur between October and February. The need to monitor for worst-case groundwater levels/conditions is reflected in the ICE Earthworks Guidance 2015 (2nd edition), CG 501 Design of Highway Drainage Systems, 3.22.1, and BRE 365.

In response to the need for at least 12 months of monitoring data we note it has proposed additional monitoring stations for the next phase of the ground investigation. The new locations together with the existing locations will be monitored for twelve months from the date the next investigation commences. We would advise further summary details e.g. a summary table of the proposed groundwater monitoring plan described above, such as locations to be monitored, rationale and the nature of monitoring e.g. hand-dipping versus datalogging and the temporal nature of the monitoring e.g. monthly or weekly or daily etc. The shallow nature of groundwater levels in some areas of the scheme may influence how groundwater monitoring is performed.

We also seek further clarification on the following: In the Earthworks Plan drawing Figure GC3144-RED-61-XX-DR-C-601 Revision P02 dated July 2020 depicting Earthworks Calculations, three areas designated as pink speckling in have not been included in the earthworks calculation. Additional information needs to be provided as to the ground engineering that will take place in these particular areas.

Comments on Existing and Proposed Monitoring Hole Location Plan July 20

This plan requires some brief supporting information as to why the proposed monitoring locations have been proposed and what the nature of the monitoring will be.

Comments on the Preliminary Sources Study Report September 2020 Appendix part 2

We note the contents of this document which appears to be largely a compendium of historic maps along the proposed route. There appears to be no interpretation of the significance/relevance of these in relation to the proposed scheme. It is understood that additional site investigation and monitoring works are planned for the proposed scheme and it would therefore be important to understand the factors and rationale that are being considered to inform upon the proposed scope of works. These factors may include historic information either associated with land contamination or the potential for land contamination such as the Aberdare cemetery located within the southern portion of the proposed scheme. For example, does the historic presence of Aberdare Cemetery within the southern portion of the proposed scheme, have implications with respect to drainage, contamination and groundwater? Is the cemetery still used for burial? In essence, do the historic maps provide additional information to inform upon additional site investigation and monitoring for contaminants? We are uncertain if this has or will be done.

Comments on the A4059 Cynon Gateway North – Pre-application Consultation (PAC) Report – February 2021

Pg28. Table 3: Requirement 5 - Submission of baseline groundwater level monitoring information

It is stated:

Water levels in the vicinity of the cutting to the north of the Proposed Scheme is approximately 1mbgl., however nearby boreholes put groundwater in the area approximately 2mbgl. Therefore no interaction anticipated.

We request information as to what is the anticipated invert elevation of the cutting to the north given that the worst-case groundwater levels have not been encountered to date.

It is stated:

Information on the attenuation ponds is described in the drainage report, and also outlined in the WFD report. A two-stage treatment will be implemented for all attenuation ponds. The 1st stage pond will intercept and treat drainage water, and the 2nd stage pond will primarily provide flood attenuation at the 1 in 100 year plus 40% climate change. The 1st stage attenuation pod will be unlined and planted with marginal aquatic vegetation. This will allow seepage into groundwater. The

2nd stage attenuation pond will be fully lined with an impermeable base layer, either clay or geotextile membrane. Marsh grassland will be planted to surround both attenuation ponds.

At the Pond 2 location, BH35 has yielded a maximum groundwater level measured between February and June 2020 of approximately 179mAOD. This level does not appear to have changed significantly over the monitoring period. Invert levels of the retention (unlined) and attenuation (lined) ponds appear to be 176.735mAOD and 177.825mAOD respectively which are below the maximum groundwater level measured to date. The 179mAOD groundwater level is likely to be exceeded when groundwater levels are measured during the wetter periods of the year typically winter months which generally reflect worst-case conditions. Pond 2 also appears to be connected to a water course/channel that eventually discharges into the Afon Cynon. Given that the Pond 2 system is operating within groundwater and that the groundwater is likely to be hydraulically connected to the water course that flows into the Afon Cynon, the applicant needs to provide comment on how the current proposed Pond design and operation protects groundwater and the Afon Cynon from routine stormwater pollutants and potential impacts from a road spill, albeit a rare event.

It is stated:

Regarding the requirement for the Groundwater monitoring, this is agreed and this requirement has been included as part of the mitigation proposed in the ES (ES Volume 1, Paragraph 11.6.10 & 18.6.11).

The following paragraphs from ES Volume 1 together with Paragraph 11.6.12 are provided for clarity:

11.6.10. Earthworks drainage shall be installed no deeper than the minimum required depth to minimise lowering of the groundwater level within the aquifer. The installation of groundwater monitoring points during the ground investigations, in areas where cuttings are anticipated, will permit the effects of the proposed cutting on the hydrogeology to be understood. Monitoring will be undertaken for a period of 12 months to allow seasonal variations to be understood. The likelihood of risks to the aquifer will be fully understood once depths to rockhead along the route of the Proposed Scheme have been determined.

11.6.11. The completion of a targeted site investigation within the area of historical mining area in the south of the study area will allow the development of risk assessments and appropriate mitigation measures to prevent adverse impacts from any pervious workings and better understand the remaining mineral deposits within the study area.

11.6.12. It is important that the quantum of mine voids is established beneath the site along with the hydrogeological model, including the mechanism for mine water drainage and where it intercepts the ground surface and can flow to streams and rivers. Circumstances may arise where grout curtains are deemed at risk of causing

damming effects and unwanted new springs / flows. In this scenario alternative road support solutions such as piled granular blankets should be considered to reduce the impact on groundwater flows as they can be designed to be permeable, reducing the impact on the current groundwater regimes and the risk of unwanted new flow paths / springs.

We note that attenuation Pond 1 located in the southern portion of the proposed scheme is located closest to existing groundwater monitoring borehole BH19. Monitoring data indicates that groundwater levels measured in BH19 have remained at 0.03mbgl. The applicant needs to confirm if this particular monitoring point is functioning correctly.

Pg29 Table 3: Requirement 7 – Groundwater Monitoring

It is stated:

Groundwater quality was part of the initial ground investigation carried out in January/February 2020 and was reported on in the GIR completed in October 2020. The information that the NRW outlined in the meeting on the 11/12/2020 had only been partially addressed. The additional sampling and laboratory testing proposed as part of the next phase of the ground investigation would address this. The GIR to my knowledge was not available in its completed form during the public consultation.

The applicant needs to confirm when the additional land quality data, interpretation and reporting will be made available to us and also the timetable for the CEMP.

It is stated:

The completion of a targeted site investigation within the area of historical mining area in the south of the study area to allow the development of risk assessments and appropriate mitigation measures proposed as part of the mitigation set out in Chapter 11, Geology and Soils.

The CEMP document, once commissioned will be prepared using current on-site ground investigation results assessed against UK soils and groundwater standards, and the pattern of impact would then be compared with the baseline model in order to confirm the full extent of areas of contamination. The highway scheme will have a Ground Investigation Report (GIR) and Geotechnical Design Report (GDR) design stage which will require a risk assessment to be undertaken to determine what, if any, site specific remediation measures are required to break contaminated land linkages. The investigation is currently on site.

The findings from the targeted site investigation of historic mining areas should be included in the additional land quality report. Also we request the applicant provide us with a copy of the GIR.

Comments on the Outline Construction Environmental Management Plan dated January 2021 Revision P1.0

The current version of the CEMP will require updating based on additional information obtained from further site investigations and monitoring which have been proposed.

Therefore, in addition to the requirements outlined above, we advise the following conditions be included on any permission your authority is minded to grant.

Condition 1: Construction Environmental Management Plan (CEMP)

Aspects of the CEMP will be informed upon by the additional site investigation that is currently underway. We note an outline CEMP has been provided. An updated version of the CEMP informed by the additional site works and monitoring data needs to be provided.

Condition 8: No <development or phase of development>, shall commence until the following components of a scheme to deal with the risks associated with contamination at the site, has been submitted to and approved in writing by the Local Planning Authority.

This is partially completed but is still required. Aspects of this condition need revisiting in light of the additional site investigation that is currently underway. Fulfilment of the Condition will be informed upon by additional site data that is currently being obtained through further site investigation works. For ease of reference, please see Appendix A to this letter for details of this condition.

Condition 9: Unexpected contamination encountered during scheme development

This is still required. It is applicable during all site related works that disturb ground. For ease of reference, please see Appendix A to this letter for details of this condition.

Condition 10: No infiltration of surface water drainage into the ground is permitted other than with the express written consent of the local planning authority

This is still required. There are some queries associated with the performance and potential hydraulic linkage/contamination linkage between attenuation ponds, groundwater and surface water. For ease of reference, please see Appendix A to this letter for details of this condition.

Condition 11: Foundation design using penetrative methods

This is still required. Potential risks, if any, are to be informed by the additional site works that are currently underway. The current design suggests potential risks are low. For ease of reference, please see Appendix A to this letter for details of this condition.

Requirement 7: Landscape

In our statutory pre-app letter dated 25/11/20 we advised the following requirement with respect to landscape.

'Requirement: Information to address whether further appropriate planting options are available and could be secured to reduce the effects of the scheme on the landscape character of the BBNP, or to demonstrate if the current proposals minimise the effects.'

We refer you to the advice provided in our statutory pre-application consultation response, attached, dated 25/11/2020. This advice remains relevant.

As you will note we stated 'We advise that further mitigation should be considered, in the form of substantial tree and woodland planting around the corridor of the Nant Hir and nearby stream to replace some of the wooded character of the area and integrate the proposal more successfully with its surroundings. There will be a need to avoid planting on other high quality habitats, but from the details provided it would appear there is land immediately outside the red-line boundary near the Croesbychan roundabout/Nant Hir valley, which may be of low value, with potential to reduce the effect on landscape character. Whilst it may not be possible to mitigate for all effects, due to the nature of the proposals, effects on the landscape character of the National Park should be minimised as far as possible.'

We acknowledge the applicant's response in the PAC report. We note the need to balance tree and woodland planting with other habitats. This is reflected in our statutory pre-application consultation response. However, we do not accept that there are no opportunities within the area of the Nant Hir corridor and nearby stream for additional woodland planting, either within or outside the red line boundary. Habitats shown on the landscape plan in this area include existing and amenity grassland and agricultural grassland, which are not noted as ecologically important. Detailed survey and consideration would be required to identify suitable areas for additional planting.

Flood Risk

Our flood risk advice as set out in our statutory pre-application consultation response dated 25/11/2020 is no longer relevant and is superseded by the below.

We have reviewed the document 'A4059 Cynon Gateway North Flood Consequence Assessment' revision P02 dated October 2020 reference GC3144-CAP-0005-XX-RP-D-0002. We advise as follows:

The proposal is for less vulnerable development (road, bridges, culverts and underpasses). Our Flood Risk Map confirms the proposal site to be partially within Zone C2 of the Development Advice Map (DAM) contained in TAN15 and the 1% (1 in 100 year) and 0.1% (1 in 1000 year) annual probability fluvial flood outlines. Our records also show that part of this site has previously flooded.

Section 6 of TAN15 requires the Local Planning Authority (LPA) to determine whether the development at this location is justified. Therefore, we refer you to the tests set out in section 6.2 of TAN15. If you consider the proposal meets the tests set out in criteria (i) to (iii), then the final test (iv) is for the applicant to demonstrate through the submission of a

Flood Consequences Assessment (FCA) that the potential consequences of flooding can be managed to an acceptable level.

Comments on the data / model used to inform the FCA

A detailed 1D/2D Estry-Tuflow hydraulic model has been developed, for the purposes of assessing fluvial flood risk from the Afon Cynon and the Nant Hir to the Proposed Scheme and the impact of the Proposed Scheme on fluvial flood risk.

As part of the hydraulic modelling a hydrological analysis was undertaken to update the inflows to the model. The model and flows have been reviewed and agreed by NRW.

The Proposed Scheme includes a new road on a raised embankment linking the A4059 with the A465 Heads of the Valleys Road between Penywaun and Hirwaun north of Aberdare, between 1 and 1.5km to the west of the existing stretch of the A4059 Hirwaun Road. The Proposed Scheme includes bridges over the Afon Cynon and its floodplain, as well as a tributary of the Afon Cynon, the Nant Hir further to the north. These two watercourses will be crossed by an arch bridge and viaduct respectively.

The Proposed Scheme passes through land in DAM zone C2, Flood Zones 2 and 3 in the vicinity of the Afon Cynon and Nant Hir. The proposed attenuation pond 2 is within Flood Zone 2.

The FCA has considered 25% as a climate change value and as a sensitivity exercise the upper end estimate, 70%, was also applied to the 1% AEP design flood event. This was undertaken to allow consideration of whether mitigation measures were required to give the Proposed Scheme resilience with respect to flood risk.

A1.14 Criteria and A1.15 Criteria of TAN15

The results of the modelling indicate that while in the present day baseline conditions the route of the Proposed Scheme is at risk of fluvial flooding, there is no flood risk to the Proposed Scheme itself. The bridge soffits and road levels are above the maximum modelled water levels predicted in the 0.1% AEP design event and the 1% AEP design event with 70% allowance for climate change scenarios. Model results also indicate that the Proposed Scheme increases water levels, compared to the baseline, by only 1mm in the 1% AEP design event with 25% climate change allowance and by only approximately 2cm in the 1% AEP with 70% climate change allowance where it crosses the Afon Cynon. The bridge over the Nant Hir does not increase predicted flood levels.

Blockage scenarios were considered and discussed with NRW, but due to the large size of the proposed bridges the probability of blockage was considered very low and not required.

The proposed structure itself is therefore considered to be compliant with both A1.14 and A1.15 of TAN 15.

A1.12 Criteria

The predicted increase in water levels at River Bridge 1 (Afon Cynon) in the 0.1% AEP design event and 1% AEP with climate change (2080 upper allowance) is less than 200m

and is not considered significant; it causes no detriment to the surrounding area and does not affect any buildings.

Mitigation Measures

The Proposed Scheme includes mitigation measures which manage the risk of flooding to the scheme and ensure the Proposed Scheme does not increase flood risk elsewhere, in compliance with TAN 15.

To summarise, the FCA demonstrates the proposal is compliant with both A1.14 and A1.15 of TAN15 and does not cause any detriment to the surrounding area.

Further Advice

Flood Risk Activity Permit (FRAP)

A Flood Risk Activity Permit (FRAP) will be required for this scheme as any works in, under, over or within 8 metres of the landward toe of any bank or within the fluvial floodplain will require a Flood Risk Activity Permit from us. This should also be submitted before the commencement of any development.

Waste

We recommend the generation of waste be limited or the removal of waste off site and advise that the incorporation of excess soils/inert materials within the design/construction, to reduce the need for disposal off site. We also advise the use of recycled aggregate over the import/use of virgin materials.

We recommend that waste produced during the construction phase of the development be dealt with appropriately and in line with all relevant waste legislation, including Duty of Care Regulations and Hazardous Waste Regulations. As part of the waste duty of care, the Applicant must classify the waste produced:

- before it is collected, disposed of or recovered;
- to identify the controls that apply to the movement of the waste;
- to complete waste documents and records;
- to identify suitably authorised waste management options;
- to prevent harm to people and the environment.

Any waste removed from site will be subject to waste management controls. Information on how to classify waste and register as a waste carrier or hazardous waste producer is available on our website. Further guidance can be found on the Gov.UK. website.

Other Matters

Our comments above only relate specifically to matters included on our checklist, *Development Planning Advisory Service: Consultation Topics* (September 2018), which is published on our [website](#). We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests.

We advise the applicant that, in addition to planning permission, it is their responsibility to ensure they secure all other permits/consents/licences relevant to their development. Please refer to our [website](#) for further details.

If you have any queries on the above, please do not hesitate to contact us.

Yn gywir / Yours faithfully

Annabelle Evans

Cynghorydd - Cynllunio Datblygu / Advisor - Development Planning
Cyfoeth Naturiol Cymru / Natural Resources Wales

Appendix A – Groundwater and Contamination Conditions

Condition 8

No <development or phase of development>, shall commence until the following components of a scheme to deal with the risks associated with contamination at the site, has been submitted to and approved in writing by the Local Planning Authority.

1. A preliminary risk assessment which has identified:
 - all previous uses
 - potential contaminants associated with those uses
 - a conceptual model of the site indicating sources, pathways and receptors
 - potentially unacceptable risks arising from contamination at the site
2. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.
3. The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.
4. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

The remediation strategy and its relevant components shall be carried out in accordance with the approved details.

Justification: To ensure the risks associated with contamination at the site have been fully considered prior to commencement of development as controlled waters are of high environmental sensitivity; and where necessary remediation measures and long-term monitoring are implemented to prevent unacceptable risks from contamination.

Condition 9

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this unsuspected contamination shall be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall be carried out as approved.

Justification: To ensure the risks associated with previously unsuspected contamination at the site are dealt with through a remediation strategy, to minimise the risk to both future users of the land and neighbouring land, and to ensure that the development can be carried out safely without unacceptable risks.

Condition 10

No infiltration of surface water drainage into the ground is permitted other than with the express written consent of the local planning authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approval details.

Justification: To prevent both new and existing development from contributing to or being put at unacceptable risk from or being adversely affected by unacceptable levels of water pollution.

Condition 11

No <development or phase of development,> shall commence until details of piling or any other foundation designs using penetrative methods sufficient to demonstrate that there is no unacceptable risk to groundwater have been submitted to and approved in writing by the Local Planning Authority. The <piling/foundation designs> shall be implemented in accordance with the approved details.

Justification: <Piling/foundation details> should be submitted to ensure there is no unacceptable risk to groundwater during construction and methods/design are agreed prior to the commencement of development or phase of development.