



The Coal
Authority

Prior Approval

Proposed erection of a replacement active mine water treatment scheme, comprising a new process building, a repurposing of the existing process building for use as offices and welfare accommodation, minor drainage improvements to the retained passive reed beds and associated development

Ynysarwed Mine Water Treatment Scheme, Land adjacent to

Neath Road (B4242), nr. Resolven, Neath, SA11 4DF

(Grid Ref. SN808017 – Active treatment plant and SN8040011 – Passive reed beds)



March 2021

PRIOR APPROVAL – SUPPORTING STATEMENT

Proposed erection of a replacement active mine water treatment scheme, comprising a new process building, a repurposing of the existing process building for use as offices and welfare accommodation, minor drainage improvements to the retained passive reed beds and associated development at Ynysarwed Mine Water Treatment Scheme, land adjacent to Neath Road (B4242), nr. Resolven, Neath, SA11 4DF (GRID REF. SN808017 – Active treatment plant and SN8040011 – Passive reed beds)

Part 20 Class E (Coal Mining Development by the Coal Authority and Licensed Operators) Town and Country Planning (General Permitted Development) Order 1995

1. Introduction

This Supporting Statement has been submitted to comprise part of the application for Prior Approval for the *'Proposed erection of a replacement active mine water treatment scheme, comprising a new process building, a repurposing of the existing process building for use as offices and welfare accommodation, minor drainage improvements to the retained passive reed beds and associated development'*. An Environmental Impact Assessment Screening Request has also been separately submitted which should be read in conjunction with this application for Prior Approval.

The application site (the 'site') is located on the site of the existing mine water treatment scheme ('MWTS') close to the settlement of Abergarwed.

The proposed development is necessary as the current plant is reaching the end of its intended operational life and the Coal Authority (the 'CA') needs to ensure ongoing and consistent treatment of the polluted mine water, which emanates from an adjacent mine entry (which acted as a drainage adit), prior to being discharged into the River Neath.

The site lies within the administrative boundary of Neath Port Talbot County Borough Council (the 'Council'). Pre-application discussions with Planning Officers have taken place prior to the submission. A site meeting was held on 09 March with Steve Ball and Alan Rees of Neath Port Talbot CBC and Hugh Towns of Carmarthenshire County Council¹ to broadly discuss two possible treatment options as a replacement for the existing plant. A subsequent meeting was held at the Council Offices on 28 February 2020 with the same officers to discuss the selected treatment option and explain some of the initial feasibility drawings, as well as identify the intended planning and process.

This submission comprises the following supporting documents:

Drawings

- **Site Location Plan Combined** – Dwg no. MWTS-AEC-YN-XX-DR-A-3602 Rev P2;
- **Site Location Plan A** – Dwg no. MWTS-AEC-YN-XX-DR-A-3600 Rev P3;
- **Site Location Plan B** - Dwg no. MWTS-AEC-YN-XX-DR-A-3601 Rev P2;
- **Existing Site Layout Plan Treatment and Welfare** – Dwg no. MWTS-AEC-YN-XX-DR-C-2006 Rev P2;
- **Proposed Site Layout Plan Treatment and Welfare** – Dwg no. MWTS-AEC-YN-XX-DR-C-2007 Rev P3;
- **Existing Drainage Plan Reed Beds** – Dwg no. MWTS-AEC-YN-XX-DR-C-2010 Rev P2;
- **Proposed Drainage Plan Reed Beds** - Dwg no. MWTS-AEC-YN-XX-DR-C-2012 Rev P2;
- **Existing Drainage Arrangement Treatment Site** - Dwg no. MWTS-AEC-YN-XX-DR-C-2000 Rev P1;
- **Proposed Drainage Arrangements Treatment Site** - Dwg no. MWTS-AEC-YN-XX-DR-C-2002 Rev P2;

¹ who act on Behalf of Neath PTCBC in respect of mineral planning matters.

- **Existing Ground Floor Plan Treatment Building** – Dwg no. MWTS-AEC-YN-01-DR-A-3612 Rev P2;
- **Proposed Ground and First Floor Plans Welfare Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3613 Rev P3;
- **Existing Elevations Treatment Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3633 Rev P2;
- **Proposed Elevations Welfare Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3655 Rev P2;
- **Existing Sections Treatment Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3634 Rev P2;
- **Proposed Sections Welfare Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3635 Rev P2;
- **Proposed Ground Floor Plan Treatment Building** – Dwg no. MWTS-AEC-YN-GF-DR-A-3610 Rev P2;
- **Proposed Internal Layout Treatment Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3611 Rev P2;
- **Proposed Elevations Treatment Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3650 Rev P2;
- **Proposed Sections Treatment Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3630 Rev P2;
- **Isometric Views of Proposed Treatment Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3695 Rev P2;
- **Isometric Views of Proposed Welfare Building** – Dwg no. MWTS-AEC-YN-ZZ-DR-A-3637 Rev P3;
- **Proposed Sustainable Developments Treatment and Welfare** – Dwg no. MWTS-AEC-YN-XX-DR-C-2008 Rev P2;
- **Swept Path Analysis** – Dwg no. MWTS-AEC-YN-XX-DR-C-2005 Rev P3;
- **General Arrangement Treatment and Welfare** – Dwg no. MWTS-AEC-YN-XX-DR-C-2004 Rev P3; and
- **Proposed Tree Retention and Removal** – Dwg no. MWTS-AEC-YN-XX-DR-C-2009 Rev P2.

2. The Coal Authority

The CA is a non-departmental public body and partner organisation of the Department for Business, Energy and Industrial Strategy.



Its mission: Making a better future for people and the environment in mining areas.

Its purpose:

- Keep people safe and provide peace of mind;
- Protect and enhance the environment;
- Use our information and expertise to help people make informed decisions; and
- Create value and minimise cost to the taxpayer.

With regard to protecting and enhancing the environment, during the course of 2019 - 2020 the CA achieved the following:



Figure 1 – Achievements by the CA during 2019 – 20

The CA is also excited about what our future holds. Our work is helping to develop a new sustainable source of renewable energy for the UK. By harnessing the energy from mine water heat, we hope to play a key role towards helping the UK to meet net-zero emissions by 2050.

3. Project background

The Ynysarwed MWTS was constructed in 1997 by the Local Authority following a mine water outbreak from the Ynysarwed mine entry associated with the former Blaenant and Ynysarwed

collieries. The outbreak caused metal rich mine water (net acidic and iron rich) to discharge into the Neath Canal. This historically impacted a 12km length of the Neath Canal, causing environmental damage and ochre staining.

Due to land constraints, as well as the mine water chemistry, the MWTS was built in two distinct areas. The active² portion of the scheme is located adjacent to the B4242 road and the passive³ treatment element comprising reed bed wetlands is located 1.2km away. This was the preferred option of Neath Port Talbot Borough Council, Environment Agency Wales (now NRW) and the CA. A more detailed description of the site location is provided in **Section 4**.

The existing scheme has undergone modifications and additions since the time of construction. At present it has been identified as having high annual operational costs as a result of frequent repairs. Allied to this, its efficiency at treating the polluted mine water has reduced over recent years owing to various components reaching the end of their operational lives, including the clarifiers, submersible pumps, dosing pumps, flash mixers and centrifuge.

Accordingly, this proposal principally seeks to replace the active MWTS with a new development on an area presently set aside as an emergency pond and to repurpose the existing building for use as welfare/office accommodation. A more detailed description of the proposal is provided in **Section 5**.

4. Site location

As previously mentioned, the existing MWTS is split over two sites with the active treatment element of the scheme to the south of, and directly adjacent to, the B4242 Neath Road and the passive reed beds approximately 1.2km to the south west. Refer to **Photographs 6** and **7** contained within **Appendix 1** which identify both elements of the existing scheme.

² i.e. Requiring chemical input and/or energy in the treatment process.

³ i.e. Requiring no chemical input and/or energy in the treatment process but relying on natural biological processes.

The active treatment plant lies directly opposite⁴ the mine entry from which the polluted mine water is issuing and has done since the pumps were stopped within the mine complex when the colliery closed. **Photographs 1** and **2** identify the close physical relationship between the mine entry and the plant i.e. treatment takes place at the source of the mine water pollution. A pipeline transports the actively treated mine water to the reed beds for final polishing before discharge into the River Neath.

The site lies to the north of the settlement of Clyne separated by the A465 trunk road and an area of rural land. The settlement of Abergarwed is some 1km to the north east of the active treatment plant. The site is more particularly identified on the **Site Location Plan Combined** (Dwg no. MWTS-AEC-YN-XX-DR-A -3602 Rev P2) enclosed to comprise part of the application documentation and **Figure 2** broadly identifies the site location.



Figure 2 – Indicative location of the existing mine water treatment scheme (red circles)

With regard to immediate site context, the active plant lies in between the B4242 and the Neath Canal to the south. Beyond the B4242 is a wooded area containing the subject mine entry, with the

⁴ Separated only by the B4242.

topography rising sharply to the north west. Beyond the canal is grazing land, the A465 and the River Neath. Vehicular access to this part of the site is derived directly from the B4242.

The reed beds lie in between the A465 and the River Neath, into which the treated mine water is discharged, with the settlement of Clyne some 80 metres away to the south beyond intervening mature trees and hedgerows. Vehicular access to the reed beds exists from a layby directly off the A465 southbound and is shown in **Photograph 8**.

The nearest residential properties as the crow flies from the active plant is the Ynysarwed Farm complex to the east or dwellings fronting the B4242 to the south west, both some 0.2 to 0.3km distant. The nearest residential properties to the reed beds lie approximately 0.7km to the south.

Within the immediate locality is a Grade II listed bridge over the Neath Canal at Ynysarwed, the bridge is positioned 700 metres South West of Abergarwed and has been listed for its special historic interest as a largely unaltered bridge on the important 18th Century Canal. There are no environmental designations within the site boundary.

The Proposals Map comprising part of the Neath Port Talbot County Borough Council Adopted Local Development Plan (2011 – 2026) identifies both parts of the site to lie within the Special Landscape Area.

With reference to the Natural Resources Wales' indicative Flood Risk Map, the active plant lies within a low risk of flooding from rivers and sea and the reed beds lie within a high risk.

5. The development proposal

This application seeks the Prior Approval of Neath Port Talbot County Borough Council in order to confirm the CA's Permitted Development Rights for the *'proposed erection of a replacement active mine water treatment scheme, comprising a new process building, a repurposing of the existing process*



building for use as offices and welfare accommodation, minor drainage improvements to the retained passive reed beds and associated development’.

The CA first seeks to construct ‘passive’ schemes where it is feasible and appropriate owing to greater financial and carbon costs involved in operating an ‘active’ scheme. In this instance, there are two fundamental factors preventing fully passive treatment and these are: 1. the chemical composition (including the pH level) of this particular mine water and 2. land constraints to accommodate the required development footprint within a practicable distance of the adit. Accordingly, the development proposal subject to this application for prior approval seeks to continue to treat the polluted mine water in the same manner as the existing situation, that is, primarily on an active basis with the additional final polishing of the water by the retained passive reed beds.

More specifically the scheme involves the following development, as identified on the **Proposed Layout Plan** (Dwg no. MWTS-AEC-YN-XX-DR-C-2007 Rev P3) and the **Proposed Drainage Plan Reed Beds** (Dwg no. MWTS-AEC-YN-XX-DR-C-2012 Rev P2):

New processing plant

- A new two storey process building measuring 20.07 metres in length, 6.8 metres in width and 7.26 metres in height with a mono pitched roof in the position of the existing emergency overflow pond and office/welfare cabins which are both to be removed from site;
- 5no. external storage tanks each approximately 4.5 metres in height, comprising 1no. sludge tank adjacent to the north eastern elevation of the proposed processing building and a lime tank, aeration tank, blending tank and dosing tank adjacent to the south western elevation;
- 3no. enclosures.

Repurposing of the existing processing building

- Existing treatment building and tank storage area to be retained, repaired, modernised and increased in height with a new roof structure added to create an improved office and welfare facility;
- Height of building to be increased by 0.22 metres to a total of 8.14 metres in height with a dual pitched roof as per the existing building;
- New office/welfare facility to create two floors of accommodation comprising laboratory, workshop, plant room, electricity switch room, storage space, toilets, changing facilities and showers on the ground floor and meeting room, office space, kitchen and toilet at first floor;
- Void at first floor level above the ground floor storage space;
- Proposal designed to fully accommodate wheelchair usage.

Drainage improvements to reed beds

- Location, shape and volume of the existing two reed beds to be unchanged;
- Minor below ground drainage improvements comprising a new reed bed bypass channel, a proposed new splitter chamber and minor amendments to the two existing discharge points.

Associated development

- External steel walkway frame and staircase, external pipework and emergency external shower to processing building;
- Staircase to office/welfare facility;
- 2no. disabled parking bays adjacent to the office/welfare facility;
- Proposed new boundary fence to match existing;
- Narrowing of existing footpath to accommodate disabled car parking and footpaths extended around the north eastern and south western extents of the office/welfare facility.

As well as seeking to make sustainable use of existing structures, the proposal has been carefully designed to enable uninterrupted treatment of the mine water to take place throughout the

construction period. The proposed reed bed bypass channel between the interconnection sump, reed beds and the final discharge points will allow future operational improvement works at the reed beds.

In the above context, the proposed development will positively contribute to the sustainable management of natural resources in Wales as detailed in the Environment (Wales) Act 2015 and the Well-being of Future Generations (Wales) Act 2015.

The Existing and Proposed Site Layout Plans identify the changes in detail but for illustrative and simple comparison purposes they are also shown in **Figures 3** and **4** below showing the active treatment and office/welfare proposals and the reed bed proposals respectively.

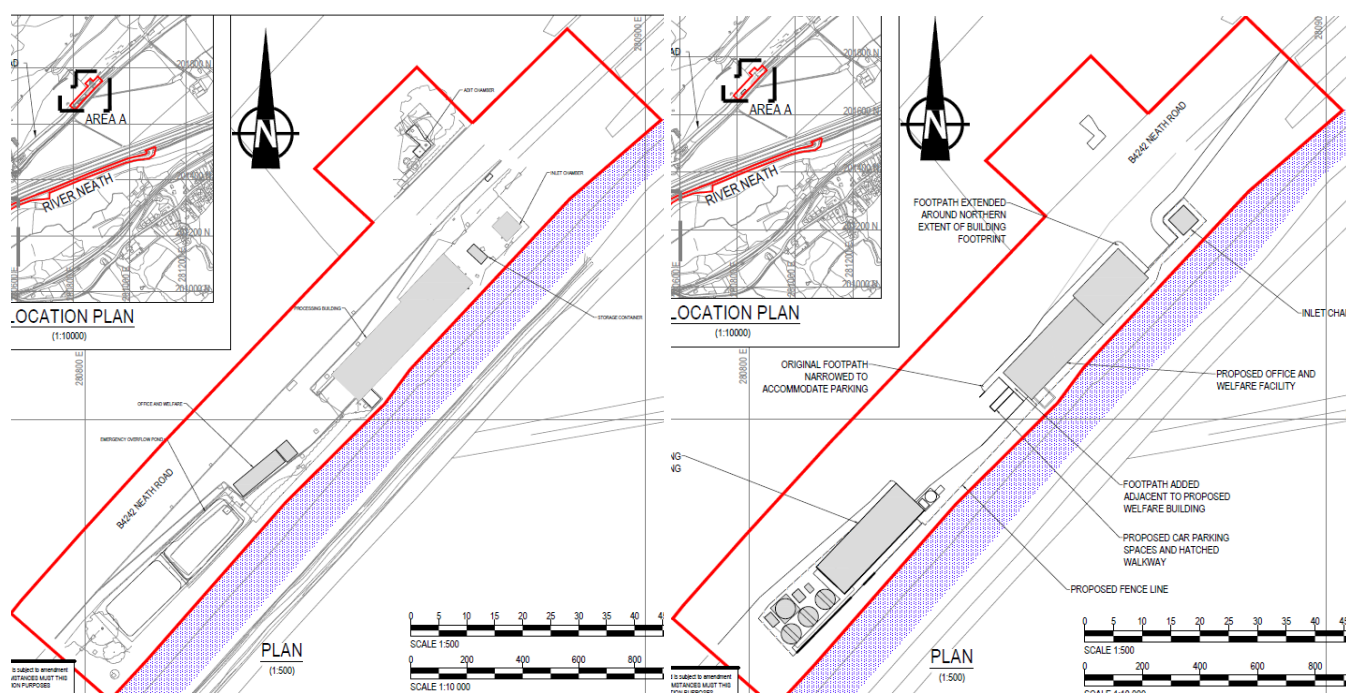


Figure 3 – Existing and Proposed Layout of the active scheme and office/welfare facility for illustrative purposes

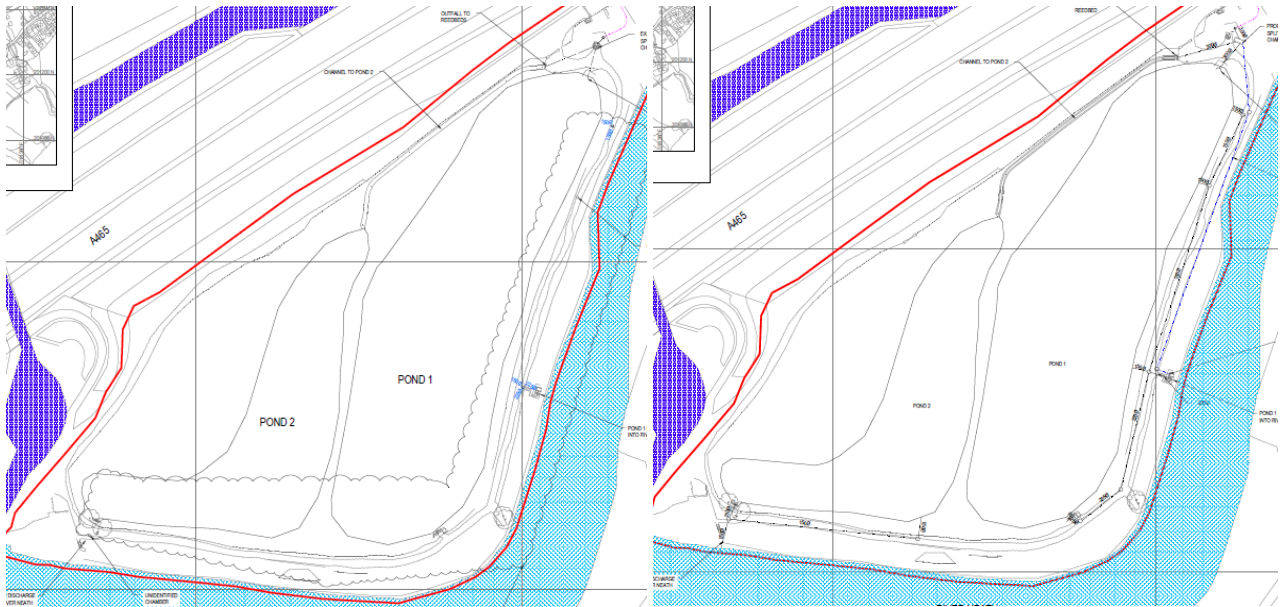


Figure 4 – Existing and Proposed Layout of the reed bed improvements for *illustrative* purposes

6. Permitted Development Rights

The Coal Authority benefits from specific Permitted Development Rights under Part 20 Class E (Coal Mining Development by the Coal Authority and Licensed Operators) of the Town and Country Planning (General Permitted Development) Order 1995 - UK Statutory Instrument 1995 No. 418.

The CA has used the Permitted Development Rights ('PDR') it is afforded extensively to deliver a total of 82 MWTS in its property portfolio enabling it to successfully treat polluted mine water and protect and enhance the environment across Great Britain.

These PDR enable the CA, with the Prior Approval of the Mineral Planning Authority ('MPA'), to undertake development: ***'...required for the maintenance or safety of a mine or a disused mine or for the purposes of ensuring the safety of the surface of the land at or adjacent to a mine or a disused mine'***. The CA considers that its MWTS and associated operational developments to fall entirely within the scope of PDR as development that is required to ensure the ongoing maintenance of a disused mine, as previously discussed in **Section 3**. On this basis, the PDR apply for the proposed erection of replacement active mine water treatment scheme, repurposed

welfare/office accommodation, improvements to the retained passive reed beds and associated development at the Ynysarwed MWTS.

Class E.1. (1) 'Prior Approvals' identifies that the Prior Approval of the MPA to development permitted by Class E is not required⁵ in a number of prescribed circumstances, inter alia, *'(a) the external appearance of the mine or disused mine at or adjacent to which the development is to be carried out would not be materially affected'*.

As the proposal seeks to erect a new building and modify and upgrade an existing building, the CA considers that the proposal will be a visual form of development and therefore the Prior Approval of the MPA is necessary in this instance in connection with the siting, design and external appearance of the proposal.

With regard to siting, the location of the existing MWTS is the most appropriate for the proposed development owing to a number of factors, including:

- The principle of the treatment of mine water has already been established on the site;
- Parts of the existing MWTS are to be retained with significant carbon benefits;
- The proposal has to be within close proximity of the source of the polluted mine water⁶ from both an economic and sustainability perspective;
- In originally considering the feasibility of a new entirely 'passive' MWTS, significant land constraints were identified in the immediate vicinity owing to environmental designations, topography, land ownership matters and vehicular access;
- There are no immediate residential neighbours; and
- The River Neath lies adjacent to the site into which the treated water is appropriately discharged.

⁵ i.e. Permitted Development Rights are automatically provided without any form of consent.

⁶ i.e. the fenced-off mine entry (drainage adit) directly on the opposite side of the B4242 to the existing MWTS (See **Photographs 1** and **2** for context).

Evidently, there are compelling reasons for the development to be sited where it has been proposed.

The ability to influence the design of the new process building is limited owing to the site restrictions and the logistical requirement to ensure ongoing treatment during construction. In addition, the principal purpose of the proposal is to treat polluted mine water and therefore is functional in its design to meet that requirement.

Indeed, the scheme has been carefully design engineered in order to deliver the optimum treatment of the specific mine water emanating from the adjacent adit in terms of both its volume and its geochemistry. Accordingly, the proposed new process building and the external tanks are of the necessary amount and are purposefully sized and sequentially located with treatment in mind. The building will be erected using modern materials, including composite cladding external walls and roofing on a steel frame with the associated external steel tanks, access ladders, walkways and balustrading all in a colour scheme to be agreed.

Notwithstanding the above, there has been the ability to have *some* positive influence the design of the repurposed existing processing building for use as offices and welfare accommodation, limited somewhat by the size and shape of the site as well as the scheme budget.

The proposed office/welfare facility makes sustainable use of the existing shell and footprint of the existing process building. The existing concrete tank storage area will be repaired, finished with a synthetic render and a dual pitched composite panel roof added to create a dedicated weatherproof storage area.

The slab of the existing process plant room will be utilised as the base and a two storey office/welfare facility created in the same position as the existing process area. It has been



designed to provide a significantly better range of facilities⁷ than the existing provision which is far from ideal (refer to **Photograph 9** in **Appendix 1**). It will also be constructed to modern day standards and has been designed to be fully inclusive – providing unisex facilities and wholly accommodating wheelchair usage.

The office/welfare section of the building continues to provide a dual pitched roof but rather than the render finish to the proposed storage area, the external walls will be constructed from composite cladding over blockwork.

In terms of sustainable design, the proposed building does not only provide a modern facility built to current Building Regulations insofar as energy efficiency is concerned but also provides:

- An office, meeting room and kitchen which will reduce the need for staff and visitors to travel elsewhere to work and hold meetings after visiting the site;
- Solar powered openable rooflights over the office area to facilitate natural cooling and ventilation;
- Heating will likely be a mixture of radiant panels with use of mine water via a heat exchanger or use of an air source heat pump;
- Large windows to make use of natural light as much as possible;
- The installation of photovoltaic panels on the roofs of both the office/welfare building and the process building⁸ in order to offset some of the energy costs involved in the treatment process; and
- Staff lockers, changing rooms and shower facilities to support the possibility of transport by means other than the motor vehicle.

⁷ As identified in **Section 5** and shown on the **Proposed Ground and First Floor Plans Welfare Building** (Dwg no. MWTS-AEC-YN-ZZ-DR-A-3613 Rev P3).

⁸ As identified on the **Proposed Sustainable Developments Treatment and Welfare drawing** (Dwg no. MWTS-AEC-YN-XX-DR-C-2008 Rev P2).

More importantly, the provision of a new MWTS will provide a much more efficient and resilient treatment of the polluted mine water and therefore significant aquatic benefits.

The proposed development has also been carefully designed to consider the safe flow of vehicular traffic and pedestrians. This is evident in the **Swept Path Analysis drawing** (Dwg no. MWTS-AEC-YN-XX-DR-C-2005 Rev P3).

With regard to the external appearance of the proposal, it is evident from the photographs contained in **Appendix 1** and a comparison of both the existing and proposed drawings that the development will represent a significant visual improvement to the current arrangements on the site. The existing plant is reaching the end of its intended operational life from a treatment perspective and with it is appearing tired and visually dated.

Whilst the key driver of the project is clearly the improvement to the existing treatment process, the CA is taking the opportunity to deliver a scheme which improves the overall facility available to the organisation. In doing so, the buildings have been designed to reflect the appearance of modern office and light industrial units, whilst at the same time being contained within the same broad operational footprint and only being a negligible 0.22m higher than the existing buildings.

The colour scheme to the external materials of the overall plant is yet to be agreed but it will be a subtle colour so as not to appear incongruous in the wider landscape setting. As a redevelopment of an *existing* treatment facility, the proposal will be readily assimilated into the landscape. Indeed, as covered further in the accompanying **EIA Screening Request**, the **Landscape and Visual Appraisal** (prepared by Aecom, dated July 2020) submitted as part of the documentation supporting that request concludes that, *'There are no important landscape effects of the proposed development that would result in unacceptable changes in landscape character'*.

Apart from those direct views of the proposal along Neath Road it will be largely viewed against the backdrop of the mature well landscaped hillside which circumvents the site from the south west to the north east.

The minor drainage changes to the reed beds will be below ground level and as such will not be visible.

Significantly, the proposal seeks to erect a replacement active mine water treatment scheme on an *existing* site. In combination with the relatively insensitive location of the scheme and its careful design, the CA is of the opinion, with reference to E.1. 'Prior Approvals' (2) (a) and (b) of Class E, that the proposal will not injure the amenity of the neighbourhood *and* is sited at the source of the mine water and therefore it would not be reasonable for the proposal to be sited elsewhere.

Based on the above assessment, the CA is of the opinion that the proposal clearly falls within the provisions of Part 20 Class E of the Town and Country Planning (General Permitted Development) Order 1995. Accordingly, considering the level of detail provided in the accompanying drawings to enable siting, design and external appearance to be satisfactorily understood, it is respectfully considered that Prior Approval should be granted once the MPA has separately confirmed a negative EIA Screening Opinion.

The CA subsequently looks forward to confirmation of the PDR to deliver this important replacement active mine water treatment scheme in order to continue to successfully manage the coal mining legacy.

I would be grateful for confirmation from the MPA within the 8 week determination period and would be happy to meet and discuss our proposals further if necessary. If you require further information, please do not hesitate to contact the undersigned.



Yours sincerely

Ashley Langrick

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Planning and Development Manager – Corporate Projects

Enc.

Cc. Pete Bingham (Project Manager, the Coal Authority)

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Appendix 1 – Site photographs



Photograph 1 – View from the mine entry looking towards the active treatment plant



Photograph 2 – View from the active treatment plant looking towards the mine entry compound separated by the B4242



Photograph 3 – View looking south east towards the active treatment plant



Photograph 4 – View looking south west along the B4242 showing the existing emergency pond feature adjacent to the active treatment plant



Photograph 5 – The existing emergency pond



Photograph 6 – The existing active treatment plant



Photograph 7 – The passive reed beds



Photograph 8 – Existing vehicular access to the reed beds off the A465 southbound



Photograph 9 – Existing office/welfare facility

End.

May 2021