



A496 LLANBEDR ACCESS IMPROVEMENT

ENVIRONMENTAL STATEMENT VOLUME 2: TECHNICAL APPENDIX B LANDSCAPE AND VISUAL IMPACTS



This Technical Report contains the following documents, which support Chapter 5.3 (Landscape and Visual Impacts) of the Environmental Statement:

LLANBEDR ACCESS IMPROVEMENT

Landscape and Visual Impact Assessment

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Landscape and Visual Impact Assessment

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4.3 LANDSCAPE

4.3.1 Introduction

- 4.3.1.1 This report has been produced to consider the landscape and visual implications of the proposed A496 Llanbedr Access Improvement scheme. The assessment considers how the proposed Scheme will affect the resources identified in the study area in terms of landscape character and visual amenity.
- 4.3.1.2 Landscape is defined in the European Landscape Convention as ‘...an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors’ (Council of Europe, 2000) (Ref 1). The assessment considers how the Scheme will alter the character of the landscape, as well as the views of the landscape afforded to people - visual amenity considerations. These two separate but related issues form the basis of landscape and visual impact assessment ("LVIA").
- 4.3.1.3 The Scheme proposed consists of an off-line single carriageway by-pass link road to the existing A496 which would run to the west of Llanbedr in order to relieve congestion through the village centre, in particular the existing narrow bridge crossing the Afon Artro as shown on Figure 5.3.1. The proposed scheme is also required to improve access to Llanbedr airfield which has been identified by Welsh Government as being part of the Snowdonia Enterprise Zone, containing the Snowdonia Aerospace Centre. The proposed development will run north – south with junctions to the north, south and centre providing local access to Llanbedr and to Shell Island to the west of the Scheme.
- 4.3.1.4 In the north, the scheme would cut across the low lying, flat valley floor and floodplain of the Afon Artro on embankment. This section includes two new culverts located at chainages CH1100 and CH1220. The embankment increases in height to the south to cross the River Artro and Mochras Road to the west of Llanbedr. South of the Afon Artro the Scheme would continue to rise as it cuts through a local ridgeline, before crossing a locally undulating landscape on an embankment to connect with the existing highway to the south of Llanbedr. The proposed highway infrastructure would include three new culverts, a bridge over the Afon Artro / Mochras Road, a small bridge over an existing water inlet channel, drainage, lighting improvements to the Mochras Road, signs, utilities diversions and new stone walls.
- 4.3.1.5 This report takes account of the value and nature (sensitivity) of the landscape and views from visual receptors such as residential properties and users of Public Rights of Way ("PRoW"), from which there would be views to the Scheme, and considers the degree of change predicted to occur on the landscape and views. Whilst heritage features have a bearing on landscape value, the effects in relation to their setting have been assessed separately (see Chapter 5.2 and ASIDOHL assessment). Similarly, whilst the landscape performs an ecological function, ecological effects are considered through a separate assessment (see Chapter 5.4 Nature Conservation).
- 4.3.1.6 This report sets out the methodology used to undertake the assessment, and summarises the regulatory and policy framework relating to landscape and visual amenity. Following this, an overview of the baseline for the Scheme is provided. This is followed by a discussion of the predicted change to the baseline, the mitigation to avoid or reduce the changes, and the residual effects of the Scheme. The residual effects identified include those arising during the construction phase, in Opening Year (Winter) and Design Year (Summer, 15 years following completion). Finally, a summary table of the main findings is provided.

4.3.1.7 This report will also consider the effects of artificial lighting included with the Scheme on the night time landscape.

4.3.2 Methodology

General Approach

4.3.2.1 The landscape and visual assessment for the Scheme has been undertaken in accordance with the following best practice guidance;

- Highways Agency (2008) HA 205/08: DMRB Volume 11, Section 2, Part 5: Assessment and Management of Environmental Effects (Ref 2);
- Highways Agency (2010) Interim Advice Note (“IAN”) 135/10: ‘Landscape and Visual Effects Assessment’ (Ref 8-2). (IAN 135/10 supersedes Volume 11, Section 3, Part 5 of the DMRB (Ref 3));
- Landscape Institute (2011) Advice Note 01/11 ‘Photography and Photomontage in Landscape and Visual Impact Assessment’ (Ref 5);
- Landscape Institute and Institute of Environmental Management and Assessment (2013) ‘Guidelines for Landscape and Visual Impact Assessment’: Third Edition. (GLVIA) (Ref 4); and
- Institute of Lighting Professionals (2005) ‘Guidance Notes on the Reduction of Obtrusive Light’ (Ref 12).

Study Area

4.3.2.2 The overarching Study Area extends to a 2km radius from the centre line of the proposed Scheme (refer to Figure 5.3.1). Beyond this distance the proposed Scheme would not be readily perceptible within the wider landscape.

4.3.2.3 To refine the assessment, a Zone of Visual Influence (ZVI) has been generated as shown on the Visual Effects Drawing (VED), Figure 5.3.1. The ZVI broadly defines the approximate area within which the Scheme would be visible, and has then been verified by site surveys to take into account landform and land cover (e.g. vegetation and buildings).

4.3.2.4 The study area for the Scheme falls entirely within the nationally designated Snowdonia National Park. At a local level the Snowdonia National Park Authority in their document SPG 07: Landscapes and seascapes of Eryri (Ref 13) maintains that the Scheme falls within the landscape character areas (LCA) of Morfa Dyffryn and Cefnwlad Arfordir Ardudwy. The analysis of the Scheme in the context of Landscape Character is based on a review of the Snowdonia National Park Authority (EYRI) Landscape Character Assessment and the LCA’s which fall within the ZVI. These are identified below and defined on Figure 1.7.

Baseline Evaluation

4.3.2.5 Desk based studies have been undertaken to identify relevant policy and landscape character information. The way in which policies relating to landscape and visual amenity are addressed at this stage is explained in Appendix C.

4.3.2.6 The following documents have been reviewed as part of the desk study:

- National Policy Statement for National Networks (2014), Department for Transport (Ref 11);
- Welsh Government Planning Policy Wales (Edition 8) 2016 (Ref 8);
- Adopted and emerging local development plans, comprising:
 - Snowdonia National Park Authority planning policies (Ref 07)
- LandMAP (Ref 10) , and:
- Local landscape character assessments, comprising:

– Snowdonia National Park Landscape Character Assessments (Ref 13)

4.3.2.7 A detailed landscape survey of the local LCAs was carried out in March 2016. Separate site surveys were undertaken during winter and summer to establish the likely visual influence of the Scheme, identify visual receptor groups and describe the existing views experienced by receptors.

4.3.2.8 Representative Viewpoints have been identified and agreed with the Snowdonia National Park (see Table 5-3-1 which details the consultation undertaken). These viewpoints give an indication of the range of existing views available. Viewpoint photographs were taken in accordance with the Landscape Institute’s Advice Note 01/11.(Ref 5) Photographs were then stitched together to generate a 90 degree view angle in the direction of the Scheme. This is the full extent of view that will be experienced by the viewer at the selected viewpoint, when facing in that direction. The photographs for the viewpoints A to G are shown on Figures 5.3.8 – 5.3.14.

Table 5-3-1: Summary of Consultation

Consultee	Date of consultation	Consultation Response	Project Response
Iwan Evans (Head of Policy & Strategic Plans); Snowdonia National Park Authority	15 th January 2016	Snowdonia National Park Authority agreed with the viewpoints and requested one additional viewpoint from Shell Island, as a popular area with tourists	Additional viewpoint requested added into assessment.
John Roberts (Archaeologist); Snowdonia National Park Authority, Ian Halfpenny; Cadw, Iwan Parry (Consultant Archaeologist); Brython Archaeology	23 rd March 2016	The implication of the proposed Scheme on the setting of the SAM standing stones to the northern edge of Llanbedr were discussed on site, along with a review of potential mitigation measures, both as part of the Scheme and in the form of off-site works.	Mitigation options to be considered include; Reinforcement planting to hedgerows adjacent to SAM Relocation of existing overhead power lines underground as part of the highway works Mitigation planting to embankment alongside the Afon Artro Diversion of the existing PRow from the A496 west to pass the SAM then pass under the proposed new overbridge road before following the river to meet the existing alignment to the north Interpretation signage for the SAM

Route selection and development

- 4.3.2.9 The final design and alignment of the Scheme has been developed through a thorough assessment and review process commencing in 2014 with a Stage 1 WelTAG Planning and Appraisal study to identify the potential options for improving transport access associated with the proposed Llanbedr Aviation Centre and Enterprise Park element of the Snowdonia Enterprise Zone.
- 4.3.2.10 Following the identification of the associated Problems, Opportunities and Constraints and the establishment of Transport Planning Objectives (TPO's), a number of alternative options were defined that could be implemented to meet the study objectives. Each initial solution was broadly appraised against the study objectives to aid their refinement and provide transparency in the decision-making process and those which failed to address the requirements or TPO's omitted. The solutions remaining after the initial screening were then sifted against the Wales Transport Strategy outcomes and for their likely degree of public acceptability, construction and operational feasibility and financial affordability. Based on the feedback received through a public participation event in October 2014 the option to provide a bypass west of Llanbedr was ranked most popular, as such two additional possible bypass routes were also defined and appraised.
- 4.3.2.11 Following appraisal against the study objectives, the refined options that were appraised against the Welsh Impact Areas of economic, environmental and societal factors were:
- Option 1: Provide two new link roads connecting Mochras Road with the A496 north and south of Llanbedr.
- Option 2: Bypass Llanbedr to the west (between the A496 and the railway line) with the section of Mochras Road between the A496 junction and new bypass tie in remaining open to all traffic.
- Option 3: Bypass Llanbedr following the previous route announced in 1992.
- Option 4: Bypass Llanbedr from the A496 lay-by on the southern approach to Llanbedr then follow the route of the railway line and access track north to Mochras Road.
- Option 5: Improved car parking facilities and double yellow lines within Llanbedr (implemented in-combination with Options 1 – 4).
- Option 6: Do nothing and continue to maintain the current situation.
- 4.3.2.12 The assessment of these options through the WelTAG Appraisal (Stage 1) process identified Option 2 as the preferred option for the following reasons:
- Expected to provide the largest contribution to achieving the TPO's.
 - Provides continued local access along Mochras Road to and from Llanbedr.
 - Estimated to be the cheapest to construct.
- 4.3.2.13 Two key concerns were also identified with this option:
- Concerns raised by local business owners about the potential adverse effects of a bypass option
 - Possibility of large landscape and land use impact in comparison to the do-nothing scenario.

Design stage alternatives

- 4.3.2.14 A previous solution to address these issues was a 7.3m wide single carriageway bypass taking traffic to the west of Llanbedr between the village and the railway

line, which was proposed by Gwynedd County Council and presented to the public in October 1992. However, no further development took place regarding this proposal and Gwynedd Council had confirmed that the proposals were no longer feasible due to financial and transport policy constraints.

- 4.3.2.15 In addition to considering alternative access improvement options, consideration has been given during the design stage of the proposals to avoid or minimise significant adverse environmental impacts as part of an iterative design approach. Design measures that have been incorporated within the proposals to avoid or minimise significant adverse environmental effects include:
- 4.3.2.16 During the initial assessment of baseline conditions, an alternative alignment for the proposed Scheme was identified, located to the west of the proposed alignment. This option crossed the Mochras Road to the west of the proposed Afon Arturo overbridge and then ran parallel to the Cambrian Coast railway, to cross the Afon Artro adjacent to the existing railway bridge. The alternative alignment would then re-join the existing A496 just south of Pensarn Harbour.
- 4.3.2.17 In discussions with the YGC design team it transpired that an alignment similar to this has previously been identified and reviewed as part of the design process. However, this alternative option was considered by YGC to be less sustainable when compared to the preferred route for the following reasons:
- 4.3.2.18 The need for an extended span bridge across the Afon Artro. The angle of the road across the river at this would be at the limit for the design of a single span structure and would require a relatively large /thick deck section which would be visually intrusive. An alternative multi-span structure would require piers located within the flood banks of the Afon Artro with potential restriction on river flow in conjunction with the existing railway bridge;
- 4.3.2.19 The effect of constructing a new embankment across likely soft ground in close proximity to the railway embankment would increase the risk of affecting the railway. This could result in heave on the embankment and subsequent increased costs to manage this risk; and
- 4.3.2.20 The increased length of road/embankment construction required over the preferred route would result in an increase in land take of approximately 50% and result in increased construction costs and timescales.

Variations to the proposed Scheme

- 4.3.2.21 The current design includes a central junction which will provide the turning for both northbound and southbound traffic from the new A496 towards the west i.e. to the airfield and the Shell Island campsite. A right hand turning lane will be provided at this junction, with a ghost island i.e. a separate lane created using road markings designed to allow through traffic to proceed unhindered. Llanbedr village centre can also be accessed from this central junction via Mochras Road which will pass under the new A496.
- 4.3.2.22 Consideration has been given to providing a roundabout at this location but is not justified due to the relatively low traffic levels and the environmental impact of a roundabout, particularly the requirement for additional land take and street lighting and the effect on bat flight paths and landscape impact.

Design and mitigation

- 4.3.2.23 The design of the Scheme has been undertaken by YGC on behalf of Gwynedd Council. The Scheme has been designed, so far as possible, to minimise landscape and visual effects. The retention of existing features and vegetation has

been considered as part of the iterative design process and location-specific mitigation (such as tree and shrub planting to replace existing vegetation lost, new stone walls and stone cladding to the new structures to help integrate the new road) has been proposed in order to minimise the adverse effects of the Scheme on the landscape and on visual amenity. The proposed mitigation measures for landscape and ecology are identified on the Environmental Masterplan prepared by Gwynedd Council, and are embedded within the scheme design and the Contract Documents and specification.

Assessing impacts

- 4.3.2.24 The magnitude of impact has been defined in accordance with the criteria provided in IAN 135/10. Significance of effect is derived as a product of magnitude of impact and sensitivity of the receptor in each case. Where a range of significance is possible, professional judgment has been applied to determine which is most appropriate, on a case by case basis.
- 4.3.2.25 In this report, residual effects during the winter of the Opening Year and the summer of the Design Year (15 years following completion) on all visual receptors have been assessed. These are reported within the Visual Effects Schedule (“VES”) in Appendix E and shown on the Visual Effects Drawing (VED), Figure 5.3.15 – 5.3.16. This report provides a summary of the findings, reporting in slightly more detail in respect of moderate effects and above.

Landscape Sensitivity

- 4.3.2.26 The sensitivity of the landscape and townscape resource have been considered in relation to both the Snowdonia National Park Authorities landscape characterisation work and Natural Resources Wales (NRW) online landscape assessment and decision making tool LANDMAP (An All-Wales GIS data set) and are then determined using the examples shown in Table 5-3-2 in relation to the quality of their features and elements and designations associated with the area.

Table 5-3-2: Landscape and Townscape Sensitivity (based on DMRB IAN135/10 Annex 1 Table 2)

Sensitivity	Typical Descriptors and Examples
High	<p>Resource which by nature of its character would be unable to accommodate change of the type proposed. Typically these would be:</p> <ul style="list-style-type: none"> • Of high quality with distinctive elements and features making a positive contribution to character and sense of place; • Likely to be designated, but the aspects which underpin such value may also be present outside designated areas, especially at the local scale; • Areas of special recognised value through use, perception or historic and cultural associations; and • Likely to contain features and elements that are rare and could not be replaced.
Moderate	<p>Resource which by nature of its character would be able to partly accommodate change of the type proposed. Typically these would be:</p> <ul style="list-style-type: none"> • Comprised of commonplace elements and features creating generally unremarkable character but with some sense of place; • Locally designated, or their value may be expressed through non-statutory local publications; • Containing some features of value through use, perception or historic and cultural associations; and

	<ul style="list-style-type: none"> Likely to contain some features and elements that could not be replaced.
Low	<p>Resource which by nature of its character would be able to accommodate change of the type proposed. Typically these would be:</p> <ul style="list-style-type: none"> Comprised of some features and elements that are discordant, derelict or in decline, resulting in indistinct character with little or no sense of place; Not designated; Containing few, if any, features of value through use, perception or historic and cultural associations; and Likely to contain few, if any, features and elements that could not be replaced.

Visual Sensitivity

4.3.2.27 Visual impacts are likely to occur within the ZVI. In particular, these impacts would be most affected where there are residential properties and publicly accessible areas from where there are views to the Scheme. Publicly accessible locations include open access land and Public Rights of Way (PRoW).

Table 5-3-3: Visual Sensitivity and Typical Descriptors (based on DMRB IAN135/10 Annex 2 Table 1)

Sensitivity	Typical Criteria
High	<ul style="list-style-type: none"> Residential Properties Users of Public Rights of Way or other recreational trails (e.g. Regional Trails, footpaths, bridleways etc.) Users of recreational facilities where the purpose of that recreation is enjoyment of the countryside (e.g. Country Parks, National Trust or other access land etc.)
Moderate	<ul style="list-style-type: none"> Outdoor workers Users of scenic roads, railways or waterways or users of designated tourist routes Schools and other institutional buildings, and their outdoor areas
Low	<ul style="list-style-type: none"> Indoor workers Users of main roads (e.g. trunk roads) or passengers in public transport on main arterial routes Users of recreational facilities where the purpose of that recreation is not related to the view (e.g. sports facilities)

Factors in the Assessment of Scale (magnitude) of Impacts

4.3.2.28 For the purposes of the appraisal, the scale of impact on the landscape and townscape resources are determined using the seven point scale shown in Table 5-3-4.

Table 5-3-4: Magnitude and Nature of Impact and Typical Descriptors (based on DMRB IAN135/10 Annex 1, Table 1)

Magnitude of Impact	Typical Criteria Descriptors
Major Beneficial	Large scale improvement of character by the restoration of features and elements, and/or the removal of uncharacteristic and conspicuous features

	and elements, or by the addition of new distinctive features.
Moderate Beneficial	Partial or noticeable improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic and noticeable features and elements, or by the addition of new characteristic features.
Minor Beneficial	Slight improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic features and elements, or by the addition of new characteristic elements.
No Change	No noticeable loss, damage or alteration to character or features or elements.
Negligible Adverse	Barely noticeable loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements.
Minor Adverse	Slight loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements.
Moderate Adverse	Partial loss or noticeable damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic noticeable features and elements.
Major Adverse	Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements.

4.3.2.29 For the purposes of this assessment, the scale of impact on the visual receptors are determined using the scale and indicative criteria shown Table 5-3-5. Please note the nature of the magnitude of impact would be either negative or positive depending on the extent to which the Scheme is out of character with the existing view.

Table 5-3-5: Magnitude and Nature of Impact and Typical Descriptors (based on DMRB IAN135/10 Annex 2, Table 2)

Magnitude of Impact	Typical Criteria Descriptors
Major	The project, or a part of it, would become the dominant feature or focal point of the view.
Moderate	The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.
Minor	The project, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.
Negligible	Only a very small part of the project would be discernible, or it is at such a distance that it would form a barely noticeable feature or element of the view.
No Change	No part of the project, or work or activity associated with it, is discernible.

Determination of Significance

4.3.2.30 The determination of significance of the impact is a factor of the previously described sensitivity of the resource or receptor and the magnitude of the impact as described above. The range of significance of effects on the landscape and townscape resources and visual receptors is presented in

4.3.2.30 ~~Table 5-3-6:~~

4.3.2.31 ~~Table 5-3-3:~~ Where there is a choice in significance score, professional judgement is used to determine the significance level.

Table 5-3-6: Significance of Effects Categories (based on DMRB IAN 135/10 Annex 1 Table 3 and Annex 2 Table 3)

		Magnitude of Impact				
		No Change	Negligible	Minor	Moderate	Major
Sensitivity	High	Neutral	Slight	Slight/ Moderate	Moderate/ Large	Large/ Very Large
	Moderate	Neutral	Neutral/ Slight	Slight	Moderate	Moderate/ Large
	Low	Neutral	Neutral/ Slight	Neutral/ Slight	Slight	Slight/ Moderate

Night time Assessment

4.3.2.32 The Institution of Lighting Engineers (now referred to as the Institution of Lighting Professionals (“ILP”)) has produced guidelines which identify Environmental Zones that define the broad night-time characteristics of areas in terms of relative brightness or darkness (Ref 12). The following Environmental Zones are considered to best describe the various locations covered by the Scheme, against which it can be assessed.

Table 5-3-7: Description of the lighting environmental zones, as adapted by IESNA

Zone Rating	Description
E0	Intrinsically dark landscapes covered by designation e.g. UNESCO Starlight Reserves. In the UK these include Exmoor National Park (2011) and Northumberland National Park (2013). The latter has also been granted Gold Tier Dark Sky Park status by the International Dark Skies Association (“IDA”);
E1	Dark landscapes, e.g. National Parks, Areas of Outstanding Natural Beauty and other rural areas
E2	Low district brightness areas, e.g. rural, small village or relatively dark urban locations
E3	Medium district brightness areas, e.g. small town centres or urban locations;
E4	High district brightness areas, e.g. town/city centres with high levels of night-time activity.

4.3.2.33 As part of the assessment the same viewpoints as used during the assessment of Landscape and Visual effects are used to represent the range of visual receptors and likely impact of the Scheme on the night time landscape. A baseline night time survey was carried out in March 2016 to ensure assessment robustness. The baseline Environmental Zones are reported in the baseline under each link and identified on Figure 5.3.17.

Cumulative assessment

4.3.2.34 Where there are two or more planned significant developments where study areas may overlap, a cumulative assessment may be required. Although individual sites may be judged to have insignificant environmental impacts when considered in isolation, these effects may be magnified when considered in conjunction with other existing or proposed developments. The following future development has been identified:

Snowdonia Enterprise Zone (SEZ) - Llanbedr Airfield

4.3.2.35 The site of Llanbedr airfield has been identified by Welsh Government as being part of the Snowdonia Enterprise Zone, containing the Snowdonia Aerospace Centre. It is considered that the site's natural seclusion, location, grid infrastructure, its own lake and the availability of a technically skilled workforce make this location ideal for ICT and low carbon energy businesses, potentially supporting a bid to be developed as a key UK Aerospace centre. To date around £1.5 million has been invested in the sites infrastructure and development in support of this designation and a number of studies have previously been developed for the site including a dedicated masterplan in 2013 which developed a series of future development options, and a series of Economic Impact Assessments, undertaken to establish the viability of development options identified.

4.3.2.36 The current development scenario for the site is based on the A496 Llanbedr Access Improvements scheme being implemented and potential future development of the airfield site as follows;

- Business and Enterprise Park;
- Maintenance, repair and overhaul (MRO); and
- Remotely piloted aircraft systems (RPAS).

4.3.3 The Economic impact assessment undertaken on this development suggests that the main impacts would be in the development of RPAS activities at the airfield. At the same time, improved road access is also considered to consolidate the employment in the airfield rather than induce huge increases. MRO activity identified would be reliant in part on the development of the RPAS activities. Further development of the Business park is thought to be likely, although not a significant area of immediate growth.

In line with this, no specific physical development of the airfield site is currently planned or anticipated on a significant scale in the near future, with the economic model being based on the growth in industry primarily utilising existing infrastructure. As such it is not considered necessary undertake a cumulative assessment of the impacts of the two Schemes.

4.3.4 BASELINE ASSESSMENT

Landscape

Landscape Policy summary

4.3.4.1 Planning Policy Wales (Edition 8, January 2016) (Ref 8) advises that landscape considerations are to be taken into account in determining individual applications and contributing to the implementation of specific projects and that where development does occur it is important to ensure that all reasonable steps are taken to safeguard or enhance the environmental quality of land. The site of the proposed Development, as defined in Section 1 is located within to the west of

Llanbedr and as such falls within the Snowdonia National Park. As a result, the Snowdonia Local Development Plan takes precedence over the Gwynedd Council Unitary Development plan.

4.3.4.2 The relevant planning policies which have been considered during the Scheme are contained in Appendix C. A summary of the national plans and policies that have been considered as part of this assessment is provided in Table 5-3-8.

Table 5-3-8: National landscape and visual regulatory and policy framework

Policy/ Legislation	Summary of Requirements	Scheme Response
Planning Policy Wales (Edition 8, January 2016)		
8.5.1	Local authorities should utilise available powers to reduce the need to use trunk roads and other through routes for short, local journeys.	The proposed development removes the trunk road from the village, reducing through traffic and allowing improved movement on local roads for residents. Direct access from the proposed Scheme to Llanbedr Airfield and business park removed goods and tourist traffic from the village centre.
8.5.7	Great care must be taken to minimise the adverse impacts of new transport infrastructure, or improvements to existing infrastructure, on the natural, historic and built environment.	Route of proposed Scheme avoids nearby SAM and listed structures, and looks to minimise impact on surrounding landscape.
8.6.2	Minimise the adverse impacts of transport infrastructure projects on the natural, historic and built environment and on local communities.	Proposed Scheme designed to minimise the impact on local built environment. Mitigation measures to be considered to minimise the impact on the natural environment and aid integration into the surrounding landscape.
13.13	Development should seek to protect the natural and historic environment including wildlife, retain dark skies where appropriate, prevent glare and respect the amenity of neighbouring land uses and reduce the carbon emissions associated with lighting.	Lighting requirements for the proposed Scheme to be minimised as far as possible, mitigation measures to be considered to minimise the impact of the Scheme on the surrounding natural and historic landscape
Snowdonia National Park Authority EYRI Local Development Plan 2007-2022		
Strategic Policy A	Seeks to ensure that new development promotes the principles of sustainable development in ways which further National Park purposes and duty whilst conserving and enhancing the National Park's 'Special Qualities'.	Proposed Scheme intended to minimise the impact on the Eryri, and conserve and improve the quality of Llanbedr village by reducing traffic and congestion, improving noise and air quality

Policy/ Legislation	Summary of Requirements	Scheme Response
Strategic Policy B	Major development will not be permitted within the National Park other than in exceptional circumstances where there is demonstrated to be an overriding public need	Proposed development works to ensure any increase in traffic does not adversely impact on the village of Llanbedr and surrounding air and noise quality whilst supporting development in identified enterprise zones
Strategic Policy D	Natural resources, biodiversity, geodiversity and 'Special Qualities' of the Snowdonia National Park will be protected from inappropriate development.	Scheme looks to minimise impact on the natural qualities of the National Park, with mitigation measures to be considered to reduce impact
Strategic Policy F	The historic landscape, heritage assets and cultural heritage of Snowdonia National Park will be conserved and enhanced, due to their contribution to the character and 'Special Qualities' of the National Park.	The proposed Scheme and mitigation measures considered are designed as far as possible to protect and enhance the historic landscape as far as possible.
Strategic Policy L	Development will be supported where it will reduce or remove vehicle traffic from within town centres and where possible from rural areas.	The proposed Scheme is intended to reduce traffic movement and congestion within the centre of Llanbedr
Development Policy 2	New developments should respect and conserve the character of the landscape; scale, design, setting and landscaping.	The proposed development and mitigation are intended to minimise the likely impact on the local landscape character
Development Policy 5	Public or private open space within or adjacent to the main built up area of settlements that contributes to the amenity of residents will be protected from development.	The proposed Scheme and mitigation measures are intended to protect open space and access, including local PRoW's.

Snowdonia National Park – Special Qualities

4.3.4.3 The study area is located wholly within the boundary of the ERYRI national park. The special qualities of the ERYRI are described as being:

- The diversity of high quality landscapes and coastal areas within a small geographic area – ranging from coast to rolling uplands to the rugged mountains for which Snowdonia is famed.
- The robust sense of community cohesion, belonging and vibrancy which combine to give a strong 'sense of place'
- Continuing vibrancy of the Welsh language as the primary language in social and professional environments. This aspect is evident in local place names that reflect the area's cultural heritage.
- An area which has inspired some of the nation's most notable culture, folklore, art, literature and music, which continues to inspire to the present day.

- The opportunity for people to understand and enjoy the National Park actively, whilst maintaining areas of tranquillity and solitude, thus promoting aspects of health and wellbeing.
- Landscapes and townscapes which chart human impact over centuries, from Neolithic times to the present day. This is evident in archaeological remains, place and field names, oral and written history and present day land management practices. Its architectural heritage is reflected in the density of Listed Buildings and the wider historic environment.
- Complex, varied and renowned geology, vital in influencing the disciplines of geology and geography internationally.
- Varied biodiversity reflecting Snowdonia's landscapes, geology, land management practices and climate. Some notable species and habitats are of national and international significance, for example species which are remnants of the last ice age, providing a glimpse of semi-Arctic habitats. Snowdonia is the most southerly point in the UK for many such species.
- Extensive opportunities for recreation, leisure and learning for people of all ages and ability combined with areas of tranquillity.

4.3.4.4 In 2015 Snowdonia National Park was awarded Dark Skies Status by the International -Sky Association Dark Sky Association in recognition of the Parks proven quality of the night air and efforts to maintain and reduce levels of light pollution.

Landscape Character

4.3.4.5 The Scheme is located within the Morfa Dyffryn and Cefnwlad Arfordir Arduwy Landscape Character Areas as identified within the Snowdonia National Park Authority SPG 07: Landscapes and seascapes of Eryri (Ref 13)

4.3.4.6 The Morfa Dyffryn LCA is summarised as being;

'A small character area lying to the west of the A496, lying just above sea level, almost entirely dominated by the former Royal Aircraft Establishment complex and associated airfield. The land edge is defined by a dune system. The A496 passes through a number of small settlements, Tal y Bont, Coed Ystumgwern and Llanbedr, and provides a visual and noise detractor. Likewise the Cambrian Coast railway runs through the area.'

4.3.4.7 The northern element of the proposed by-pass, from the Afon Artro to the existing line of the A496 is positioned on the eastern edge of this LCA. The area is described as a flat, generally low-lying (generally less than 10m AOD) coastal landscape on the fringes of the National Park comprising of deposits of shingle and sand with an underlying geology of Tertiary and Mesozoic rocks. The LCA is largely defined by the Afon Artro estuary to the north and the smaller Afon Ysgethin estuary to the south, with the landscape between broken up by drainage channels and streams. Vegetation is largely limited to small patches of woodland and scrub, with hedgerow trees providing more tree cover further inland to the east around pastoral fields in a small scale irregular pattern. The area is classed as a Site of Special Scientific Interest & a National Nature Reserve, with the dunes along the western edge designated a Special Area for Conservation.

4.3.4.8 The entire LCA is within the wider Arduwy Landscape of Outstanding Historic Interest with extensive evidence of recurrent settlement and land use since the prehistoric period. The northern section of the LCA is dominated by the disused Llanbedr airfield and tourism-related developments scattered throughout, including camping and caravan sites and car parks (including on Shell Island,). There are

scenic views along the Cambrian coast, with inland views dominated by the mountains of the National Park's core.

4.3.4.9 The Cefnwlad Arfordir Ardudwy LCA is summarised as;

'The area to the west of the Rhinog Mountains, sloping down dramatically towards the coastal edge. It extends from the mouth of the Afon Dwyryd and the edge of Coed Felinrhyd in the north to the National Park boundary north of Barmouth in the south.'

4.3.4.10 The southern section of the site from the Afon Artro to the line of the existing A496 alignment is within this LCA. Its key characteristics are defined as being;

- A rolling landscape of seaward facing hills dropping down from the adjacent Rhinog Mountains, which contain the landscape to the east.
- Altitude ranges from up to 300 metres on the fringes of the mountains, to 20 metres along the coastal edge.
- Bedrock geology of silty mudstones and thin coarse-grained sandstones of Cambrian age, frequently overlain by glacial till deposits resulting in a complex topography.
- Dissected by the valleys of the Afon Artro, Cwmnantcol, YGlyn and Ysgethin along with multiple streams draining westwards towards the coast. Small lakes are dotted throughout the landscape.
- Extensive broadleaved woodland cover clothing valley sides, with some mixed and coniferous plantations – including the extensive forestry at Coed Felinrhyd.
- An historic irregular field pattern marked by stone walls, punctuated by pockets of open hill summits. Mature trees along field boundaries contributing to a well-wooded character on valley slopes.
- Predominantly pastoral land use, with patches of rough grazing land on higher ground.
- Nationally and internationally important ancient semi-natural oak sessile oak woodlands with a rich ground flora (including areas within the Meirionnydd Oakwoods and Bat Sites SAC), interspersed with areas of species-rich grassland, flushes and wet pasture.
- Within the wider Ardudwy Landscape of Outstanding Historic Interest, representing extensive evidence of recurrent settlement and land use since the prehistoric period – e.g. the Neolithic burial chambers at Dyffryn Ardudwy, prehistoric settlement/field system remains, medieval deserted settlements and defensive sites (e.g. Clogwyn Arllef hillfort).
- The 13th century Harlech Castle, a World Heritage Site, occupying a prominent spur overlooking the sea and the flat expanse of Morfa Harlech (LCA 10). The historic Edwardian settlement of Harlech (a Conservation Area) occupies an elevated cliff-ledge previously open to the sea.
- Estate plantings, ornamental woodland and parkland associated with the 18th century Cors-y-Gedol (Grade II) and the 17th century Grade II* listed Glyn Cywarch manor house.
- Other settlement mainly concentrated along the A496 coastal road, including caravan parks and camp sites. This includes the villages of Coed Ystumgwern, Dyffryn Ardudwy, Talsarnau and Tal y Bont, with some ribbon development.
- Elsewhere, scattered stone/slate-built farmsteads and hamlets linked by winding rural roads along valleys and over hillsides.

- Strong historic integrity retained due to topography limiting both access and settlement in the area. The A496 road and tourism-related developments erode these perceptions along the coastal fringe.
 - Combined views of the coast and the Rhinog mountain range (LCA 13)
- 4.3.4.11 The NRW LANDMAP is set out under five aspect layers. These aspect layers identify the geological, cultural, habitat, historic and visual and sensory qualities of the landscape within the study area are shown on Figures 1.2 – 1.6. A summary of each of the five aspect layers is provided below.

Geological Landscape

- 4.3.4.12 The Scheme falls mostly within the Afon Artro geological aspect area, a fault valley which runs east to west dissecting the steep west facing slopes of the Rhinogydd Mountains, formed from coarse sandstone and conglomerated on higher ground. The shape and nature of the landform is largely a result of a glacial mountain valley with occasional moraines and drumlin fields to lower slopes to the west. The southern-most section of the Scheme falls within the Afon Ysgethin aspect area. This is an area of mountain and upland valleys with undulating upland terrain, notably with steep west facing slopes, partially dissected by the V-shaped Ysgethin valley.
- 4.3.4.13 Views are available towards the proposed Scheme from the Mochras Farm aspect area to the west. This coastal area is largely formed of quaternary dunes to the west and glacial alluvium of sand and gravel deposited across the Morfa Harlech and Morfa Dyffryn lowlands.
- 4.3.4.14 All three aspect areas are considered to be of outstanding value and in good condition.

Historic Landscape

- 4.3.4.15 The Scheme falls within the Ardudwy Lower Slopes and Ardudwy Coastal Strip aspect areas. The Ardudwy Lower Slopes aspect area is described as a rural agricultural land formed of irregular fieldscapes, interspersed with deciduous woodland and small non-nucleated settlements. It is considered to be of outstanding value due to its distinctive landscape of dry-stone walls and multi-period farmsteads dating to the post medieval period.
- 4.3.4.16 The Ardudwy Coastal Strip aspect area is described as a rural agricultural landscape of regular fieldscapes, consisting of reclaimed land and water and wetlands located along the western edge of the Rhinogydd Mountains. Key features are dry stone wall field boundaries and cut drainage channels, interspersed with buildings and structures and industrial archaeology dating to the post medieval period. It is considered to be of moderate value, due to recent intrusion into the earlier landscape.
- 4.3.4.17 In addition, there are views towards the site from Llanbedr Airfield, Ardudwy Upper Slopes, and Roads aspect areas. Llanbedr Airfield is classed as a built military landscape. A level area of land, it is distinctive due to its post and wire bounding fence and military buildings and structures. As a result, it is considered to be of moderate value, as a surviving example of and WWII airfield.
- 4.3.4.18 The Ardudwy Upper Slopes aspect area is described as rural non-agricultural, marginal land. A narrow area running north east from Harlech on the coast, this is formed of both regular and irregular fieldscapes bounded by dry stone walls and containing relict earthworks, stone monuments and buildings and structures dating back to prehistoric and medieval periods. This aspect area is considered to be of outstanding value, due to the number of important relict archaeological remains.

4.3.4.19 The Roads aspect area is described as being a built environment located around a non-nucleated settlement reflecting the changing nature of built form. This contains features and structures dating from medieval, post-medieval, industrial and recent time periods. As a result, it is considered to be of outstanding value reflecting a historically important movement route.

Landscape Habitat

4.3.4.20 The Scheme falls within the Dry (Relatively) Terrestrial Habitats. The Dry Landscape Habitat is described as containing mostly improved grassland, with some semi-natural broad-leaved woodland and marshy grassland present. The area is interspersed with buildings and a caravan site, with other habitats provided from wet ditches within the area. As a result, it is considered to be of moderate value.

Visual & Sensory

4.3.4.21 The Scheme falls within the Coastal Lowland Level 3 Classification and comprises the Morfa Mawr, Morfa Mawr Coast and Coed Ystmgwern Farmland Coastal Farmland aspect areas. These aspects cover a varied landscape from coastal dunes and estuaries in the west to open rolling farmland in the east. These aspect areas are considered to be open, with a simple, muted random layout with texture provided by the vegetation and woodland blocks. The value within the Morfa Mawr and Coed Ystmgwern Farmland is considered to be high due to the attractive, accessible views along the coast with relatively few detractors, falling to moderate along the coastal edge within the Morfa Mawr Coast.

4.3.4.22 There is inter-visibility from the Scheme to the Harlech urban built development aspect area located in the north of the study area. This aspect is described as open due to the local topography and is diverse in appearance with a coarse texture and a constant level of human impact. It's built form strongly contrasts with the other aspect areas to the south. It is considered to have a moderate value.

Cultural Landscape

4.3.4.23 The Scheme falls within the Coastal Ardudwy aspect area and the west edge of the Llanbedr-Dyffryn Ardudwy-Tal y Bont aspect area surrounding Llanbedr. The Coastal Ardudwy aspect area is described as an extensive rural coastal landscape with infrastructure and tourism influences. The aspect area is rich in archeology with evidence of land use from prehistoric through to current times, impacted however by the number of caravan parks. The value of the landscape is considered to be outstanding, but reduces locally to moderate where caravan parks predominate.

4.3.4.24 The Llanbedr Dyffryn Ardudwy-Tal y Bont aspect area is described as rural settlements with tourism influences. This is based around a series of villages spread along the coastal plain. The villages are a mix of design quality and appearance dating primarily from the Victorian, Edwardian and post-1950 periods. It is considered to have a high value.

Local Landscape Character

4.3.4.25 With reference to the SNPA landscape characterisation work and the NRW LANDMAP data identified previously the study area has been further subdivided into the following eight Scheme-specific Landscape Character Areas (LCA);

- LCA 01: Shell Island, Morfa Dyffryn Dunes & Morfa Estuary
- LCA 02: Llanbedr Airfield
- LCA 03: The settlement of Llanfair & surrounding open farmland

- LCA 04: Semi-wooded hillsides of the Rhinog Mountain foothills
- LCA 05: Low-lying Artro Estuary floodplain & surrounding farmland
- LCA 06: Llanbedr village
- LCA 07: The Afon Artro wooded valley & surrounding hillside
- LCA 08: The open rising hillsides of the Rhinog Mountain foothills.

LCA 01: Shell Island, Morfa Dyffryn Dunes & Morfa Estuary

4.3.4.26 This area falls within the Coastal Lowland and is identified as the coastal dunes and flats of the Morfa Dyffryn and Afon Artro estuary, with Shell Island on the eastern edge forming a prominent feature. The landform is low lying and exposed to the sea, tidal to the north running up the estuary towards Pensarn Harbour, with open beaches to the south. Nearby views east are limited by the local change in landform with the steep wooded sides Rhinogydd Mountains rising in the distance. Public Rights of Way cross the flats, with limited visual intrusion and in parts has a wild and remote sense of place.

4.3.4.27 As a result, this LCA is considered to be of **high** sensitivity.

LCA 02: Llanbedr Airfield

4.3.4.28 This area falls within the Coastal Lowland. It is a level and open area dominated by the airfield infrastructure i.e. hangars and outbuildings at the northern edge and the control tower to the west. The area is clearly defined by the perimeter security fence running with the majority of the area within consisting of managed grassland and large expanses of tarmac. Extensive views are available along the coast to the north south, and out to sea to the west. To the east, the rolling lower slopes of the Rhinogydd Mountains dominate, meeting the edge of the area in the centre.

4.3.4.29 As a result, this LCA is considered to be of **moderate** sensitivity

LCA 03: The settlement of Llanfair & surrounding open farmland

4.3.4.30 This area falls within the Coastal Lowland at the northern edge of the study area and takes in the settlement of Llanfair. This settlement is located on an open elevated hillside which affords expansive views west out to sea and south across LCA 05 to Llanbedr, and along the coastline and the edge of the Rhinogydd Mountain range beyond. It is a dispersed settlement with properties grouped together along localised ridgelines running across the hillside. At the western edge of this area is the smaller settlement of Llandanwg.

4.3.4.31 As a result, this LCA is considered to be of **moderate** sensitivity

LCA 04: Semi-wooded hillsides of the Rhinogydd Mountain foothills

4.3.4.32 This area falls within the Lowland Plain. It comprises an irregular pattern of agricultural fields rising up the hillside, broken up by dry stone walls and interspersed with broadleaved woodland to the south. Scattered properties accessed along minor roads and tracks are afforded wide views to the west and south, elevated above Llanfair and encouraged by the local topography wrapping around the north and east.

4.3.4.33 As a result, this LCA is considered to be of **high** sensitivity

LCA 05: Low lying Artro Estuary floodplain & surrounding farmland

4.3.4.34 This area falls within the Lowland Plain. This is a low lying typically flat open area with the west edge delineated by the Cambrian Coast railway. The rising landform to the south within LCA 08 and to the north and north west within LCA 03 and LCA 04 respectively enclose the area and restrict views out. The feature of this area is

the Afon Artro delineated by riparian vegetation and low flood bunds. The floodplain is characterised by damp pasture and an irregular field pattern separated by open ditches, fences and scattered hedgerows. The existing A496 cuts through the north part of the area, with its alignment defined by road side trees and a low stone boundary wall. In the north part of the area the fields become more regulated in size and defined by traditional dry stone walls. The Llanbedr Standing Stones Scheduled Monument sits within the south east part of this area. The area generally has a high level of tranquillity, with pleasant views and little noise or activity, with main movement focussed on the road to the east and the rail line to the west.

4.3.4.35 As a result, this LCA is considered to be of **high** sensitivity

LCA 06: Llanbedr village

4.3.4.36 This area falls within the Lowland Plain and is defined by the built-up extent of Llanbedr village. It is a dispersed settlement centred on the A496 crossing over the Afon Arturo. The settlement spreads out north along the A496 and east and west along the Afon Arturo. Buildings are primarily of Victorian and Edwardian era, interspersed with modern infill development. The dense nature of properties and adjacent steep landform to the east and south limits views out. The north west part of the settlement has a strong relationship with the adjacent LCA 05 with views out across the Morfa Dyffryn.

4.3.4.37 As a result, this LCA is considered to be of **high** sensitivity

LCA 07: Afon Artro wooded valley sides & surrounding hillside

4.3.4.38 This area falls within the Lowland Plain. It is located along the steeply rising western slopes of the Rhinogydd Mountain foothills. Largely covered by broadleaved woodland punctuated by small watercourses, the area is more exposed and open on the hill tops to the east. Small irregular fields are located along the sheltered lower slopes to the west with more open exposed slopes to the east, where they are interrupted by crags and undulating land form. There are distant views out to the north, west and south from the elevated eastern edge. Views across the Morfa Dyffryn (LCA 05) and south to Llanbedr airfield (LCA 3) and towards LCA 08 are limited by the dense vegetation cover.

4.3.4.39 As a result, this LCA is considered to be of **high** sensitivity

LCA 08: Open rising hillsides of the Rhinogydd Mountain foothills

4.3.4.40 This area falls within the Lowland Plain. It is defined by a gradual rolling hillside which rises steadily from the Cambrian Coast railway running along the western edge with Llanbedr Airfield (LCA 02). There are medium to large irregular fields bounded by dry stone walls, punctuated by mature hedgerows and hedgerow trees with the occasional tree clump. Larger blocks of broad-leaved woodland are located around the settlement of Llanbedr. There are Intermittent views out to the west to LCA 01 and LCA 02. The north part of this area has a strong relationship with LCA 05 as it forms its southern backdrop.

4.3.4.41 As a result, this LCA is considered to be of **high** sensitivity.

Visual Amenity

4.3.4.42 The ZVI is based on the site survey carried out in March 2016 as illustrated on Figure 5.3.1, and identifies the area from which it may be possible to see the Scheme at ground level, and from the receptors identified within the VES.

4.3.4.43 Due to the local topography, the ZVI extends largely to the north and west of the Scheme, across the lower lying level landscape within the coastal lowland of LCA

02 and LCA 05 and the coastal slopes of LCA 03 beyond. Further west within LCA 01 the ZVI is limited to sporadic locations within the coastal dunes. The ZVI limited to the east and south by the rising slopes and woodland within LCA 04, LCA 07 and LCA 08.

- 4.3.4.44 Views of the Scheme may be available from the northern section of Llanbedr Airfield, however it was not possible to access this private land to establish the extent of the ZVI within this area and therefore an assumed ZVI is indicated by a separate hatch on figure 5.3.1.

Representative Viewpoints

- 4.3.4.45 The following representative viewpoints have been used for the assessment of potential visual effects;
- A: Entrance to Plas Y Bryn Hall from A496, looking west
 - B: View from Mochras Road, Llanbedr, looking west
 - C: View from A496, north of Llanbedr, looking south west
 - D: View from PRoW (and the nearby Wales Coast Path) along the eastern bank of the Afon Artro, looking south
 - E: View from PRoW at Pen Y San Farm, looking south
 - F: View from Llanbedr Standing Stones (SAM), looking north
 - G: View from Shell Island, looking east

Entrance to Plas Y Bryn Hall from A496, looking west

- 4.3.4.46 This viewpoint represents users on the A496 running south to north from Barmouth into Llanbedr. As a result, views from this position are considered to be of **low** sensitivity.
- 4.3.4.47 From this position, views out to the west are dominated by the locally undulating landform with small clumps of broadleaved and evergreen trees to the centre. Beyond this is the low-lying Llanbedr airfield (LCA 02) with Shell Island and the coastline beyond. To the north, in the foreground are the Artro Lodges, a relatively new development of 12 holiday luxury holiday homes, set below the wooded hillside beyond. The distant hills along the Pwllheli peninsular are visible above the tree line.

View from Mochras Road, Llanbedr, looking west

- 4.3.4.48 Located to the western edge of Llanbedr village (LCA 06), this viewpoint represents views for pedestrian and vehicular users on Mochras Road, running from Llanbedr to Shell Island. It also represents views from adjacent residential properties located along the southern side of the road. As a result, the sensitivity of views from this position are considered to be **high** for residential properties and pedestrians, and **low** for vehicular users.
- 4.3.4.49 Views from this position looking west are framed by the rising hillside within LCA 08 to the south of the road and the mature tree line along the banks of the Afon Artro to the north. Views are typically restricted to the road corridor, with filtered winter views out across LCA 05 to the north.

View from A496, north of Llanbedr, looking south west

- 4.3.4.50 This position represents views available to users on the A496 running north from Llanbedr towards Llanfair, and views from properties located along the eastern edge of the A496 at the north-west edge of Llanbedr (LCA 06). As a result, the

sensitivity of views from this position are considered to be **high** for residential properties, and **low** for users on the existing A496.

- 4.3.4.51 Views from this position look out across the low lying and flat floodplain and farmland of LCA 05 to the mature tree line along the Afon Artro and the scrub embankment vegetation which delineates the Cambrian Coast railway. Telephone lines cross the skyline in the mid-ground with occasional isolated shrubs and trees providing relief from the flat topography.

View from PRow (and the nearby Wales Coast Path) along the eastern bank of the Afon Artro, looking south

- 4.3.4.52 This position represents views for users on the PRow and the nearby Wales Coast Path, on the slightly elevated flood bund of the Afon Artro travelling south. As a result, views from this position are considered to be of **high** sensitivity.
- 4.3.4.53 Views from this location focus on the Afon Artro and take in the adjacent open floodplains of the Morfa Dyffryd (LCA 05). The properties along the northern edge of Llanbedr (LCA 06) are visible amongst the bounding mature trees, with the wooded hillsides rising beyond to the south and east within LCA 04 and LCA 07.

View from PRow at Pen Y San Farm, looking south

- 4.3.4.54 This position represents views experienced by residential properties located along the minor road running from Pensarn Railway Station east along the valley side. This position also represents users on the minor road and the PRow running from Pen Y Sarn Farm north towards Llanfair. As a result, views from this position are considered to have a **high** sensitivity for residential properties and users on the PRow, and **low** for users on the minor road.
- 4.3.4.55 Views from this elevated position look south across the gently rolling lower slopes of the Ardudwy and the Morfa Dyffryn farmland (LCA 05), on either side of the Afon Artro estuary. Irregular fields are broken up by mature hedgerows and hedgerow trees and clumps, with blocks of broad-leaved woodland forming distinct features on the landscape. In the distance the wooded hillsides of the Rhinogydd Mountain foothills rise to the south and the east.

View from the Llanbedr Standing Stones (Scheduled Ancient Monument), looking north

- 4.3.4.56 This position represents views looking north from the SM located within the south-east part of LCA 05 and to the north west of Llanbedr (LCA 06). As a result, the view is considered to be of **high** sensitivity.
- 4.3.4.57 Views to the north from this location look out across the Morfa Dyffryn farmland (LCA 05) to the flood bund of the Afon Artro and the scrub embankment vegetation along the Cambrian Coast railway. Telegraph poles interrupt the open skyline. To the north west the view becomes filtered by nearby mature trees and vegetation along field boundaries. To the east, the view is framed by the properties located along the A496 with the rising rolling hillsides beyond.

View from Shell Island, looking east

- 4.3.4.58 This position represents views for recreational visitors on the island, looking east back towards the mainland. As a result, the sensitivity of views from this position are considered to be **high**.
- 4.3.4.59 Views from this location are expansive, looking out over the estuary and flats and the low-level farmland and Llanbedr Airfield beyond. In the distance are the rising farmed and wooded hillsides within LCA 04, LCA 07 and LCA 08 with the Rhinogydd mountain range forming a distinct and distant backdrop

Landscape & Visual Sensitivity

4.3.4.60 Of the eight scheme-specific Landscape Character Areas, six are considered to be of high sensitivity, owing to their setting, qualities and characteristics. Llanbedr Airfield (LCA 02) and the settlement of Llanfair & surrounding open farmland (LCA 03) are considered to be of moderate sensitivity. Of the seven representative viewpoints, six are considered to be of high sensitivity with one, Viewpoint A, of low sensitivity. Table 5-3-9 summarises the sensitivity of each identified resource.

Table 5-3-9: Evaluation of Resources

Resource	Sensitivity
LCA 01: Shell Island, Morfa Dyffryn Dunes & Morfa Estuary	High
LCA 02: Llanbedr Airfield	Moderate
LCA 03: The settlement of Llanfair & surrounding open farmland	Moderate
LCA 04: Semi-wooded hillsides of the Rhinog Mountain range	High
LCA 05: Low lying Artro Estuary floodplain & surrounding farmland	High
LCA 06: Llanbedr village	High
LCA 07: Artro wooded valley sides & surrounding hillside	High
LCA 08: Open rising hillsides of the Rhinog Mountains	High
Viewpoint A: Entrance to Plas Y Bryn Hall from A496, looking west	Low
Viewpoint B: View from Mochras Road, Llanbedr, looking west	High
Viewpoint C: View from A496, north of Llanbedr, looking south west	High
Viewpoint D: View from PRoW (and the nearby Wales Coast Path) along the eastern bank of the Afon Artro, looking south	High
Viewpoint E: View from PRoW at Pen Y San Farm, looking south	High
Viewpoint F: View from Llanbedr Standing Stones (SM), looking north	High
Viewpoint G: View from Shell Island, looking east	High

Night-time Assessment

4.3.4.61 Table 12, as contained within Appendix B, provides detail of the night time environmental lighting conditions experienced within each of the character / urban areas considered as part of the night time assessment, in which three distinct character / urban areas have been identified. Figure 5.3.17 Existing Landscape Character, Darkness and Lighting outlines these character / urban areas, and the environmental lighting zones. Due to the generally dark night time characteristics of the study area, it was not possible to obtain supporting images from every representative viewpoint. Images were taken where night time lighting conditions allowed.

Night time Assessment Assumptions and Exclusions

4.3.4.62 The night time baseline data was collated during the evening of the 08th March 2016, during the hours of approx. 20:00 – 00:00. Weather conditions at the time of

the survey were overcast but dry. The collated data and the establishment of the environmental lighting zones identified on figure 5.3.17 is considered to be representative of the night time environment, however it excludes temporary lighting which was not present during the hours of the survey such as floodlighting associated with sports facilities or other , nor lighting which may only be temporary, or only active during certain time periods of the night, i.e. road lighting which is switched off during the early hours of the morning, during lower periods of activity.

4.3.5 MITIGATION

4.3.5.1 The mitigation measures to be incorporated into the Scheme are shown on the environmental masterplan (see drawing 7.1-7.4). These have been developed as part of the iterative design process to reduce the effects of the Scheme on the landscape and surrounding views.

Treatment of Highways Structures

4.3.5.2 Five new structures are proposed as part of the Scheme. These are the new overbridge across the Mochras Road and Afon Artro, a new single span bridge crossing the existing river inlet, and three new culverts located to the north and southern ends of the Scheme as shown on Vol 1 Figures 2.3-2.5. In order to reduce the impact of these new structures on the local landscape it is proposed that all external concrete walls and abutments would be faced with stone-effect cladding in keeping with local materials.

4.3.5.3 To aid the integration of the Scheme into its local surroundings, highway boundary walls have been included within the design for the scheme to be constructed of local stone in keeping with the appearance of the existing A496. These walls are located along the northern section of the route extending from the new junction into Llanbedr to the Afon Artro / Mochras Road overbridge, and the southern section of the Scheme from the edge of the proposed cutting to meet the existing road alignment. New boundary walls are also proposed to the highway edge at all three junctions, tying with existing boundary wall alignments where appropriate.

4.3.5.4 In order to soften the appearance of the proposed cutting, it is proposed to reduce the profile of the engineered slopes by softening the upper line and grading out the lower levels to create a more naturalistic flow in keeping with the local topography.

Changes to existing power lines

4.3.5.5 As part of the proposed Scheme the existing overhead power lines located around the northern section of the scheme outline will be renewed and replaced during the construction works. As part of this proposal, overhead power lines will be relocated running north to south from the sewage treatment works at the northern end, aligned to follow the route of the proposed by-pass south as far as the Mochras road, at which point the services will continue underground.

4.3.5.6 It is not clear from the drawing what, if any equipment will be required at the point of transfer from overhead to underground and whether this will have any impact on local receptors in terms of additional new features within the landscape which may need to be considered.

Mitigation Planting

- 4.3.5.7 Landscape planting mitigation measures would be implemented to help over time to integrate the Scheme with the landscape and to screen it in sensitive views. These mitigation measures have also taken into consideration other ecological and heritage design requirements. However, in some situations a compromise has had to be achieved where there are conflicting requirements.

Landscape integration

- 4.3.5.8 To reduce the impact of the Scheme through the loss of existing vegetation a number of mitigation planting measures are proposed:
- New native species boundary hedgerow planting located to the western & eastern side of the highway to the southern end of the Scheme positioned to the back of the new grass verge.
 - New native species boundary hedgerow planting with hedgerow trees to the western and eastern side of the northern end of the Scheme.
 - New low level scrub planting species planting along the northern bank Afon Artro New native species hedgerow translocation along the southern and eastern edges of the realigned Mochras Road leading from the station to the new Mochras road junction.
 - New block woodland planting is proposed to the northern side of the north junction to merge with the existing mature vegetation located along the boundaries of the existing A496.

Visual Screening

- 4.3.5.9 To reduce the impact of the proposed Scheme on the wider landscape and views available the following screening planting is proposed;
- New woodland/ native scrub planting with trees located between the existing cutting and the Maes Artro Holiday Park.
 - New native scrub and tree planting wrapping around the end properties on the Mochras Road, connecting into the existing woodland block to the east of the Scheme and connecting as far as Mochras Road.
 - New 3m wide native species scrub planting with intermittent trees located along the southern edge of the Maes Artro holiday Park.
 - New planting along the proposed embankments to the western side of the Scheme to the southern end adjacent to the access to Tyddn Du Farm
- 4.3.5.10 As a result of this mitigation, the visual effects on views from the north looking south from viewpoints A and E would be reduced. In addition, the effect on views west from viewpoint B will also be reduced, in addition to views from a number of visual receptors as identified within the Visual Effects Schedule.

Offsite Planting

- 4.3.5.11 To reduce the impact of the Scheme on the setting of the Llanbedr Standing Stones SAM offsite mitigation planting has been proposed, in consultation with Snowdonia National Park & CADW:
- As a result, infill native scrub, shrub and tree planting is proposed to reinforce the existing mature tree line located west of the SM adjacent to the between the proposed Scheme.
 - New understorey planting is proposed along the line of the same tree line to reinforce low level screening

- New shrub and low level tree planting is proposed along the northern edge of the flood bund north of the unnamed watercourse to the north of the standing stones from Llanbedr village to the east and as far west as the woodland planting block (in bullet 4 below) then continuing with scrub planting to east of the bridge over Watercourse 2, to screen views towards the northern junction
- A small block of tree planting (four trees) is proposed directly north of the above screen planting to continue the existing tree line to the south the watercourse and improve screening north and west towards the Scheme.
This planting would be essential scheme mitigation and included in the Schemes CPO.

ASSESSMENT OF IMPACT

Construction Phase

- 4.3.5.12 The assessment of the construction phase effects have been made based on the following assumptions:
- A construction compound and offices will be required by the contractor, this may be located within the scheme boundary or offsite. The details of this will be decided by a separate planning application.
 - Construction traffic on the existing A496 through Llanbedr will be minimised as far as possible.
 - Temporary construction compounds and working areas may be required along the length of the Scheme throughout the construction period during specific activities
 - A working area with a 4 metre offset will be required to each side of the proposed Scheme, with widened working areas to the northern side of the Afon Artro to allow crane access for installation of the new overbridge, and at each junction location.
 - No on-site concrete batching plant will be required
 - Storage of materials on site will be minimised as far as possible.
 - Removal of vegetation required for construction working areas and access will be minimised as far as possible. A methodology for managing the identification and removal of vegetation would form part of the Construction Environmental Management Plan (CEMP).
- 4.3.5.13 It is assumed that the construction period will be for more than 18 months, as such any effects should be considered short term as opposed to temporary. The significance of effects has been assessed at the point of greatest construction activity. The need for compound or construction night time working are to be discussed and agreed. The CEMP would identify measures to minimise night time light intrusion on visual receptors and the Dark Skies status of the landscape.
- 4.3.5.14 Based on the above assumptions, the construction phase would result in impacts on landscape character and interruption of views which would be greater than the operational Scheme. The main construction activities which would result in a major or moderate magnitude of impact would be associated with the erection and operation of any compounds and working areas, the removal of mature vegetation as part of the site clearance works, the erection of the five structures, the excavation of the main cutting along with the creation of new earthworks and plant movement.
- 4.3.5.15** In terms of landscape character, LCA 05 and LCA 08 would incur a **major adverse** magnitude of impact during construction, resulting in a **large adverse**

significance of effect. Three LCA's (02, 03 and 06) would incur a **minor adverse** magnitude of impact during construction, resulting in a **slight adverse** significance of effect. Two LCA's (01 and 04) will incur a **negligible adverse** magnitude of impact during construction, resulting in a **slight adverse** significance of effect while LCA 07 would experience **no change**, resulting in a **neutral** significance of effect.

4.3.5.16 In terms of views, the construction activities within the open low lying landscape within LCA 05 and the excavation of the cutting within LCA 08 would have a **major adverse** magnitude of impact on four out of the eight representative viewpoints (VP's B, C, D & F), resulting in a **large adverse** significance of effect for high sensitivity receptors. The view from Viewpoint E would experience a **minor adverse** magnitude of impact, resulting in a **moderate adverse** significance of effect. Construction activities within LCA 08 would also be visible from Viewpoint A, a low sensitivity receptor and potentially from the distant Viewpoint G. It is anticipated Viewpoint A would experience a major adverse magnitude of impact resulting in a slight adverse significance of effect and Viewpoint G would experience a **negligible adverse** magnitude of impact resulting in a **slight adverse** significance of effect.

4.3.5.17 Table 5-3-10 below, identifies the construction phase Magnitude of Impact and resulting Significance of Effect on each identified Landscape Character Area and representative Viewpoint.

Table 5-3-10: Summary of the Significance of Effects during construction period

Receptor	Landscape Sensitivity	Magnitude of Impact: Construction Period	Significance of Effect (Short Term)
LCA 01: Shell Island, Morfa Dyffryn Dunes & Morfa Estuary	High	Negligible adverse	Slight adverse
LCA 02: Llanbedr Airfield	Moderate	Minor Adverse	Slight adverse
LCA 03: The settlement of Llanfair & surrounding open farmland	Moderate	Minor adverse	Slight adverse
LCA 04: Semi-wooded hillsides of the Rhinog Mountain foothills	High	Negligible adverse	Slight adverse
LCA 05: Low lying Arthro Estuary floodplain & surrounding farmland	High	Major adverse	Large adverse
LCA 06: Llanbedr village	High	Minor adverse	Moderate adverse
LCA 07: Afon Arthro wooded valley sides & surrounding hillside	High	No change	Neutral
LCA 08: Open rising hillsides of the Rhinog Mountains foothills	High	Moderate adverse	Large adverse
Viewpoint A: Entrance to Plas Y Bryn Hall from A496, looking west	Low	Major adverse	Slight adverse

Receptor	Landscape Sensitivity	Magnitude of Impact: Construction Period	Significance of Effect (Short Term)
Viewpoint B: View from Mochras Road, Llanbedr, looking west	High – residential properties & pedestrians / Moderate – users of the Mochras road	Major adverse	Large adverse for residential properties & pedestrians / Moderate adverse for vehicular users
Viewpoint C: View from A496 north of Llanbedr, looking south west	High – residential properties / Low – users of the A496	Major adverse	Large adverse – residential receptors / Moderate adverse – Users of the A496
Viewpoint D: View from PRoW (and the nearby Wales Coast Path) along eastern bank of Afon Artro, looking south	High	Major adverse	Large adverse
Viewpoint E: View from PRoW at Pen Y San Farm, looking south	High – residential properties & users of the PRoW / Low – users of the minor road	Minor adverse	Moderate adverse – residential properties & users of the PRoW / Slight adverse – users of the minor road
Viewpoint F: View from Llanbedr Standing Stones (SM), looking north	High	Major adverse	Large adverse
Viewpoint G: View from Shell Island, looking east	High	Negligible adverse	Slight adverse

Operation Phase (Opening Year) – Landscape Character

- 4.3.5.18 The Scheme at opening year (winter) would form a noticeable element within the landscape of LCA 05 and LCA 08, as a result of changes in landscape pattern and landform. The loss of mature vegetation along the Afon Artro and at the tie-ins with the existing A496, the presence of the five new structures and associated earthworks with stone walls and fast moving traffic on them, associated highway corridor boundary fencing, noise and ecological mitigation measures, and the new cutting to the south of the Afon Artro would result in noticeable damage to important features within these character areas.
- 4.3.5.19 New road signs would be kept to a minimum in both number and size and will be unlit at night. No street lighting is proposed in order to avoid light intrusion on the Dark Skies status of the Snowdonia national park. However, the existing lighting along the Mochras Road, between Llanbedr village and the railway station would be upgraded as part of the works, to provide the same level of local lighting but using modern technology would reduce light spillage and glare. It is considered that the proposed signs and the upgraded lighting proposals along Mochras Road would be relatively minor new elements in the landscape and night time landscape.

- 4.3.5.20 All the new structures would be clad in a stone finish which would resemble the natural stone material of the areas and help integrate them into the landscape, although overall, they would form noticeable features in the local landscape. The new planting associated with the landscape mitigation, other than the grass seeded areas, would form a barely perceptible feature. It is therefore considered that the Scheme at opening year would have a moderate magnitude of change on the character of LCA 05 and LCA 08 resulting in a moderate adverse significance of effect.
- 4.3.5.21 As the Scheme, would be unlit the effects on the night time landscape would be limited to intermittent vehicle headlights moving across the landscape, although the extent of car headlights would be limited by the road side stone walls and the parapets at the structures. Overall it is considered that this would have a barely noticeable loss in the night time rural character of LCA 05 and LCA 08 resulting in no additional adverse significance of effect to that reported above.

Operation Phase (Opening Year) – Visual Amenity

- 4.3.5.22 The Scheme at opening year (winter) would form a new element within the view for 137 residential visual receptors. Its location running across the open LCA 05 to the north of the Afon Arturo, combined with the proposed cutting into the existing hillside to the south would form a perceptible feature, but where the overall view composition is largely unaltered, in long distance views from PRoW's and residential properties to the north of the Scheme at Llanfair and Llandanwg within LCA 03 and from low lying receptors within LCA 01 and LCA 02 to the south and west. However, in shorter, close range views from properties located along the A496 at the north edge of Llanbedr (LCA 06) and within the footpath network, including views from a section of the Wales Coast Path (Viewpoint D) and from the Llanbedr Standing Stones SM (Viewpoint F) the Scheme would be a noticeable element in the view.

Operation Phase (Design Year 15) – Landscape Character

- 4.3.5.23 The proposed landscape planting would use native species typical of the locality and reflect as far as possible the existing vegetation pattern. This would include boundary planting along highway edges where appropriate and blocks of trees and scrub to the elevated hills and along the Afon Arturo corridor. Over time, as the planting establishes and matures it would help to soften and integrate the Scheme into the landscape
- 4.3.5.24 However, the Scheme at design year 15 (summer) would continue to form a noticeable element within the landscape of LCA 05 and LCA 08, as a result of the initial changes in landscape pattern and landform. Although the loss of mature vegetation along the Afon Arturo and at the tie-ins with the existing A496, would to some extent be replaced by the establishing planting, it would not be enough to integrate the Scheme at these locations. However, it is anticipated the new structures and earthworks within LCA 05 would be softened by the established planting but again they would still form noticeable elements in the landscape with the stone walls and fast moving traffic on them. The cutting within LCA 08 to the south of the Afon Arturo would also continue to form a noticeable local feature.
- 4.3.5.25 At design year 15 the Scheme would have a moderate magnitude of impact resulting in a moderate adverse significance of effect within LCA 05 and LCA 08.

Operation Phase (Design Year 15) – Visual Amenity

- 4.3.5.26 Over time it is anticipated the proposed landscape planting would help to soften the features of the scheme such as the earthworks and the structures. However due to the limitations of the planting to be able to act as a filter or screen within the low lying and open floodplain of LCA 05, the Scheme at design year 15 (summer) would continue to form a noticeable element in some short range views, In particular from the footpath network, including a section of the Wales Coast Path (Viewpoint D) within LCA 05; and from the residential properties on the A496 at the north west edge of Llanbedr (LCA 06)..
- 4.3.5.27 At design year 15 the Scheme would continue to have a moderate magnitude of impact on some views resulting in a moderate significance of effect.

Significance of Effects

- 4.3.5.28 Table 5-3-11, below provides a summary of the significance of effects resulting from the proposed Scheme at design year 15, taking into consideration potential mitigation measures as described above.

Table 5-3-11: Summary of the Significance of Effects

Receptor	Landscape Sensitivity	Opening Year (Winter)		Design Year 15 (Summer)	
		Magnitude of Impact	Significance of Effect	Magnitude of Impact	Significance of Effect
LCA 01: Shell Island, Morfa Dyffryn Dunes & Morfa Estuary	High	No Change	Neutral	No Change	Neutral
LCA 02: Llanbedr Airfield	Moderate	No Change	Neutral	No Change	Neutral
LCA 03: The settlement of Llanfair & surrounding open farmland	Moderate	Minor adverse	Slight adverse	Negligible adverse	Slight adverse
LCA 04: Semi-wooded hillsides of the Rhinog Mountain foothills	High	No Change	Neutral	No Change	Neutral
LCA 05: Low lying Artro Estuary floodplain & surrounding farmland	High	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse
LCA 06: Llanbedr village	High	Negligible adverse	Slight adverse	No Change	Neutral
LCA 07: Afon Artro wooded valley sides & surrounding hillside	High	No Change	Neutral	No Change	Neutral

LCA 08: Open rising hillsides of the Rhinog Mountain foothills	High	Moderate adverse	Moderate adverse	Minor adverse	Slight adverse
Viewpoint A: Entrance to Plas Y Bryn Hall from A496, looking west	Low	Moderate adverse	Slight adverse	Minor adverse	Slight adverse
Viewpoint B: View from Mochras Road, Llanbedr, looking west	High – residential properties and pedestrians / Moderate – vehicular users of the Mochras Road	Moderate adverse	Large adverse – residential properties and pedestrians / Moderate adverse – vehicular users	Minor adverse	Moderate adverse – residential properties and pedestrians / Slight adverse – vehicular users
Viewpoint C: View from A496, north of Llanbedr, looking south west	High – residential properties / Low – users of the A496	Moderate adverse	Moderate adverse – residential receptors / Slight adverse – Users of the A496	Moderate adverse	Moderate adverse – residential receptors / Slight adverse – Users of the A496
Viewpoint D: View from PRoW (and from the nearby Wales Coast Path) along the eastern bank of the Afon Artro, looking south	High	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse
Viewpoint E: View from PRoW at Pen Y San Farm, looking south	High – residential properties & users of the PRoW / Low – users of the minor road	Minor adverse	Slight adverse – residential properties & users of the PRoW / Neutral for users of the minor road	Minor adverse	Slight adverse – residential properties & users of the PRoW / Neutral for users of the minor road
Viewpoint F: View from Llanbedr Standing Stones (SM), looking	High	Moderate adverse	Moderate adverse	Minor adverse	Moderate adverse in winter months, reducing to slight adverse

north					in summer
Viewpoint G: View from Shell Island, looking east	High	No change	Neutral	No Change	Neutral

CONCLUSIONS

Landscape Character

- 4.3.5.29 It is anticipated that the construction effects during the peak activity period would be greater than the operation effects of the Scheme. During construction two local landscape character areas (LCA 05 and LCA 08) would experience a **large adverse** significance of effect. Five of the remaining six LCAs would experience a **slight adverse** significance of effect and one (LCA 07), would experience a **neutral** significance of effect.
- 4.3.5.30 In winter of the opening year the magnitude of impact would reduce for all the LCAs affected by the Scheme resulting in two LCAs (LCA 05 and LCA 08) experiencing a **moderate adverse** significance of effect. The remaining six LCAs would all experience a **neutral** significance of effect. These reductions would be brought about by the inherent design features of the Scheme such as the cladding to the structures, the road side stone walls and the greening of the engineered earthworks due to the establishment of the grass seeding. Over time and by design year 15 the proposed planting mitigation would further help to soften the engineered elements of the Scheme and provide further integration. However due to the open low lying nature of LCA 05 the embankment with traffic on it would continue to be a noticeable element which new planting would not fully integrate. In addition, the cutting within LCA 08 would continue to form a noticeable element within the local landscape. LCA 03 would experience a slight adverse significance of effect, whilst the remaining five LCA's (01, 02, 04, 06 & 07) would experience a neutral significance of effect.

Visual Amenity

- 4.3.5.31 During construction five representative viewpoints (B, C, D, E and F) would experience a **large adverse** significance of effect and two viewpoints (A and G) would experience a **slight adverse** significance of effect.
- 4.3.5.32 In the opening year (winter), of operation the magnitude of impact would be reduced, and over time the establishment of mitigation planting would help to soften the Scheme. By design year 15 (summer), three viewpoints (B, C and D) would experience a **moderate adverse** significance of effect, three viewpoints (A, E and F) would experience a **slight adverse** significance of effect, and viewpoint G would experience a **neutral** significance of effect.

Snowdonia National Park - Effects on the Special Qualities

- 4.3.5.33 This section looks at the effects of the Scheme on the special qualities of the Snowdonia National Park including the settlement of Llanbedr and the tranquillity experienced by users on a section of the Wales Coastal Path.
- There would be a moderate adverse effect on the local landscape of the Lowland Plain. It is recognised in both LANDMAP and within the landscape characterisation work undertaken by SNPA that this landscape is of high to

moderate quality, with some recent developments including caravan parks affecting the overall appearance of the area.

- The view from two PRow which traverse the banks of the Afon Artro within LCA 05, including a section of the Wales Coastal Path would be directly affected by the Scheme, resulting in a localised moderate adverse impact on the tranquillity and solitude experienced by walkers on the national trail.
- The Scheme, through the removal of through traffic on the A496, would have a potential local improvement on Llanbedr's townscape and associated listed structures along the A496 corridor.

Visual Effects on the SAM - Llanbedr Standing Stones

- 4.3.5.34 The Scheme would be visible on embankment and on structure as it crosses the Morfa Dyffrn (LCA 05) to the north. The removal of the overhead power lines running east to west would help to partially reduce the visual clutter in the view composition, although the repositioned line would remain visible against the skyline. The proposed scheme would have a noticeable change (moderate adverse magnitude of impact) on the north and west view from the standing stones (Viewpoint F), resulting in a moderate adverse significance of effect at opening year.
- 4.3.5.35 With reference to Chapter 5.7 Noise and Vibration, at opening year, the Scheme would result in a perceptible 3.5dB reduction in traffic noise levels at the standing stone when compared to the Scheme not being constructed.
- 4.3.5.36 At year 15, with the establishment of the proposed mitigation planting, the passing traffic on the embankment would be increasingly filtered in east and north westerly views. However, it is anticipated there would be a framed filtered view to the traffic on structure as it crosses the watercourse 160m to the north west of the standing stone. The new screen planting along the watercourse to the north would help to restrict views towards the north and the proposed junction into Llanbedr. At year 15 the magnitude of impact would reduce to minor adverse, resulting in a slight adverse significance of effect in summer views, but rising to moderate adverse in winter as a result of the loss of leaf cover on the intervening planting.
- 4.3.5.37 With reference to Chapter 5.7 Noise and Vibration at year 15 the scheme would result in a perceptible 3.1dB reduction in traffic noise levels when compared to the Scheme not being constructed.
- 4.3.5.38 In terms of the overall tranquillity experienced at the standing stones, although there would be a perceived reduction in traffic noise, the Scheme would result in visual intrusion. Overtime the visual intrusion would reduce as the proposed mitigation establishes so that by summer year 15 there would be a slight adverse significance of effect on tranquillity.

5 REFERENCES

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2. Highways Agency (2008) HA 205/08: DMRB Volume 11, Section 2, Part 5: Assessment and Management of Environmental Effects
3. Highways Agency (2010) Interim Advice Note (“IAN”) 135/10: ‘Landscape and Visual Effects Assessment’ (Ref 8-2). (IAN 135/10 supersedes Volume 11, Section 3, Part 5 of the DMRB
4. LI & IEMA (2013) Guidelines for Landscape and Visual Impact Assessment: Third Edition.
5. LI (2011) Photography and Photomontage in Landscape and Visual Impact Assessment.
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7. Snowdonia National Park Authority, Eryri Local Development Plan 2007-2022
8. Welsh Government Planning Policy Wales (Edition 8) 2016
9. Ordnance Survey Terrain 50 data
10. LANDMAP, Countryside Council for Wales interactive maps
11. National Policy Statement for National Networks (2014), Department for Transport
12. Institution of Lighting Engineers (2005) ‘Guidance Notes on the Reduction of Obtrusive Light’
13. Snowdonia National Park Authority SPG 07 (2014) Landscapes and Seascapes of Eryri

APPENDIX A

LVIA Figures

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APPENDIX B

Environmental Lighting Zones by Character / Urban Areas

APPENDIX C

Regulatory/policy framework

Planning Policy Wales

8.5.1 Local authorities should utilise available powers to reduce the need to use trunk roads and other through routes for short, local journeys. Development plans should specify the primary road network, including trunk roads, and separately identify the core network. These routes should be identified as corridors for movement adjacent to which development that would compromise this role will be resisted. Development plans should include all proposals for new roads and major improvements to the primary road network over the plan period, and beyond where known, and set out the broad policy on priorities for minor improvements. For local road Schemes the development plan procedures should normally provide the means to examine both the need for and the alignment of the route.

8.5.7 Great care must be taken to minimise the adverse impacts of new transport infrastructure, or improvements to existing infrastructure, on the natural, historic and built environment and on local communities, where neighbourhood severance should especially be avoided. Routes should make the best use of existing landforms and other landscape features to reduce noise and visual effects, subject to safety and other environmental considerations. Where no other alternative routes or options are practicable, transport infrastructure Schemes should provide mitigation measures to minimise the impacts caused by their construction and operation.

8.6.2 The development plan should:

- Set out the land use/transportation strategy, addressing accessibility and the provision of strategic and integrated transport facilities, including roads, railways and interchanges;
- Ensure that new housing, jobs, shopping, leisure and services are highly accessible by public transport, walking and cycling;
- locate major generators of travel demand within existing urban areas, or in other locations that can be well served by public transport, walking or cycling;
- encourage higher density and mixed-use development near public transport nodes, or near corridors well served by public transport;
- ensure that development sites which are highly accessible to non-car modes are used for travel intensive uses, reallocating their use if necessary;
- in rural areas, designate local service centres, or clusters of settlements where a sustainable functional linkage can be demonstrated, as the preferred locations for new development;
- include specific measures to promote active travel in accordance with the Active Travel (Wales) Act 2013;
- set out policies to promote the use of public transport including new and improved interchange facilities and, where appropriate, park and ride Schemes;
- include appropriate traffic management policies;
- identify the primary road network, including trunk roads, and separately identify the core network;
- identify proposals for new roads and major improvements to the primary route network and the broad policy on priorities for minor improvements;
- include policies and proposals relating to the development of transport infrastructure other than roads;
- identify, and where appropriate protect, routes required for the sustainable movement of freight;

- protect disused transport infrastructure, including railways, rail sidings, ports, harbours and inland waterways from development that would compromise their future transport use, where re-use is a possibility; and
- Minimise the adverse impacts of transport infrastructure projects on the natural, historic and built environment and on local communities.

13.13.2 There is a need to balance the provision of lighting to enhance safety and security to help in the prevention of crime and to allow activities like sport and recreation to take place with the need to:

- protect the natural and historic environment including wildlife;
- retain dark skies where appropriate
- prevent glare and respect the amenity of neighbouring land uses¹³; and
- Reduce the carbon emissions associated with lighting.

Lighting to provide security can be particularly important in rural areas (see 4.11.12).

Snowdonia National Park Authority Eryri Local Development Plan 2007-2022

Strategic Policy A: National Park Purposes and Sustainable Development (A)

The Local Development Plan seeks to ensure that new development promotes the principles of sustainable development in ways which further National Park purposes and duty whilst conserving and enhancing the National Park's 'Special Qualities'. Proposals which compromise National Park purposes will be refused. The following considerations should be taken into account to help deliver sustainable development in Snowdonia:

- i. Give the highest priority to the protection and enhancement of the natural beauty, wildlife and cultural heritage.
- ii. Promote opportunities for the understanding and enjoyment of the 'Special Qualities' of the area by the public.
- iii. Safeguarding and improvement of the health, safety, economic and social wellbeing of local communities.
- iv. Conserve and enhance the characteristic biodiversity of Snowdonia.
- v. Respecting and enhancing the historic environment.
- vi. Efficient use of land and infrastructure.
- vii. Conservation of the quality and quantity of natural resources including water, air, soil and geodiversity
- viii. Encourage the sustainable development of settlements in ways which respect their character and function within the settlement strategy.
- ix. Enablement of inclusive access to services, facilities and employment whilst minimising the environmental impact of transport.
- x. Provision of good quality sustainable design
- xi. Promotion of development which meets the housing needs of local communities through a mix of dwelling types, and tenures predominantly through affordable housing to meet local need.
- xii. Encouragement of developments that conserve, promote and enhance the linguistic heritage of Snowdonia's communities.
- xiii. Securing development of previously developed land (brownfield land) where that land is in a sustainable location in preference to Greenfield sites.
- xiv. Preventing inappropriate development in areas which are at risk from flooding or which contribute to the risk of flooding.

Strategic Policy B: Major Development

Major development will not be permitted within the National Park other than in exceptional circumstances where there is demonstrated to be an overriding public need.

Proposals for major development will be subject to the most rigorous examination and include an assessment of all the following;

- i. The need for the development in terms of national considerations.
- ii. The cost of and scope for siting the development outside the National Park or the ability to meet the need for the development in some other way.
- iii. The consequences and impact on local communities, the local economy, the environment and the cultural heritage of the National Park of permitting or refusing the development.
- iv. The impact the development would have on National Park purposes and the extent that these could be moderated through appropriate and acceptable mitigation measures.
- v. Where the Authority consider that the overall outcome of this assessment will result in an adverse and unacceptable impact on the National Park, permission for such major development will be refused.

Strategic Policy D – Natural Environment

The natural resources, biodiversity, geodiversity and ‘Special Qualities’ of the Snowdonia National Park will be protected from inappropriate development. Where development is deemed acceptable developers will be expected to ensure that the natural environment is protected and enhanced.

Proposals should not adversely affect the National Park’s biodiversity resources including designated sites from an international through to a local level, as well as wider biodiversity resources e.g. habitats and species outside designated sites.

Development proposals which are likely to adversely affect the integrity of European designated sites (either alone or in combination with other plans or projects) will not be permitted unless the requirements of the Conservation of Habitats and Species Regulations 2010 have been fulfilled and hence the following criteria can be met:

- i. There is no alternative solution.
- ii. There are imperative reasons of over-riding public interest for the development.

The following requirements will apply to development affecting nationally and locally designated sites:

- i. The location, design and construction of the development is such that damage to nature conservation features are mitigated, and opportunities for nature conservation gain are taken.
- ii. Compensatory measures are provided if necessary.
- iii. The remaining nature conservation features are protected and enhanced and provision is made for their management.

Development will only be permitted within the Undeveloped Coast where it can be demonstrated that a coastal location is essential. Development which harms the unspoilt landscape character or wildlife habitats will not be permitted.

Development proposals which are likely to adversely affect habitats and species listed in the Local Biodiversity Action Plan will be subject to the guidelines of the Supplementary Planning Guidance on Local Biodiversity.

Strategic Policy F: Historic Environment

The historic landscape, heritage assets and cultural heritage of Snowdonia National Park will be conserved and enhanced, due to their contribution to the character and 'Special Qualities' of the National Park. Particular protection will be given to the following archaeological, architectural, historic or cultural assets and where appropriate, their settings.

Development will not be permitted that will adversely affect in any way the following Heritage Assets, or where appropriate their settings and significant views:

- i. Conservation Areas
- ii. World Heritage Sites
- iii. Scheduled Monuments and other sites of archaeological importance
- iv. Historic landscapes, parks and gardens
- v. Listed Buildings
- vi. Traditional Buildings

Strategic Policy L – Accessibility and Transport

The National Park Authority is committed to improving access to local facilities and reduce the need to travel especially by private car. Within the National Park walking and cycling, improved access to public transport and provision of facilities will be encouraged.

Development will be supported where:

- i. The provision of services are located so as to minimise the need to travel.
- ii. There is convenient access via footpaths, cycle paths and public transport, thereby encouraging the use of these modes of travel for local journeys, reducing the need to travel by private car and improving the accessibility of services to those with poor availability of transport.
- iii. There is an improvement in accessibility for all, in particular disabled people.
- iv. Changes to the road network do not damage or cause detrimental effect to ProW, listed buildings or historic monuments or cause adverse effects to environmental designations. The highest priority will be given to the conservation and enhancement of the characteristic biodiversity of Snowdonia, particularly habitats and species designated under national and European legislation. Where possible, these improvements to the road network will feature provision for segregated pedestrian and cycling uses.
- v. It will reduce or remove vehicle traffic from within town centres and where possible from rural areas.
- vi. The natural environment of the park is not adversely affected.
- vii. Secure cycle parking facilities are provided where appropriate.

The National Park Authority will continue to support appropriate sustainable transport and community transport initiatives.

The recreational routes identified on the proposals map will be safeguarded from development which would prevent their use as recreational routes.

The track bed of the Corris Railway within the National Park will be safeguarded from other forms of development so that it may be reinstated as a railway.

That part of the disused railway which runs from Trawsfynydd to Blaenau Ffestiniog which is within the National Park will be safeguarded from inappropriate development which would prevent the future use of the railway line as a transport corridor.

Development Policy 2 – Development and the Landscape

The scale and design of new development, including its setting and landscaping should respect and conserve the character of the landscape. Unacceptable impacts on the landscape will be resisted and particular regard will be had to the protection of: Section 3 areas of natural beauty.

- i. Undeveloped coast.
- ii. Panoramas visible from significant viewpoints.
- iii. Landscape character areas based on LANDMAP and as defined in the

Landscapes of Eryri Supplementary Planning Guidance.

Development Policy 5 – Open space and Green Wedges

Areas of public or private open space within or adjacent to the main built up area of settlements (identified on the inset maps), which contribute to the amenity of residents, the character of Conservation Areas or the setting of historic buildings, will be protected from development. Inappropriate development will not be permitted within areas designated as green wedges in order to retain openness and prevent the coalescence of settlements.

APPENDIX D

Listed buildings and monuments

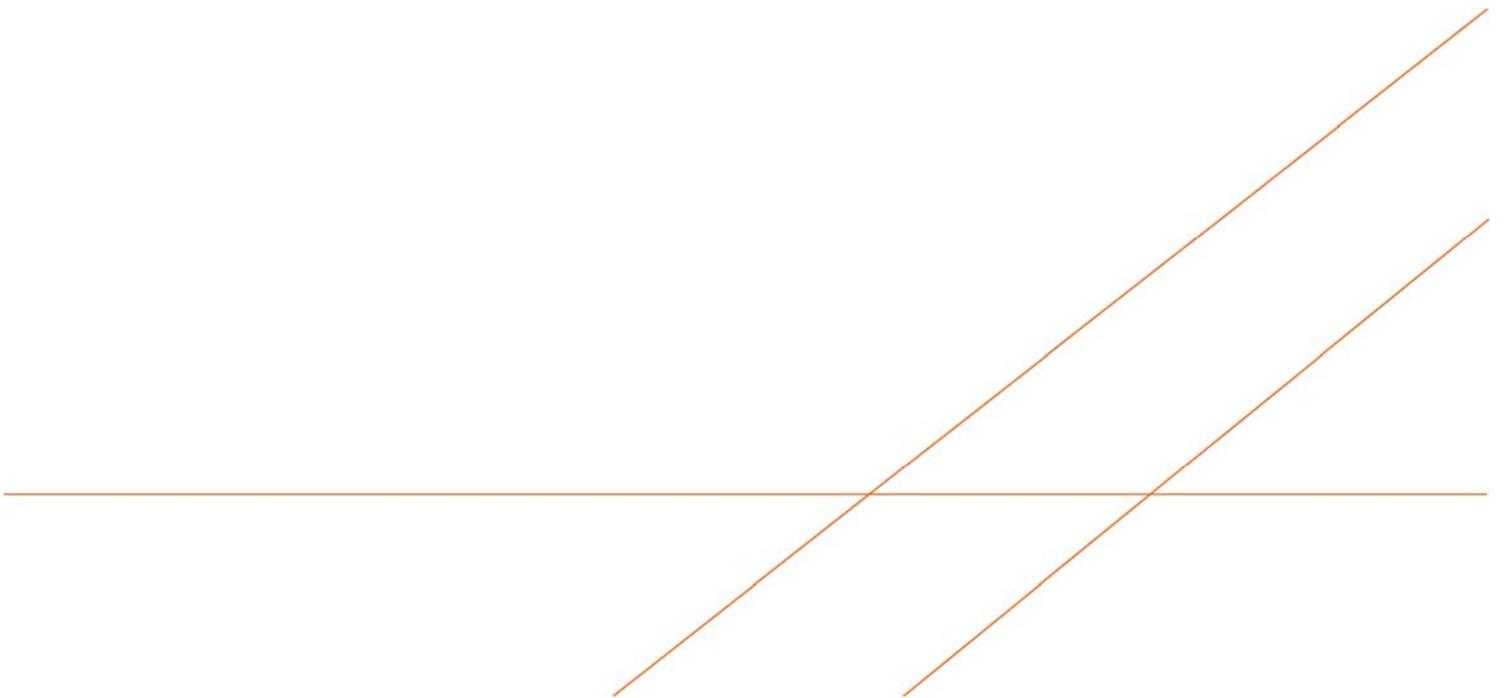
APPENDIX E

Visual Effects Schedule

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APPENDIX B: NIGHT TIME ASSESSMENT

Table 11: Night time Lighting Conditions

Character Area / Receptor	Environmental Lighting Zones <i>(Estimated percentage split within study area)</i>			Lighting Sources	Currently Lit Yes / No
	Zone E0	Zone E1	Zone E2		
LCA 1: Shell Island, Morfa Dyffryn Dunes & Morfa Estuary	Yes <i>(100%)</i>	No	No	None present	No
LCA 2: Llanbedr Airfield	No	Yes <i>(95%)</i>	Yes <i>(5%)</i>	Residential property & airfield buildings. Security lights at Airfield entrance	Yes
LCA 3: The settlement of Llanfair & surrounding open farmland	No	Yes <i>(90%)</i>	Yes <i>(10%)</i>	Street lighting along A496 and minor roads within settlement Private residences, ad hoc for access, security and personalisation	Yes
LCA 4: Semi-wooded hillsides of the Rhinog Mountain range	No	Yes <i>(98%)</i>	Yes <i>(2%)</i>	Private residences, ad hoc for access, security and personalisation Minor roads within settlement	Yes
LCA 5: Low lying Artro Estuary floodplain & surrounding farmland	No	Yes <i>(100%)</i>	No	Street lighting along A496 Private residences, ad hoc for access, security and personalisation	Yes
LCA6: Llanbedr village	No	Yes <i>(50%)</i>	Yes <i>(50%)</i>	Street lighting along A496 Private residences, ad hoc for access, security and personalisation Commercial properties (pubs, shops & hotels / B&B's)	Yes

LCA 7: Artro wooded valley sides & surrounding hillside	No	Yes (95%)	Yes (5%)	Street lighting within settlements along Pentre Gwynfryn Private residences, ad hoc for access, security and personalisation	Yes
LCA 8: Open rising hillsides of the Rhinogydd Mountains	No	Yes (100%)	No	Street lighting along A496 Private residences, ad hoc for access, security and personalisation	

APPENDIX D: CONSERVATION AREAS AND LISTED BUILDINGS

Name	Distance from Centre Point	Direction from Centre Point	Northing	Easting	Listed	Grade
Dolgau Farmhouse	3,765m	South	324702	258377	1966/06/17	II
Brewhouse at Dolgau	3,770	South	324706	258414	2005/04/13	II
Rootclamp at Dolgau	3,800m	South	324697	258412	2005/04/13	II
Milestone	3,075m	South	325149	258403	2005/04/13	II
Haybarn range at Taltreuddyn-Fawr	2,075m	South	325732	258242	2007/08/30	II
Barn at Taltreuddyn-Fawr	2,060m	South	325747	258258	2007/08/30	II
Lofted stable or cowhouse and cartshed range at Taltreuddyn-Fawr	2,090m	South	325736	258276	2007/08/30	II
Garden walls with lookout at Taltreuddyn-Fawr	2,220m	South	325656	258237	2006/10/13	II
Taltreuddyn-Fawr	2,185m	South	325677	258275	2006/10/13	II*
Gate piers, gates and boundary walls at Taltreuddyn-Fawr	2,255m	South	325639	258305	2006/10/13	II
Cowhouse at Uwchlwr-coed	3,850m	ESE	325766	260071	2003/10/29	II
Agricultural range at Uwchlwr-coed	3,800m	ESE	325755	260051	2003/10/29	II
Pigsties at Uwchlwr-coed	3,865m	ESE	325726	260071	2003/10/29	II

Bakehouse at Uwchlwr-coed	3,875m	ESE	325707	260063	2003/10/29	II
Uwchlwr-coed	3,905m	ESE	325690	260075	2003/10/29	II
Chaff house at Uwchlwr-coed	3,915m	ESE	325682	260075	2003/10/29	II
Agricultural range to rear of Gilfach Goch	1,830m	SSE	326045	258691	1997/01/15	II
Gilfach Goch	1,860m	SSE	326030	258697	1997/01/15	II
Pigsty and Brewhouse range at Gilfach Goch	1,880m	SSE	326013	258690	2003/10/29	II
Old Dairy, Plas-Y-Bryn Farm	750m	South	326530	258042	1983/07/21	II
Milestone	815m	East	326701	258511	2003/10/29	II
Moriah Calvinist Chapel	840m	East	326733	258543	1997/10/14	II
Pont Llanbedr	780m	East	326818	258543	1966/11/30	II
Wenallt Stores	725m	East	326850	258510	2003/10/29	II
Church of St Peter	660m	East	326979	258498	1966/11/30	II*
House adjacent to Gwynfryn House	2,650m	East	327168	259691	2003/10/29	II
Gwynfryn House	2,675m	East	327169	259703	2003/10/29	II
Telephone Call-box by Capel Gwynfryn	2,730m	East	327203	259732	2003/10/29	II
Capel Gwynfryn	2,735m	East	327223	259735	2003/10/29	II
Pont Glyn-artro	3,200m	East	327310	260015	2003/10/29	II

Aberartro Hall	3,250m	East	327197	260060	2003/10/29	II
Pont Aberartro	3,315m	East	327195	260105	2003/10/29	II
Church of St Tanwg	2,920m	NW	328241	256873	1966/11/30	I
Lychgate at the Church of St Tanwg	2,925m	NW	328244	256890	2005/05/23	II
Erwgochwen	3,150m	NW	328510	256980	2003/05/23	II
Barn to the S of Llanfair Isaf	3,230m	NNW	328822	257498	2003/10/24	II
Hay barn to the S of Llanfair Isaf	3,240m	NNW	328833	257510	1966/11/30	II
Llanfair-Isaf Farmhouse	3,280m	NNW	328859	257541	1966/11/30	II*
Barn at Llandanwg	4,160m	NNW	329380	257395	2003/05/23	II
Hammel at Llandanwg	4,190m	NNW	329380	257395	2003/05/23	II
Ty Mawr	3,525m	NNW	329074	257710	1966/11/30	II
Sundial at the Church of St Mary	3,530m	NNW	329064	257739	2003/05/23	II
Ty'n Llan	3,485m	NNW	329039	257750	1966/11/30	II
Church of St Mary	3,535m	NNW	329070	257760	1966/11/30	II*
Outbuilding to rear of Ty'n Llan	3,490m	NNW	329042	257761	2003/05/23	II
Argoed Farmhouse	2,310m	North	328365	257997	1966/11/30	II
Cowhouse range at Argoed	2,320m	North	328373	258012	1966/11/30	II

Bark mil at Argoed	2,395m	North	328420	258040	1966/11/30	II
Lofted stables and agricultural range at Argoed	2,360m	North	328398	258034	1966/11/30	II
Pigsties at Argoed	2,350m	North	328392	258017	1966/11/30	II
Stable and cartshed range at Argoed	2,340m	North	328387	258027	1966/11/30	II
Agricultural range at Llwyn Hwlcyn	2,450m	North	328387	258575	2003/05/23	II
Cartshed at Llwyn Hwlcyn	2,430m	North	328370	258585	2003/05/23	II
Haybarn at Llwyn Hwlcyn	2,460m ²	North	328397	258565	2003/05/23	II
Llwyn Hwlcyn	2,400m	North	328362	258557	2003/05/23	II
Pigsty range at Llwyn Hwlcyn	2,395m	North	328362	258557	2003/05/23	II
Gwern Einion	3,150m	NE	328639	259039	2003/05/23	II
Pigsty & Brewhouse range at Gwern Einion	3,125m	NE	328638	259039	2003/05/23	II

APPENDIX E

SCHEDULED MONUMENTS AND HISTORIC FEATURES

Name	Distance from Centre Point	Direction from Centre Point	Northing	Easting	SAM No	General PE
Hut Circle West of Pen-y-Bryn	3,030m	ESE	326452	259853	ME160	Prehistoric
Medieval Ecclesiastical Structure SE of Ty'n y Coed Cottage	2,280m	NE	327480	259400	ME249	Medieval
Llanbedr Standing Stones	370m	NNW	327007	258331	ME056	Prehistoric
Clogwyn Arlef Hillfort & Field System	3,290m	NE	328542	259557	ME123	Prehistoric
Gwern Einion Burial Chamber	2,880m	NNE	328608	258734	ME011	Prehistoric
Hengaeau Standing Stone	3,430m	North	329024	258432	ME207	Prehistoric
Brwyn-Llynau Enclosed Settlement	4,320m	North	329560	258654	ME097	Prehistoric

APPENDIX E: VISUAL EFFECTS SCHEDULE

Ref.	Address: Description; Approximate Distance from By-pass Centreline	Number of Properties Potentially Affected	Existing View (Summer)	Existing View (Winter) – If Different from Summer	Change in View; Magnitude of Visual Impact; Significance of Visual Effect		
					Construction Period	Opening Year (Winter)	Design Year (Summer) – 15 years after opening
1	Gelli, Ynysffri, Glynmor; Two 2 storey, One 1 storey; 2,390m	3	Distant views south taking in coastline, Pensarn Harbour and Morfa Dyffryd. Llanbedr screened from view by mature vegetation in foreground. Mountain topography forms backdrop in the distance		Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting. Construction movement and compounds visible resulting in minor adverse magnitude of visual impact and a moderate adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment and traffic on embankment along with break in tree line / bridge over the Afon Artro perceptible elements. resulting in minor adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment across LCA 05 softened with establishment of planting on embankment and along the Afon Artro resulting in no change in magnitude of visual impact and a neutral significance of effect
2	Ty Gywn; 2 storey; 2,400m	1	Angled views to the south along coastline and Pensarn Harbour in the mid ground. Partial views of Morfa Dyffryn filtered by mature vegetation in foreground. Mountain topography forms backdrop in the distance	Views of Morfa Dyffryn increased through loss of leaf cover	Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting. Some construction activity visible, resulting in a minor adverse magnitude of visual impact and a moderate adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment and traffic on embankment along with break in tree line / bridge over the Afon Artro perceptible elements. resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment across LCA 05 softened with establishment of planting on embankment and along the Afon Artro resulting in no change in magnitude of visual impact and a neutral significance of effect
3	Mor Awelon, Llais Y Lly, Estuary	5	Filtered views across Morfa Dyffryn filtered by surrounding properties		Interruption to views with distant loss of vegetation blocks on hillside, visible	Distant cutting in LCA 08 visible. Scheme alignment and traffic on	Distant cutting in LCA 08 visible. Scheme alignment across LCA

	View, Morlais, Kerry; 1 storey ; 2,195m		and mature vegetation in foreground. Mountain topography forms backdrop in the distance		change in form of landscape with excavation of cutting. Some construction activity visible, resulting in a minor adverse magnitude of visual impact and a moderate adverse significance of effect	embankment along with break in tree line / bridge over the Afon Artro perceptible elements. resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	05 softened with establishment of planting on embankment and along the Afon Artro resulting in no change in magnitude of visual impact and a neutral significance of effect
4	Abbott House, Cartref, Maes Mwyn, Y Buarth, Trai A Llanw, Harbour View, Farcroft, Swn Y Mor, Morlyn Guest House; Four 2 storey, Five 1 storey; 2,180m	9	Views out to the south and east towards Pensarn Harbour and rising hillsides beyond. Angled views south towards Llanbedr, screened by mature vegetation, with rising mountains beyond		Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting. Some construction activity visible, resulting in a minor adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in no change in magnitude of visual impact and a neutral significance of effect
5	Strathmore, Tyddyn Llwyn, Rebna, Glan y Don, Glan y Gors; Three 2 storey, Two 1 storey; 1,950m – 2,095m	5	Views of Pensarn harbour and rising hillsides above running south, partially screened by the rail line and bounding vegetation running north – south in the foreground	Increased views due to leaf loss on vegetation bounding the rail line	Angled views of proposed cutting an vegetation loss as a result, some construction movement, resulting in a negligible adverse magnitude of visual impact, and a slight adverse significance of effect	Distant cutting in LCA 08 visible in oblique resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible in oblique view resulting in no change in magnitude of visual impact and a neutral significance of effect
6	Llandanwg Farm; 2 storey ; 2,145m	1	Partial views south and east across Morfa Dyffryn towards Llanbedr and Rhinogydd Mountains		Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting.	Distant cutting in LCA 08 visible resulting in a negligible adverse magnitude of visual impact and a slight	Distant cutting in LCA 08 visible resulting in no change in magnitude of visual impact and a neutral significance of effect

					Some construction activity visible, resulting in a minor adverse magnitude of visual impact and a slight adverse significance of effect	adverse significance of effect	
7	Frondeg, Swn-Y-Mor, Villa Anidna, Bryn Hoel, Ogwen, Garnedd Lwyd, Llygad Yr Haul, Ffin y Llannau; Three 2 storey, Four 1 storey; 2,615m – 2,635m	7	Framed distant views south across Morfa Dyffryn and out to sea, between buildings, increasingly filtered to the north by buildings in front.		Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting. Construction activity will be partially visible, resulting in a minor adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in no change in magnitude of visual impact and a neutral significance of effect
8	Frondirion, Bronfair, Trem, Carleg Wen, Tyn Ddol, Hendre Wen, Trem Artro; 1 storey; 2,444m – 2,565m	7	Partial views south along coastline and agricultural fields, of Morfa Dyffryn towards Llanbedr and mountain range beyond		Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting. Construction activity will be partially visible, resulting in a minor adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in no change in magnitude of visual impact and a neutral significance of effect
9	No. 1,3,5,7 Pant Yr Onnen Estate; 2,740m – 2,770m	4	Intermittent views south along edge of Ardudwy Upper Slopes taking in coastline and airfield in the distance, partially screened by localised	Slight increase in views due to loss of leave cover on vegetation in foreground	Partial views of vegetation loss and excavation of cutting visible within wider landscape along with wider construction	Distant cutting would be partially visibly, resulting in no change in magnitude of visual impact and a neutral significance of effect	Distant cutting would be partially visibly, resulting in no change in magnitude of visual impact and a neutral significance of effect

			topography and mature vegetation cover		activity, resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect		
10	Fronhill 1 / 2 Storey 2,700	17	Partial views out across Ardudwy Upper Slopes to airfield and coastline in the distance, filtered by scrub vegetation cover in the mid-ground	Slight increase in views does to loss of leaf cover on vegetation	Slight views of vegetation loss and excavation of cutting excavation in distance, resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting would be partially visible, resulting in no change in magnitude of visual impact and a neutral significance of effect	Distant cutting would be partially visible, resulting in no change in magnitude of visual impact and a neutral significance of effect
11	Rhwenglau, No. 6,8,9-12 Llwyn Y Gadair; 1 storey; 2,170m – 2,375m	7	Partial views out across Morfa Dyffryn, filtered by scrub vegetation cover in the foreground	Partial view of estuary and sea. Intermittent views of agricultural fields, stone walls and border vegetation. Llanbedr partially visible. View varies depending on property; some properties have view enclosed by vegetation and adjacent property structures.	Interruption to views with distant loss of vegetation blocks on hillside, visible change in form of landscape with excavation of cutting. Construction activity will be partially visible, resulting in a minor adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment and traffic on embankment along with break in tree line / bridge over the Afon Artro perceptible elements. resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment across LCA 05 softened with establishment of planting on embankment and along the Afon Artro resulting in no change in magnitude of visual impact and a neutral significance of effect
12	Llanfair Isaf; 2 storey; 2,015m	1	Partial filtered views south across Morfa Dyffryn, screened by mature vegetation in foreground	Slight increase in views south due to loss of leaf cover on localised vegetation	Possible views of construction activity and changes in landscape to the southern end of the Scheme, resulting in in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment and traffic on embankment along with break in tree line / bridge over the Afon Artro perceptible elements. resulting in a negligible adverse magnitude of visual impact and a	Distant cutting in LCA 08 visible. Scheme alignment across LCA 05 softened with establishment of planting on embankment and along the Afon Artro resulting in no change in magnitude of visual impact and a neutral significance of effect

						slight adverse significance of effect	
13	Cae Cethin; 2 storey; 1,845m	1	Views out to the west across Llanfair and south along Morfa Dyffryn, partially framed by localised mature vegetation	Increased views south as a result of reduced leaf cover on localised vegetation	Partial views of construction activity, including loss of vegetation and excavation of cutting, resulting in a minor adverse magnitude of impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment and traffic on embankment along with break in tree line / bridge over the Afon Artro barely perceptible elements. resulting in no change in magnitude of visual impact and a neutral significance of effect	Distant cutting in LCA 08 visible. Scheme alignment across LCA 05 softened with establishment of planting on embankment and along the Afon Artro resulting in no change in magnitude of visual impact and a negligible significance of effect
14	Pensarn Hall, Bron Haul, Abendruhe, Llywn Merion, Pensarn Farm, Llywn, Uwch Y Sarn, Tyn Lliadiart Maur, Bryn Maldwyn, Bron Y Garth; 2 storey; 1,177m – 1,211m	10	Elevated partial view of harbour, estuary and coastline to the south across Morfa Dyffryn. Llanbedr partially visible to the south with Rhinogydd Mountains rising beyond	Increased open views due to localised loss of leaf cover on screening vegetation.	View of construction activity across Morfa Dyffryn, including excavation of cutting and resulting vegetation loss, resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment and traffic on embankment along with break in tree line / bridge over the Afon Artro perceptible elements. resulting in a minor adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible. Scheme alignment across LCA 05 softened with establishment of planting on embankment and along the Afon Artro resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect
15	Pensair Station - Isalt; 2 storey; 1,057m	2	Low level views out towards Pensarn Harbour and south along A496 towards Rhinogydd mountains. Views of Morfa Dyffryn obscured by mature vegetation, primarily along rail line boundary	Increased filtered views across the Morfa Dyffryn as a result of loss of leaf cover	Construction activity, including vegetation loss and excavation for the cutting would be visible in the distance, partially obscured by vegetation in the foreground, resulting in a minor adverse magnitude of impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in a negligible adverse magnitude of visual impact and a slight adverse significance of effect	Distant cutting in LCA 08 visible resulting in no change in magnitude of visual impact and a neutral significance of effect

16	Morawelon; 2 storey; 535m	2	Elevated open views out to the west across the Morfa Dyffryn towards the coast line, taking in Pensarn Harbour to the north and Llanbedr airfield to the south. Near views of the existing A496 obscured by localised topography and vegetation cover	Slight increased views of A496 as a result of loss of leaf cover	Partial views of construction activity across the Morfa Dyffryn and filtered views of excavation of the cutting and vegetation loss, resulting in a minor adverse magnitude of impact and a moderate adverse significance of effect.	Filtered views of the Scheme would be visible through the existing vegetation, increasing in winter with loss of leaf cover, resulting in a minor adverse magnitude of impact and a slight adverse significance of effect.	Filtered views of the Scheme would be available, with impact reduced through establishment of the mitigation and screen planting, resulting in a negligible adverse magnitude of impact and a slight adverse significance of effect.
17	Rhos, Bryn Deri, Ty'r Graig, Tanymarian Mawr, Lluest, Ty Gwyn, Bron Ancres, Bryn Teg; Four 2 storey, four 1 storey; 270m – 375m	8	Open views out west across the Morfa Dyffryn with the Afon Artro and drainage channels cutting across. Wider views limited by rail line cutting north – south in the distance	Loss of leaf cover on vegetation creates more open, filtered views	Clear sight of construction activities on the Morfa Dyffryn, creation of the new junction in front of properties and vegetation clearance around sewage works to the north, and Afon Artro corridor to the south. This would result in a major adverse magnitude of impact and very large adverse significance of effect.	The Scheme would be clearly visible as a result of the new junction in the foreground and associated signs. New road extending south across the Morfa Dyffryn (LCA 05) would be clearly visible with the new cutting in LCA 08 beyond. This would result in a moderate adverse magnitude of impact and a large adverse significance of effect	The Scheme would remain clearly visible, although new planting around the junction would help to soften the features of the Scheme, resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect.
18	Glan-Y-Wern, Gwynfor, Bron Meini, Llys Artro, Ger-Y-Llan, Ardudwy, Llys Meirion; Ten 2 storey, Five 1 storey; 270m	7	Views out to the west filtered by mature vegetation and buildings on opposite side of the A496 resulting in filtered views across the Morfa Dyffryn farmland and Afon Artro river corridor, opening out to the north towards Pensarn Harbour	Increase in filtered views as a result of vegetation loss on mature vegetation.	Scheme construction would be visible cutting across the Morfa Dyffryn to the north, partially filtered by the existing vegetation looking west, resulting in a major adverse magnitude of impact and a large adverse significance of effect.	The Scheme would be clearly visible rising on embankment from north to south towards the new Afon Artro overbridge within LCA 05. The break in the tree line along the Afon Artro at the crossing would be noticeable, resulting in a moderate adverse magnitude of	The establishment of new planting would help to soften the engineered features of the Scheme, although the Scheme would continue to form a clearly -noticeable feature as it crosses LCA 05 <u>to the north</u> resulting in a moderate slight adverse magnitude of impact and

						impact and a moderate adverse significance of effect	a slight adverse significance of effect
19	<p>No. 1-6 Maes Y Llan, Glan Artro, The Camellias, No. 1-2 Glanrafon, Llenyrch, Glanafon House, Trigfan, Ger Y Nant; One 3 storey,</p> <p>Six 2 storey, One 1 storey;</p> <p>220m – 340m</p>	14	Rearward views from properties out across the Morfa Dyffryn farmland to the mature vegetation running along the Afon Artro corridor	Increased filtered views of undulating hillside in the distance due to loss of leaf cover from mature vegetation	Clear views of construction activity to the north and overbridge works, including vegetation loss along the Morfa Dyffryn, resulting in a major adverse magnitude of impact and a large adverse significance of effect.	The Scheme would be clearly visible rising on embankment from north to south towards the new Afon Atrro overbridge within LCA 05. The break in the tree line along the Afon Artro at the crossing would be noticeable, resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect	The establishment of new planting would help to soften the <u>appearance of engineered features</u> of the Scheme, although <u>glimpses of the infrastructure and passing traffic would remain visible to the north and west, particularly in winter months the Scheme would continue to form a clearly noticeable feature as it crosses LCA 05</u> —resulting in a moderate-slight adverse magnitude of impact and a slight adverse significance of effect <u>in winter, reducing to negligible adverse in summer months</u>
20	<p>No. 1-9 Moelfre Terrace, Dolafon, Hafod, Arosfa, Gorffwysfa, Bodafon, Y-Nyth, Coed Wern, Glyndwr, Pen Parc, Glyn, Capel Bach;</p> <p>Two 3 storey, Seventeen 1 storey;</p>	20	Views from front of properties North; stone walling lines the road and the River Artro, with tree vegetation creating intermittent views of open grassland beyond the River. The visual focus is predominantly in the foreground. Potential views North towards Pensarn station	Increased filtered views due to loss of leaf cover on mature vegetation	Construction activities would be visible to the north, filtered in summer months by leaf cover of mature vegetation, resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect	The Scheme would be visible in the mid-ground rising from north to south on embankment, partially filtered by the mature vegetation along the Afon Artro, resulting in a minor adverse magnitude of impact and a moderate adverse significance of effect	The establishment of new planting on the Scheme embankments combined with the dense vegetation cover in the fore-ground would filter and soften the appearance of the Scheme crossing LCA 05, resulting in a negligible adverse magnitude of impact and a slight adverse significance of effect.

	180m – 360m						
21	Lismore, Swn-Yr-Afon,; Two 2 storey, One 1 storey; 100m	2	Filtered views north across Morfa Dyffryn through mature vegetation along the Afon Artro corridor. Partial framed views west out towards the coastline, restricted by the sloping hillside to the south and the mature vegetation along the rail line corridor.	Loss of leaf cover on mature vegetation results in increased filtered views to the north and west	Clear views of construction activity immediately west and south of the properties as a result of cutting and overbridge works, resulting in a major adverse magnitude of impact and a large adverse significance of effect.	The View along Mochras Road would be affected by the new Afon Artro bridge. However the overall view composition of the adjacent hill side and tree line along the Afon Atro, with filtered views across to LCA 05 would be retained, resulting in a moderate adverse magnitude of impact and a large adverse significance of effect.	The View along Mochras Road would be affected by the new Afon Artro bridge. However the overall view composition of the adjacent hill side and tree line along the Afon Atro, with filtered views across to LCA 05 would be retained, resulting in a moderate adverse magnitude of impact and a large adverse significance of effect.
22	The Bungalow; 1 storey; <100m	1	Partial views north across the Morfa Dyffryn, heavily filtered by mature boundary vegetation to property frontage and along the Afon Artro	Slight increase in filtered views as a result of loss of leaf cover on mature vegetation	Partial increase in open views north and of construction activity as result of vegetation loss and earthworks, resulting in a moderate adverse magnitude of impact and a large adverse significance of effect	Partial views of new Scheme to the north on embankment, resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect	Maturation of proposed mitigation and screening planting would reduce visibility of the Scheme, resulting in a minor adverse magnitude of impact and a slight adverse significance of effect.
23	Crossing Cottage; 1 storey; 285m	1	Open views north and west across the immediate rail line and Morfa Dyffryn towards Shell Island with the airfield structures dominating to the south. Views east of small scale agricultural land with hillside rising beyond	Slight increase in open views as a result of loss of leaf cover on hedgerows and vegetation bounding the rail line	Clear views of construction of the realigned Mochras Road, to the north and the new cutting and the removal of the trees on the immediate ridge line to the east would result in a moderate adverse magnitude of impact and a moderate adverse significance of effect.	View north of the to the realigned Mochras Road and new junction along with the loss of some skyline vegetation on the adjacent hillside in the east would result in a minor adverse magnitude of impact and a slight adverse significance of effect.	The establishment of the mitigation planting along the Mochras Road and on the adjacent hillside to the east would reduce the impact of the Scheme, resulting in a negligible adverse magnitude of impact and a slight adverse significance of effect.

24	Talwrn Bach; 2 storey; 525m	3	Open views north west and south across Morfa Dyffryn towards Shell Island and Llanbedr Airfield filtered by mature hedgerow boundaries in places Views east dominated by rail line and bounding mature vegetation to the foreground, with the rising hillside to the north.	Increases in filtered views in all directions as a result of loss of leaf cover on vegetation	Distant views of construction activity to the east on the Morfa Dyffryn including loss of vegetation, earthworks, excavation of cutting and installation of new overbridge, resulting in a minor adverse magnitude of impact and a slight adverse significance of effect	The Scheme would be perceptible as it crosses LCA 05 on embankment beyond the railway line vegetation and as it crosses the Mochras Road and Afon Artro resulting in a minor adverse magnitude of impact and a slight adverse significance of effect	The establishment of the mitigation planting along the Mochras Road and on the hillside to the east would reduce the impact of the Scheme, resulting in a negligible adverse magnitude of impact and a slight adverse significance of effect.
25	Beach House; 1 storey; 1,165m	1	Views north across the Morfa Dyffryn interrupted by mature hedgerow boundary vegetation and restricted by rail line and bounding vegetation on embankment in the distance running north to south	Slight increase in views as a result of loss of leaf cover on boundary vegetation	Construction activity would be discernible in the distance beyond rail line, including loss of vegetation along the Afon Artro corridor, resulting in a negligible adverse magnitude of impact and a slight adverse significance of effect	The Scheme would be partially visible in filtered views as a distant feature as it crosses the Afon Artro and Mochras Road, resulting in negligible adverse magnitude of impact and a slight adverse significance of effect	The establishment of the mitigation planting along the Mochras Road and on the hillside to the east would reduce the impact of the Scheme, resulting in no change in magnitude of impact and a neutral significance of effect.
26	Glanffwrdd Hall; 2 storey; 610m	1	Views out to the west above Llanbedr across the Morfa Dyffryn to Shell Island and the coast line, framed by the steep valley sides and mature vegetation	Loss of leaf cover on surrounding vegetation opens up views and changes landscape viewed	Construction activity partially visible below, limited by mature vegetation on the valley sides in front, resulting in a minor adverse magnitude of impact and a slight adverse significance of effect	The Scheme would form a barely perceptible element within the wider landscape, resulting in a negligible adverse magnitude of impact and slight adverse significance of effect.	The establishment of the mitigation planting along the Mochras Road and on the hillside to the east would reduce the impact of the Scheme, resulting in no change in magnitude of impact and a neutral significance of effect.
27	No. 1-8 Artro Lodges, Maes Artro;	9	Views out contained by the steeply falling topography to the north, east and west and	Slight increase in filtered views as a result of loss of leaf cover on vegetation	Construction activity to form the cutting to the west and new junction to the south would be	The Scheme would be a prominent feature as it crosses a local dip on embankment, with the	The establishment of the mitigation planting would help to soften the appearance of the

	1 storey; 365m – 395m		mature woodland to the north		highly visible, resulting in a major adverse magnitude of effect and a very large significance of effect.	stone wall and traffic above, between the main cutting and the southern tie-in with the A496 within LCA 08, resulting in a major adverse magnitude of impact and a large adverse significance of effect.	embankment and stone wall and filter / screen the traffic resulting in a moderate adverse magnitude of impact and a <u>moderate-slight</u> adverse significance of effect.
28	Tan Y Rhiw; 2 storey; 510m	1	Heavily filtered views west towards the rising hillside beyond the A496, screened by mature boundary vegetation to both sides of the road	Slight increase in filtered views as a result of loss of leaf cover on vegetation	Filtered views of construction activity increased through loss of vegetation, resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect.	The Scheme would form a perceptible element in filtered views as it crosses a local dip on embankment, with the stone wall and traffic above, between the main cutting and the southern tie-in with the A496 within LCA 08 resulting in a minor adverse magnitude of impact and a moderate adverse significance of effect.	The establishment of the mitigation planting would help to soften the appearance of the embankment and stone wall and filter / screen the traffic in combination with the intervening summer tree canopy would result in no change in magnitude of impact and a neutral adverse significance of effect.
29	Plas Y Bryn Farm Cottage; 2 storey; 460m	1	Views Elevated views west across Morfa Dyffryn, taking in Pensarn Harbour to the north and airfield to the south. Localised views east from upper windows across undulating landscape towards A496 and wooded hillside beyond, interrupted by localised blocks of woodland	Increased open views as a result of loss of leaf cover	Loss of blocks of tree planting immediately east of property and open views of construction works and cutting excavation running east to south cross existing access drive, resulting in a major adverse magnitude of impact and a large adverse significance of effect	The Scheme would form a prominent feature as it crosses a local dip within LCA 08 on embankment, with the stone wall and traffic above and part of the main cutting visible beyond, would result in a major adverse magnitude of impact and a large adverse significance of effect	The establishment of the mitigation planting would help to soften the appearance of the embankment and stone wall and filter / screen the traffic resulting in a moderate adverse magnitude of impact and a moderate adverse significance of effect.

30	Llwyn Y Pin, Hafod Y Bryn 1A and B, Ael y Bryn, ; 2 storey; 635m	4	Elevated views west across A496 and Morfa Dyffryn to coastline, heavily filtered by dense mature vegetation to the foreground	Slight increase in filtered views as a result of loss of leaf cover	Localised vegetation clearance and construction activity would be discernible in the mid-ground beyond the existing vegetation, resulting a minor adverse magnitude of impact and a slight adverse significance of effect	The loss of vegetation associated with the south junction tie in with the A496 would result in a negligible adverse magnitude of impact and a slight adverse significance of effect	The establishment of the mitigation planting at the tie in with the A496 would replace the vegetation lost, resulting in no change in magnitude of impact and a neutral significance of effect.
31	Hafod y Bryn 'The Lodge' Single Storey 700m	1	Views west are heavily filtered by mature boundary vegetation within the property and boundary walls, with the A496 visible in the foreground. Further views are restricted by dense mature vegetation on the western side of the A496	Slight increase in filtered views due to loss of leaf cover	Localised vegetation clearance to enable construction would result in increased views of construction activity, including changes in alignment of the A496, resulting in a major adverse magnitude of impact and a large adverse significance of effect	The loss of foreground vegetation associated with the south junction tie in with the A496 would result in a moderate adverse magnitude of impact and a moderate adverse significance of effect	The establishment of the mitigation planting would help to soften the appearance of the southern junction and help to replace the trees lost, resulting in a minor adverse magnitude of effect and a slight adverse significance of effect
32	Bryn Heulog, Yr- Hen-Efail; One 2 storey, one 1 storey; 735m	2	Open views west over the existing A496 across Llanbedr airfield to the coast.		Construction activity to the southern end of the Scheme would be clearly visible in the foreground with wider views beyond unaffected, resulting in a minor adverse magnitude of impact and a moderate adverse significance of effect	The loss of roadside vegetation associated with the south junction tie in with the A496 would result in , a negligible adverse magnitude of impact and a slight adverse significance of effect	The establishment of the mitigation planting would help to soften the appearance of the southern junction and help to replace the road side vegetation lost, resulting in no change in magnitude of impact and a neutral significance of effect
33	Tyddn Du Farm, 2 storey 800m	1	Open views west across Llanbedr airfield, Framed views east up the Ardudwy lower		Construction activity to the southern end of the Scheme would be clearly visible to the east	The loss of roadside vegetation associated with the south junction tie in with the A496	The establishment of the mitigation planting would help to soften the appearance of the

			<p>slopes, limited by mature vegetation along the existing highway boundary and the woodland blocks beyond</p>		<p>as a result of loss of boundary vegetation and existing landscape features, resulting in a minor adverse magnitude of impact and a minor adverse significance of effect</p>	<p>would result in , a negligible adverse magnitude of impact and a slight adverse significance of effect</p>	<p>southern junction and help to replace the road side vegetation lost, resulting in no change in magnitude of impact and a neutral significance of effect</p>
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