

Adran yr Economi a'r Seilwaith
Department for Economy and Infrastructure



Llywodraeth Cymru
Welsh Government

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) Scheme 201-

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) (Amendment) Scheme 201-

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The Welsh Ministers (The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and the M48 Motorway (Junction 23 (East of Magor) Connecting Road) and the London to Fishguard Trunk Road (East of Magor to Castleton)) Compulsory Purchase Order 201-

The M4 Motorway (Junction 23 (East Of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East Of Magor) Connecting Road) (Supplementary) Scheme 201-

The Welsh Ministers (The M4 Motorway (Junction 23 (East Of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East Of Magor) Connecting Road) and The London to Fishguard Trunk Road (East of Magor to Castleton)) Supplementary Compulsory Purchase Order 201-

Proof of Evidence

Mick Rawlings BA (Hons), MCIfA

Welsh Government, Cultural Heritage

Document Reference: WG 1.9.1

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1. Author

- 1.1 My name is Mick Rawlings and I hold the role of Technical Director (Historic Environment) at RPS Planning and Development, a division of RPS Group plc. I have a BA Honours Degree in Archaeology and Geography, awarded in 1985 by the University of Southampton. I have been a full Member of the Chartered Institute for Archaeologists (formerly the Institute for Archaeologists) since 1997 and was an Associate Member of the Institute from 1990 to 1997.
- 1.2 I have been employed as a professional within the cultural heritage and historic environment sector since completing my degree in 1985. From 1989 until 2004 I worked for Wessex Archaeology, an archaeological contracting and consulting organisation based in Salisbury, Wiltshire. During that period I had several roles, eventually as a Senior Project Manager. I worked on more than a hundred development schemes and gave evidence at both public and local plan inquiries.
- 1.3 Transport infrastructure schemes in which I was involved as a manager included the M4/M49 motorway links to the Second Severn Crossing (the English Approaches), the A34 Newbury Bypass (Berkshire), the A3 Liphook to Petersfield Bypass (Hampshire), the A380 Kingskerswell Bypass (Devon) and the Channel Tunnel Rail Link (Kent, Essex and Greater London).
- 1.4 Since 2004 I have been employed by RPS Planning and Development, initially as a Principal Consultant and subsequently as a Technical Director. During my period of employment with RPS I have been involved in several major highway schemes.
- 1.5 I was the Highways Agency's Archaeologist during the construction of the A30 Bodmin to Indian Queens scheme (Cornwall), the Contractor's Archaeologist for the A354 Weymouth Relief Road (Dorset) and the County Council's expert witness at the Public Inquiry for the proposed A350 Westbury Eastern Bypass (Wiltshire). I was the Key Technical Discipline Leader for Cultural Heritage on the Stansted Surface Access scheme regarding the widening of the M11 motorway and provision of new junctions on the A120(T) (Essex) and also Key

Technical Discipline Leader for Cultural Heritage with regard to the optioneering study for surface access associated with the proposed third runway at Heathrow Airport (Greater London). I acted as the Contractor's Expert for archaeology with regard to a mediated settlement for a claim brought against the Department for Regional Development in connection with the DBFO2 roads programme in Northern Ireland.

- 1.6 I am currently the scheme Archaeologist for the dualling of Section 2 of the A465 Heads of the Valley Road in South Wales (Gilwern to Brynmawr), having been involved right through the preparation and submission of Draft Orders and having prepared and given evidence at the Public Local Inquiry ahead of the Orders being duly made. This Scheme is now under construction and the agreed programme of archaeological work is being implemented in full.
- 1.7 With regard to other transport infrastructure schemes I am currently one of two Key Technical Discipline Leaders for Cultural Heritage providing advice on the proposed second runway at Gatwick Airport (Sussex and Surrey). Previously I was seconded to Crossrail Ltd to provide specialist cultural heritage input into the preparation of documents of documents to support the Hybrid Bill submission for that scheme.
- 1.8 I was a member of the Institute for Archaeologists (IfA) working group reviewing guidance and policy on the issue of the settings of heritage assets, and was part of the IfA team which met with, and provided comments to, English Heritage ahead of the publication of their first guidance document on this matter in October 2011.
- 1.9 I have prepared historic environment documents to accompany applications for a number of major developments that have the potential to cause change within the settings of multiple heritage assets.
- 1.10 I have been the team leader for cultural heritage on the M4CaN Scheme since the Costain/Vinci/Taylor Woodrow Construction Joint Venture (CJV) along with the Design Joint Venture, (DJV - Arup and Atkins supported by RPS) was awarded the ECI contract by Welsh Government in March 2015, having

advised the CJV team during the tendering process. I am responsible for all of the output relating to this topic that has been submitted in support of the Draft Orders.

1.11 The evidence which I have prepared and provide in this Proof of Evidence is true and has been prepared and is given in accordance with the code of conduct of my professional institute and I confirm that the opinions expressed are my true and professional opinions.

2. Scope of Proof of Evidence

- 2.1 My evidence is concerned with the impacts and effects on cultural heritage resources resulting from the construction and operation of the published Scheme. These resources comprise:
- a) Buried archaeological remains
 - b) Historic buildings
 - c) The historic landscape (landscape Proof of Evidence is presented by Mr Nicholas Rowson, WG 1.8.1)
- 2.2 I also respond to any issues raised by Representations with regard to cultural heritage matters.
- 2.3 RPS was instructed in this regard by the DJV on behalf of the CJV and in turn on behalf of the then Welsh Government Department for Economy, Science and Transport.
- 2.4 My evidence is presented in the following structure:
1. Author
 2. Scope of Proof of Evidence
 3. Methodology and Consultation
 4. Option Selection and Scheme Design
 5. Cultural Heritage Designations and Policies
 6. Cultural Heritage Baseline
 7. Effects of the Published Scheme on Cultural Heritage Resources
 8. Response to Concerns raised in Representations
 9. Conclusions

3. Methodology and Consultation

3.1 The effects of the published Scheme on cultural heritage resources are described in Chapter 8 of the March 2016 Environmental Statement (ES) (Document 2.3.2). This explains that the assessment was undertaken in line with the appropriate guidance, principally:

- a) Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 2, HA208/07: Cultural Heritage, (Highways Agency and others 2007, Document 6.1.8);
- b) Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 5, HA205/08: Assessment and Management of Environmental Effects, (Highways Agency and others 2008, Document 6.1.8);
- c) Guide to Good Practice on using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process (Revised 2nd Edition, Cadw and CCW, Document 9.1.4);
- d) Assessing the Effect of Road Schemes on Historic Landscape Character (Highways Agency 2007, Document 9.1.5);
- e) Conservation Principles for the Sustainable Management of the Historic Environment in Wales (Cadw 2011, Document 9.1.6);
- f) Draft Technical Advice Note 24: Historic Environment (Welsh Government 2015, Document 9.1.7); and
- g) Historic Environment Good Practice in Planning Note 3: The Setting of Heritage Assets (Historic England 2015, Document 9.1.8).

3.2 The significance of the identified effects on cultural heritage resources is based on the guidance provided in Table 2.3 of HA205/08 (Document 6.1.8):

- a) **Very large** – only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. The effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to

suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.

- b) **Large** – These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
- c) **Moderate** – These beneficial or adverse effects may be important, but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
- d) **Slight** – These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project.
- e) **Neutral** – No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

3.3 As explained in paragraph 8.3.48 of the March 2016 ES (Document 2.3.2), effects on cultural heritage resources of moderate or greater significance are considered to be ‘significant’.

Data Collection

3.4 As explained in paragraphs 8.3.15 of the March 2016 ES (Document 2.3.2), the study area for the collection of cultural heritage data generally comprised a corridor extending 200m beyond the landtake boundary for the published Scheme, including temporary landtake. This is in line with the guidance provided in Section 5.4 of HA208/07 (Document 6.1.8). Where linear features or historic landscape elements extend beyond this 200m corridor, the study area was extended in order to provide adequate context for understanding such features.

3.5 With regard to designated heritage assets that could be affected as a result of visual changes within their settings, no fixed study area was defined

(paragraph 8.3.16 of the March 2016 ES, Document 2.3.2). The identification of such assets was principally based on the Zone of Theoretical Visibility (ZTV) which was established for the landscape and visual assessment of the published Scheme.

Baseline Data Gathering

- 3.6 Full coverage of the regional Historic Environment Record (HER) for the defined study area was acquired from the Glamorgan Gwent Archaeological Trust (GGAT), together with details of defined Historic Landscape Character Areas (HLCAs) associated with the registered Gwent Levels Landscape of Outstanding Historic Interest. Information regarding Scheduled Ancient Monuments, listed buildings and Registered Parks, Gardens and Landscapes of Special Historic Interest was obtained from Cadw and from published sources.
- 3.7 Details of Conservation Areas, Archaeologically Sensitive Areas (or similar) and 'locally-listed' buildings were obtained from Newport City Council and Monmouthshire County Council.
- 3.8 Further information regarding the historic landscape of the Gwent Levels and on specific archaeological periods and sites within or close to the defined study area was acquired from relevant specialist publications.
- 3.9 An Academic Advisory Panel was established by RPS during the tender stage ahead of the award of the ECI contract by Welsh Government. This was in acknowledgement of the importance of the historic landscape through which the new section of motorway would pass, along with the nature and significance of archaeological remains that may be present. Consequently it was considered by myself and the team involved in the Tender submission that additional expertise would be required in order to adequately address all historic environment issues.

3.10 The panel comprises:

- a) Dr Martin Bates (University of Wales Trinity St David) – Dr Bates is an acknowledged leader in the field of geoarchaeology and has pioneered the use of innovative remote-sensing techniques in wetland environments.
- b) Professor Martin Bell (University of Reading) – Professor Bell has been involved in the investigation of archaeological sites on the Gwent Levels since the early 1990s. He has led the excavations of important later prehistoric sites at Goldcliff and Redwick and has published two monographs and numerous academic papers on the archaeology of the area;
- c) Professor Stephen Rippon (University of Exeter) – Professor Rippon has been involved in the study of the historic landscape of the Gwent Levels for more than 20 years. He undertook the initial assessments that resulted in the designation of the historic landscape and subsequently published a substantial monograph on this topic; and

3.11 This panel has provided information regarding sources of baseline information and has also advised on methodologies for appropriate surveys aimed at recovering additional baseline information.

3.12 Some archaeological fieldwork and remote sensing surveys had been carried out previously with regard to the development of route options for a new section of motorway to the south of Newport. Additional work has been undertaken in connection with the preparation of the Draft Orders for the published Scheme; this additional work has built on and supplemented the previous work. The results of this additional work are summarised in Appendix 8.2 of the March 2016 ES (Document 2.3.2).

3.13 Geophysical survey in the form of fluxgate gradiometer (magnetometer) survey was undertaken at a number of locations on the higher ground at the eastern and western end of the proposed new section of motorway. The areas were selected for survey on the basis of: Scheme design and consequent impact; suitability for survey (land use); and overall archaeological potential determined

through desk-based assessment and previous fieldwork. A report on the results of this programme of magnetometer survey is presented as Appendix 8.4 of the March 2016 ES (Document 2.3.2).

- 3.14 That part of the new section of motorway within the Gwent Levels has been subject to examination of archaeological potential by way of several complementary methodologies.
- 3.15 A geoarchaeological deposit model for the section of the Gwent Levels traversed by the new section of motorway was established through examination of all available data sets produced by the geotechnical work undertaken with regard to the development of the published Scheme. This was aimed at characterising and mapping the deposit sequences within the Gwent Levels, with the objective of being able to identify areas of higher archaeological potential. A report on the results of this work is presented as Appendix 8.8 of the March 2016 ES (Document 2.3.2).
- 3.16 An electrical resistivity tomography (ERT) survey was undertaken, which covered a considerable portion of that part of the route of the new section of motorway that crosses the Gwent Levels. This survey investigated the electrical properties of the subsurface deposits in a series of cross-sections or pseudo-sections. It was complemented by conductivity data acquired through electromagnetic (EM) survey along the same parts of the route. Overall, the ERT and EM surveys provided additional data regarding the character of the underlying deposits that were then used to enhance the geoarchaeological deposit model. A report on the results of this programme of ERT and EM survey is presented as Appendix 8.6 of the March 2016 ES (Document 2.3.2).
- 3.17 Additional aerial reconnaissance for archaeological purposes was undertaken using a small plane equipped with a number of specialist cameras. The output included full Red-Green-Blue (RGB) and Near Infra-Red (NIR) aerial imagery. This work was undertaken in mid-September (2015) as this is the time of the year when the differentials in moisture levels within the ground are most likely to reveal the presence of potential archaeological features.

- 3.18 The aerial imagery also enabled the production of a detailed Digital Surface Model (DSM) showing the topography along this part of the new section of motorway as high resolution images (better than 0.5 m cell size). The DSM was manipulated with slope/illumination tools in order to maximise the identification of surface features.
- 3.19 A Light Detection and Ranging (LiDAR) dataset specific to the published Scheme was provided to the archaeology team. This was analysed and compared against the DSMs obtained from aerial survey.
- 3.20 Available satellite imagery covering this part of the route was acquired from commercial suppliers and analysed by specialist archaeologists, with orthorectification and atmospheric correction applied where necessary. This imagery included multi-spectral data as well as NIR data.
- 3.21 Based on the combined output from the aerial and LiDAR surveys and the analysis of the satellite imagery, potential features of archaeological interest, including palaeochannels, were identified. These were then fully digitised and the information was added to the historic environment dataset. A report on the results of this programme of aerial and LiDAR survey and satellite image analysis is presented as Appendix 8.7 of the March 2016 ES (Document 2.3.2).

Consultations

- 3.22 Consultation during the preparation of the material produced in support of the Draft Orders for the published Scheme was undertaken with the following bodies:
- a) Cadw
 - b) Natural Resources Wales (NRW)
 - c) Glamorgan Gwent Archaeological Trust (GGAT)
 - d) Newport City Council (NCC)
 - e) Monmouthshire County Council (MCC)

f) National Trust (NT)

3.23 In some cases the consultation related directly to concerns raised in response to the Scoping Report (for the ES) which was published in August 2015 (Appendix 5.1 of the March 2016 ES, Document 2.3.2). Other consultations took place as part of an ongoing process throughout the development of Scheme design and assessment.

3.24 Details of the consultations undertaken are provided in Table 8.1 of the March 2016 ES (Document 2.3.2).

4. Option Selection and Scheme Design

- 4.1 The process of option selection and Scheme design is explained in the statements of evidence presented by Mr Matthew Jones (Welsh Government Chief Witness Proof of Evidence, WG 1.1.1) and Mr Ben Sibert (Engineering Proof of Evidence, WG 1.5.1). These demonstrate the procedures undertaken leading up to the publication of the Plan for the M4 Corridor around Newport and the modified TR111 Notice in July 2014.
- 4.2 Welsh Government awarded a Professional Services Contract for the following stage of Scheme development leading to publication of Draft Orders. A conceptual design was prepared ahead of the award of this contract.
- 4.3 In this section of my Proof of Evidence I will describe those changes that have been made to the conceptual design produced ahead of the awarding of the Professional Services Contract in order to reach that of the published Scheme, and which were directly linked to concerns regarding effects on cultural heritage resources.
- 4.4 The conceptual design proposed a total of twelve substantial Water Treatment Areas (WTAs) along the route of the new section of motorway. Five of these were on the south side of the new section of motorway as it traverses the Gwent Levels.
- 4.5 It was recognised that the presence and appearance of these WTAs did not conform to the character of the important historic landscape in the Gwent Levels. In the published Scheme, the number, size and locations of the WTAS have been adjusted. The WTAs are smaller and wherever possible have been relocated to the north side of the new section of motorway in the Gwent Levels area.
- 4.6 One of the WTAs included within the conceptual design was within land north west of the A4810 road at Llandevenny. Previous archaeological investigations in this area had identified a significant site of Mesolithic and Neolithic date, along with remains of other periods. In the published Scheme this WTA

(WTA10) has been relocated to the south side of the new section of motorway, well away from the known area of significant archaeological remains.

- 4.7 To the east of Undy and north of the B4245 road is a standing stone of probable Bronze Age date. This is a Scheduled Ancient Monument and is known as the Devil's Quoit. It is currently located very close to the toe of the embankment that carries the M4 motorway. In the conceptual design this embankment was to be raised and steepened, with the B4245 road being realigned to be slightly closer to the monument in order to access an elongated roundabout beneath the M4 motorway.
- 4.8 The Magor Interchange as shown in the published Scheme is different to that shown in the conceptual design. The elongated roundabout beneath the M4 motorway has been removed and the B4245 road does not need to be realigned west of the current M4 motorway. However the introduction of a slip road from the west-bound M4 leading to the B4245 road (and also to the declassified current M4 road) requires an embankment that would normally cover the location of the standing stone.
- 4.9 The design of the published Scheme shows how a retaining wall (SRW-2350) has been incorporated into the embankment at this location in order to ensure that the standing stone can be retained in its current location. The detailed design of this retaining wall would consider appropriate materials and finishes. The highway ditch at the base of the embankment would be placed in a culvert (SMN-2346) as it passes the standing stone. The setting of the monument would be further altered by the establishment of a WTA just to the west (WTA 12a).
- 4.10 The design of the published Scheme in this location has been amended as a result of the changes to the Magor Interchange introduced in the proposed Modifications to the Draft Orders (Document 2.4.1). The embankment of the proposed westbound offslip adjacent to the standing stone is now approximately 1m lower than the design shown in the published Scheme and this allows for a corresponding reduction in the height of the retaining walls at this location.

4.11 There are several general aspects to the design of the published Scheme that have been instigated in part with regard to the reduction of potential effects on cultural heritage resources. These include:

- a) Vertical alignments – the embankments required for the new section of motorway as it traverses the Gwent Levels have been kept as low as possible and this helps to minimise visual impacts in relation to the historic landscape;
- b) Materials and finishes – wherever possible and appropriate, materials and finishes have been designed to minimise visual impacts on the historic landscape and on individual cultural heritage assets such as listed buildings;
- c) Landscape planting – wherever possible and appropriate, landscape planting has been designed to minimise visual impacts on the historic landscape and on individual cultural heritage assets such as listed buildings; and
- d) Noise attenuation - a thin surfacing material will be used on the carriageway of the new section of motorway and this helps to reduce noise impacts on the historic landscape and on individual cultural heritage assets such as listed buildings.

5. Cultural Heritage Designations and Policies

5.1 The locations and extents of statutory and non-statutory designated cultural heritage resources within the study area(s) for the published Scheme are shown on Figures 1 – 4 in Appendix A of my Proof of Evidence (WG 1.9.3).

Registered Landscapes, Parks and Gardens of Special Historic Interest

5.2 The *Register of Landscapes, Parks and Gardens of Special Interest in Wales* has been prepared in two parts. The first part identifies and describes historic parks and gardens, while the second part, currently published in two volumes, addresses historic landscapes.

5.3 The first volume, published in 1998, describes a total of 36 landscapes of ‘outstanding’ historic interest. A second volume was published in 2001 and describes a further 22 landscapes of ‘special’ historic interest. However the designation for both is made within the overarching *Register* and the Preface to the second volume makes it clear that there is no difference in quality between the landscapes of ‘outstanding’ historic interest identified in the first volume and those of ‘special’ historic interest identified in the second volume (the actual difference is primarily one of size, with the ‘outstanding’ ones being generally larger than the ‘special’ ones).

5.4 The *Register* is currently non-statutory, however the Historic Environment (Wales) Act which received Royal Assent and became law on 21 March 2016 (Document 3.1.19) contains a provision (section 18) for the Welsh Ministers to compile and maintain a statutory ‘register of historic parks and gardens’. There is no similar provision to compile and maintain a statutory register of historic landscapes.

5.5 *Planning Policy Wales* (Edition 9, Document 5.1.12) states that local planning authorities should take the *Register of Landscapes, Parks and Gardens of Special Interest in Wales* into account when preparing development plans. Paragraph 6.5.27 of *Planning Policy Wales* (Edition 9) states: ‘*Information on the register of historic landscapes in Wales should be taken into account by local planning authorities in considering the implications of developments which*

meet the criteria for Environmental Impact Assessment, or, if on call in, in the opinion of Welsh Ministers, are of such a scale that they would have more than local impact on an area in the Register. Cadw must be consulted on development within a registered historic landscape area that requires an Environmental Impact Assessment’.

- 5.6 *Welsh Office Circular 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas* (Document 9.1.2, paragraph 16) also advises local planning authorities to take into account any sites that are included on the *Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales*.
- 5.7 Policy CE4 of the *Newport Local Development Plan 2011-2016* (Document 5.3.1) states: ‘*Sites included in the Register of Landscapes, Parks and Gardens of Special Historic Interest and identified Historic Battlefields should be protected, conserved, enhanced and where appropriate, restored. Attention will also be given to their setting’.*
- 5.8 Paragraph 6.5.29 of the *Monmouthshire Local Development Plan 2011-2021* (Document 5.3.2) advises that development controls with regard to historic parks and gardens are set out in *Planning Policy Wales*.
- 5.9 Paragraph 6.5.28 of *Planning Policy Wales* (Edition 9 (Document 5.1.12)) advises that ‘*Cadw and Natural Resources Wales have issued a ‘guide to good practice’ on using the register of historic landscapes. It includes a method for assessing the effects of proposed development on an area on the register of historic landscapes (ASIDOHL2). This method should be followed by applicants when preparing the relevant part of the Cultural Heritage chapter of their Environmental Statement’.* This is a reference to the publication entitled *Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process* (Revised 2nd Edition, 2007 (Document 9.1.4)), which contains the assessment methodology known as *Assessment of the Significance of the Impact of Development on Historic Landscape Areas on the Register of Landscapes of Historic Interest in Wales* (ASIDOHL2).

5.10 The following sites included in the *Register of Landscapes, Parks and Gardens of Special Historic Interest* have been considered in the assessment of the effects of the published Scheme:

- a) Gwent Levels Landscape of Outstanding Historic Interest
- b) Tredegar Park Grade II* Registered Park and Garden
- c) Llanwern Park Grade II Registered Park and Garden
- d) Beechwood Park Grade II Registered Park and Garden
- e) Belle Vue Park Grade II Registered Park and Garden

Listed Buildings

5.11 Buildings and structures that are on the statutory list maintained by Welsh Ministers (usually referred to ‘listed buildings’) have legislative protection through the Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended) (Document 3.1.8).

5.12 *Planning Policy Wales* (Edition 9, Document 5.1.12, paragraph 6.5.9) states:

‘There should be a general presumption in favour of the preservation of a listed building and its setting, which might extend beyond its curtilage. For any development proposal affecting a listed building or its setting, the primary material consideration is the statutory requirement to have special regard to the desirability of preserving the building, or its setting, or any features of special architectural or historic interest which it possesses’. Paragraph 6.5.14 goes on to state: *‘Occasionally, applications will be made for the demolition of a listed building. These must be fully justified and scrutinised before any decision is taken. The demolition of any listed building should be considered as exceptional and require the strongest justification’.* Paragraph 6.5.15 advises that *‘Local planning authorities should not authorise demolition of a listed building to make way for new development unless it is certain that the new development will proceed. This requirement can be secured by condition’.*

- 5.13 Additional guidance with regard to development and listed buildings is provided in *Welsh Office Circular 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas* (Document 9.1.2).
- 5.14 Although there is no policy in the *Newport Local Development Plan 2011-2016* (Document 5.3.1) which specifically addresses listed buildings, paragraph 4.19 of the guidance provided with regard to The Historic Environment states: '*Listed Buildings play a significant role in the townscape and architectural heritage of the area and the Council attaches the utmost importance to their preservation. The Council, in the determination of applications for Listed Building consent, is expected to have 'special regard to the desirability of preserving the building, or its setting, or any features of special architectural or historic interest which it possesses'*'.
- 5.15 Paragraph 6.5.23 of the *Monmouthshire Local Development Plan 2011-2021* (Document 5.3.2) advises that development controls with regard to listed buildings are set out in *Planning Policy Wales* and in *Circular 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas* (Document 9.1.2).
- 5.16 The following listed buildings have been considered in the assessment of the effects of the published Scheme:
- a) Newport Transporter Bridge – Grade I
 - b) Tredegar House, Newport – Grade I
 - c) St Woolos Cathedral, Newport - Grade I
 - d) Church of St Mary the Virgin, Nash - Grade I
 - e) Church of St Michael and All Angels, Llanfihangel - Grade II*
 - f) Church of St Mary, Marshfield - Grade II*
 - g) Church of St Bridget, St Brides Wentlooge – Grade II*
 - h) George Street Bridge, Newport – Grade II*

- i) Whitson Court, Whitson – Grade II*
- j) Parish church, Whitson – Grade II*
- k) Castleton Baptist Church – Grade II
- l) Coach and Horses Public House, Castleton – Grade II
- m) Waterloo Hotel, Newport – Grade II
- n) Pye Corner Farm, Nash – Grade II
- o) Fair Orchard, Nash – Grade II
- p) Fair Orchard Barn, Nash – Grade II
- q) Tatton Farm, Nash – Grade II
- r) The Vicarage, Magor (Woodland House) – Grade II
- s) Great House Farmhouse, Undy – Grade II
- t) Old Court Farmhouse, Llanfihangel – Grade II
- u) Stables at Old Court Farmhouse, Llanfihangel – Grade II
- v) Farm range at Old Court Farmhouse, Llanfihangel – Grade II
- w) Green Farmhouse, Llanfihangel – Grade II
- x) Barn to east of Green Farmhouse, Llanfihangel – Grade II
- y) Cowhouse east of Green Farmhouse, Llanfihangel – Grade II
- z) Old windmill, Rogiet – Grade II

5.17 In addition to the listed buildings identified above, two of the Scheduled Ancient Monuments identified below are also listed buildings.

Scheduled Ancient Monuments

- 5.18 Many archaeological sites of national importance are designated as Scheduled Ancient Monuments and thereby subject to statutory legislative protection as prescribed through the Ancient Monuments and Archaeological Areas Act 1979 (as amended) (Document 3.1.4), including the provisions introduced in the Historic Environment (Wales) Act 2016 (Document 3.1.19).
- 5.19 Annex I of *Welsh Office Circular 60/96 Planning and the Historic Environment: Archaeology* (Document 9.1.1) provides further information regarding the legislative arrangements which derive from the Ancient Monuments and Archaeological Areas Act 1979 (as amended) (Document 3.1.4).
- 5.20 *Planning Policy Wales* (Edition 9, Document 5.1.12, paragraph 6.5.5) states: *'The conservation of archaeological remains is a material consideration in determining a planning application, whether those remains are a scheduled monument or not. Where nationally important archaeological remains, whether scheduled or not, and their settings are likely to be affected by proposed development, there should be a presumption in favour of their physical protection in situ. It will only be in exceptional circumstances that planning permission will be granted if development would result in an adverse impact on a scheduled monument (or an archaeological site shown to be of national importance) or has a significantly damaging effect upon its setting'*.
- 5.21 Although there is no policy in the *Newport Local Development Plan 2011-2016* (Document 5.3.1) which specifically addresses Scheduled Ancient Monuments, paragraph 4.29 of the guidance provided in support of Policy CE6 (Archaeology) states: *'Under the Ancient Monuments and Archaeological Areas Act 1979, 67 sites have been granted statutory protection within Newport and are formally recognised as being of national importance. Any proposals affecting a Scheduled Ancient Monument are required to seek consent from Cadw – the Welsh Government's Historic Environment Service'*.
- 5.22 Paragraph 6.5.24 of the *Monmouthshire Local Development Plan 2011-2021* (Document 5.3.2) advises that development controls with regard to historic

parks and gardens are set out in *Planning Policy Wales* and in *Welsh Office Circular 60/96 Planning and the Historic Environment: Archaeology* (Document 9.1.1).

5.23 The following Scheduled Ancient Monuments have been considered in the assessment of the effects of the published Scheme:

- a) Moated site, Undy
- b) Devil's Quoit standing stone, Undy
- c) Churchyard cross, Llanfihangel - also Grade II listed building
- d) Wentlooge Castle, Castleton
- e) Pen-y-lan camp (The Mount)
- f) Coed y Dyfaid Camp
- g) Tredegar Fort hillfort
- h) Goldcliff moated house site
- i) Grangefield Farm moated site
- j) Wilcrick Hill Camp hillfort
- k) Newport Castle – also Grade II* listed building

Conservation Areas

5.24 *Planning Policy Wales* (Edition 9 (Document 5.1.12) paragraph 6.5.20) states: '*There should be a general presumption in favour of the preservation or enhancement of the character or appearance of a conservation area or its setting*'.

5.25 Policy CE7 of the *Newport Local Development Plan 2011-2016* (Document 5.3.1) states: '*Development within or adjacent to Conservation Areas will be required to:*

- a) *Be designed to preserve or enhance the character or appearance of the Conservation Area, having regard to the Conservation Area Appraisal where appropriate.*
- b) *Avoid the removal of existing historic features, including traditional shopfronts and joinery.*
- c) *Use materials which are traditional, or appropriate to their context.*
- d) *Complement or reflect the architectural qualities of nearby buildings which make a positive contribution to the character of the area.*
- e) *Pay special attention to the settings of buildings and avoid the loss of any domestic gardens and open spaces which contribute to the character of the area.*
- f) *Avoid any adverse impacts on significant views, within, towards and outwards from the Conservation Area.'*

5.26 Policy HE1 (Development in Conservation Areas) of the *Monmouthshire Local Development Plan 2011-2021* (Document 5.3.2) states: '*Within Conservation Areas, development proposals should, where appropriate, have regard to the Conservation Area Appraisal for that area and will be permitted if they:*

- a) *Preserve or enhance the character or appearance of the area and its landscape setting;*
 - b) *Have no serious adverse effect on significant views into and out of the Conservation Area;*
 - c) *Have no serious adverse effect on significant vistas within the area and the general character and appearance of the street scene and roofscape;*
 - d) *Use materials appropriate to their setting and context and which protect or enhance the character and appearance of the Conservation Area; and*
 - e) *Pay special attention to the setting of the building and its open areas.*
- Where development is acceptable in principle it should complement or reflect the architectural qualities of adjoining and other nearby buildings (unless these are harmful to the character and appearance of the area) in terms of its profile,*

silhouette, detailing and materials. However, good modern design may be acceptable, particularly where new compositions and points of interest are created.

5.27 The following Conservation Areas have been considered in the assessment of the effects of the published Scheme:

- a) Llanfihangel, near Rogiet (Monmouthshire)
- b) Waterloo, Newport
- c) St Woolos, Newport
- d) Redwick, Newport

Locally Listed Buildings (Newport)

5.28 *Welsh Office Circular 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas* (Document 9.1.2) advises that: ‘.... many buildings which are valued for their contribution to the local scene, or for local historic associations, will not merit listing.....It is open to planning authorities to draw up lists of locally important buildings, and to formulate policies for their protection through development control procedures’ (paragraph 48).

5.29 Thus Policy CE5 of the *Newport Local Development Plan 2011-2016* (Document 5.3.1) states: ‘*Buildings and sites of local significance for their architectural or historic interest will be included on a local list and should be protected from demolition or inappropriate development*’. With specific regard to this policy, Newport City Council has produced a *Local List Background Paper* (Document 5.3.1). This document describes the policy background to the concept of a Local List along with the criteria for identifying buildings for inclusion on the list. A proposed list was included as Appendix 2 of the Background Paper, primarily based on a Newport Borough Council document produced in 1995. The buildings on the proposed list were identified by parish and then by name, with no further description. This proposed list has not been formally approved by Newport City Council.

- 5.30 There are three buildings on the proposed list which fall within the defined study area for the published Scheme. Two of these are at Coedkernow and comprise Church Farm and a barn to the west of the farm – both of which are in residential use. The third one is Pool Cottage at Llandevenny; however this building is actually now within Monmouthshire and thus could not be covered by a policy published in the Newport Local Development Plan.
- 5.31 No similar Local List (of historic buildings) or corresponding Local Development Plan Policy has been prepared by Monmouthshire County Council.

Archaeologically Sensitive Areas (Newport)

- 5.32 Policy CE6 of the *Newport Local Development Plan 2011-2016* (Document 5.3.1) states: '*Development proposals will normally be required to undertake an archaeological impact assessment before the proposal is determined:*
- a) *Where groundworks and/or the installation of services are proposed within the Archaeologically Sensitive Areas of Caerleon, the Levels, Lower Machen and the City Centre, or*
 - b) *Within other areas of recognised archaeological interest*'.
- 5.33 With regard to the above policy, Newport City Council has prepared a Supplementary Planning Guidance document *Archaeology and Archaeologically Sensitive Areas* which was adopted in August 2015 (Document 9.1.9). This document states that where development is proposed within areas identified within the LDP as Archaeologically Sensitive Areas, early consultation with the Glamorgan Gwent Archaeological Trust is encouraged. An initial desk based assessment should be made and a field evaluation may also be required. Any archaeological implications can then be identified and the appropriate mitigation strategy considered, if necessary, early within the consideration of the planning application. Further, prior to implementing a planning permission the developer must prove that suitable provision has been made for the archaeological investigation of the site, its recording and publication of the findings as necessary.

5.34 As implied within the wording of Policy CE6 of the *Newport Local Development Plan 2011-2016* (Document 5.3.1), the (Gwent) Levels are designated as Archaeologically Sensitive Areas. The extent of this designation is indicated on Figure 3 in Appendix A of this Proof of Evidence (WG 1.9.3).

Areas of Special Archaeological Sensitivity

There is some commentary in Section 6.5 of the *Monmouthshire Local Development Plan 2011-2021* (Document 5.3.2) regarding archaeology, although there is no specific policy. The text advises that 13 Areas of Special Archaeological Sensitivity have been identified within the county and that *'Prospective developers within these areas are particularly advised to contact Glamorgan Gwent Archaeological Trust (GGAT) for an opinion of the archaeological potential of their sites and for advice on whether an assessment or evaluation is necessary'* (paragraph 6.5.13).

5.35 One of these designated Areas of Special Archaeological Sensitivity covers that part of the Gwent Levels extant within Monmouthshire. The extent of this designation is indicated on Figure 3 in Appendix A of this Proof of Evidence (WG 1.9.3).

General Policy and Guidance

5.36 Several of the key pieces of policy and guidance relevant to the assessment of the effects of the published Scheme on cultural heritage resources have been referred to in the preceding text of the evidence.

5.37 The *Historic Environment Strategy for Wales* (Welsh Government 2013, Document 9.1.10) described the need for legislative change required to further protect the heritage of Wales and to encourage public access to, and enjoyment of, the historic environment. These measures included additional primary legislation along with supporting policy and guidance, but also focused on heritage interpretation and heritage-based tourism.

5.38 The additional primary legislation referred to in the *Historic Environment Strategy for Wales* was brought forward as the *Historic Environment (Wales)*

Act 2016, which became law in Wales on 21 March 2016 (Document 3.1.19). The Act amends two pieces of UK legislation: The Ancient Monuments and Archaeological Areas Act 1979 (Document 3.1.4) and the Planning (Listed Buildings and Conservation Areas) Act 1990 (Document 3.1.8) and contains new stand-alone provisions relating to historic environment records, place names and the Advisory Panel for the Historic Environment in Wales.

5.39 The Act has three main aims:

- a) To give more effective protection to listed buildings and scheduled monuments
- b) To improve the sustainable management of the historic environment
- c) To introduce greater transparency and accountability into decisions taken on the historic environment

5.40 In response to the Act, new draft advice and guidance documents are being prepared by Cadw, including a new *Technical Advice Note 24: The Historic Environment*, along with guidance on Heritage Impact Assessment and on the Setting of Heritage Assets. Consultation on the draft Technical Advice Note closed on 03 October 2016, and a final version of this document should be published in the spring of 2017.

5.41 Chapter 6 of *Planning Policy Wales* (Edition 9 (Document 5.1.12)) addresses the issue of The Historic Environment. Paragraph 6.2.1 establishes the Welsh Government's objectives with regard to the protection of the historic environment as being to:

- a) *Conserve and enhance the historic environment, which is a finite and non-renewable resource and a vital and integral part of the historical and cultural identity of Wales*
- b) *Recognise its contribution to economic vitality and culture, civic pride, local distinctiveness and the quality of Welsh life, and its importance as a resource to be maintained for future generations*

- c) *Base decisions on an understanding of the significance of Wales' historic assets*
- d) *Contribute to the knowledge and understanding of the past by making an appropriate record when parts of a historic asset are affected by a proposed change, and ensuring that this record or the results of any investigation are securely archived and made publically available; and specifically to:*
- e) *Protect the Outstanding Universal Value of the World Heritage Sites in Wales*
- f) *Conserve archaeological remains, for their own sake and for their role in education, leisure and the economy*
- g) *Safeguard the character of historic buildings and manage change so that their special architectural and historic interest is preserved*
- h) *Preserve or enhance the character or appearance of conservation areas, while at the same time helping them remaining vibrant and prosperous*
- i) *Preserve the special interest of sites on the register of historic parks and gardens in Wales*
- j) *Conserve areas on the register of historic landscapes in Wales*

5.42 That part of paragraph 6.5.5 of *Planning Policy Wales* (Edition 9, Document 5.1.12) which deals with nationally important archaeological remains, whether scheduled or unscheduled, has been reproduced above with regard to Scheduled Ancient Monuments (paragraph 5.20 of this evidence). The remaining part of the paragraph addresses the issue of other archaeological remains thus: *'In cases involving less significant archaeological remains, local planning authorities will need to weigh the relative importance of the archaeological remains and their settings against other factors, including the need for the proposed development'*.

5.43 The Welsh Office published its *Circular 60/96 Planning and the Historic Environment: Archaeology* in December 1996 (Document 9.1.1). This sets out the Secretary of State's policy on archaeological remains on land and provides recommendations, many of which have been integrated into local development plans. The key points in the circular can be summarised as follows:

- a) Archaeological remains should be seen as a finite and non-renewable resource, and in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed. They are part of our sense of our cultural heritage not least in terms of the information they provide about the past, valuable both for their own sake and for their role in education, leisure and tourism.
- b) Around 3,000 nationally important sites in Wales have been scheduled. This is designed to ensure that the case for preservation is fully considered given any proposals for development or any other work that might damage the monument.
- c) In the case of non-scheduled remains, the planning system provides a context within which the desirability of preserving archaeological remains and other options can be considered by local planning authorities. Much can be achieved when developers are prepared to enter into discussions with archaeologists and consider fully the needs of archaeology as early as possible in the development process.
- d) Development plans should reconcile the need for development with the interests of conservation, including archaeology. They should include policies for the protection, enhancement and preservation of sites of archaeological interest, and their settings. These policies will provide an important part of the framework for the consideration of individual proposals for development that affects archaeological remains and will help guide developers in preparing planning applications.

- e) The desirability of preserving an ancient monument and its setting is a material consideration in determining a planning application whether that monument is scheduled or unscheduled.
- f) Archaeological investigations, such as excavation and recording, should be carried out before development commences, working to a project brief prepared by the local planning authority. Investigation can be achieved through agreements reached between the developer, the archaeologist and the local planning authority. Such agreements should secure and implement an appropriate Scheme of archaeological investigation, to an agreed timetable, and provide for the subsequent publication of its results.
- g) Local planning authorities should seek to ensure that potential conflicts are resolved and agreements with developers concluded before planning permission is granted.

5.44 *The Welsh Office Circular 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas* (Document 9.1.2) was published in December 1996. It sets out legislation and procedures relating to historic buildings and Conservation Areas. As with Circular 60/96, it emphasises that development plans should integrate conservation and other aspects of local planning policy. It also emphasises the need for early consultation on developments likely to affect historic sites and structures.

5.45 With respect to planning control, it states that:

'Authorities are required...in considering whether to grant permission for development which affects a listed building or its setting, to have special regard to the desirability of preserving the building or its setting...' (para. 8)

and

'Some historic buildings are scheduled ancient monuments and many which are not scheduled are either of intrinsic archaeological interest or stand on ground which contains archaeological remains. It is important in such cases that there should be appropriate assessment of the archaeological implications of development proposals before applications are determined and that, where

permission is to be granted, authorities consider whether adequate arrangements have been made for recording remains that could be lost in the course of works to which permission will relate.' (paragraph 10).

5.46 *Welsh Office Circular 1/98 Planning and the Historic Environment: Directions by the Secretary of State for Wales* was published in February 1998 (Document 9.1.3). This provides updated guidance with regard to the protection of listed buildings and Conservation Areas in the light of judgements that deal with such issues.

5.47 The overall assessment of impacts and effects presented in the March 2016 ES (Document 2.3.2) is in line with the *Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 5 (HA205/08)* (Document 6.1.8). This provides guidance on the assessment and management of environmental effects, including advice on determining the magnitude of impacts and the significance of effects.

5.48 DMRB guidance specific to the historic environment is provided in *DMRB Volume 11, Section 3, Part 2 Cultural Heritage (HA208/07)* (Document 6.1.8). This splits the cultural heritage resource into three separate but related sub-topics: Archaeological Remains; Historic Buildings and Historic Landscape.

5.49 Annex 8 of *HA208/07* (Document 6.1.8) provides guidance on how the processes described within this section of the DMRB may need to be adapted within the devolved administrations. With regard to Wales, Annex 8 (paragraph 8.6) advises that for schemes which affect areas on the *Register of Historic Landscapes in Wales*, there is a *Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process* (Document 9.1.4). This paragraph goes on to advise that the process of historic landscape characterisation and assessment for the registered areas can be applied elsewhere in Wales.

5.50 Also with specific regard to the historic landscape, supplementary guidance on assessment is provided in the document *Assessing the Effect of Road schemes on Historic Landscape Character* (Document 9.1.5). This provides additional

information on data collection, evaluation of the historic landscape, assessment of impact magnitude and identification of the significance of effects.

5.51 Additional guidance on how to identify and appraise the values associated with heritage assets is presented in the document *Conservation Principles for the Sustainable Management of the Historic Environment in Wales* (Document 9.1.6).

5.52 HA208/07 (Document 6.1.8) refers to effects on the settings of heritage assets and explains (paragraph 4.19) that setting is a material consideration in government policy relating to the historic environment. The guidance provides the following definitions of setting and context:

- a) *'The setting of an asset is, broadly speaking, the surroundings in which a place is experienced, while embracing an understanding of perceptible evidence of the past in the present landscape.'*
- b) *Context is a part of setting, like topography and views. Context embraces any relationship between a place and other places. It can be, for example, temporal, functional, intellectual or political, as well as visual, so any one place can have a multi-layered context. The range of contextual relationships of a place will normally emerge from an understanding of its origins and evolution. Understanding context is particularly relevant to assessing whether a place has greater value for being part of a larger entity or group'.*

5.53 This section of HA208/07 (Document 6.1.8) goes on to explain (paragraph 4.27) that *'Methodologies used to assess impacts on settings should be transparent, clearly described and supported by professional standards where available.'* It then provides a number of principles that assessors should be aware of:

- a) An asset's setting is its relevant surroundings.

- b) Settings have physical factors which can be changed by a scheme, but it is the effect these changes have on the character and value of the asset that is assessed.
- c) Context is an aspect of setting where a relevant aspect of knowledge, belief or relationships may not be visible (or audible) at the site.
- d) Professional judgement is required, using criteria measured against government policy and, where relevant, the Scheme's Cultural Heritage Design Objectives.

5.54 As described in *HA208/07* (Document 6.1.8, paragraph 4.19), the issues surrounding the identification of the settings of heritage assets, and the nature and magnitude of impacts and consequently effects on such settings, have been subject to much debate within the historic environment sector.

5.55 Guidance on this issue has been issued for England (Document 9.1.8) and for Scotland, but nothing comparable has yet been produced for Wales. However, a definition of setting has been published in the document *Conservation Principles for the Sustainable Management of the Historic Environment in Wales* (Document 9.1.6):

'The surroundings in which an historic asset is experienced, its local context, embracing present and past relationships to the adjacent landscape.'

5.56 As described above in paragraph 5.41, new draft advice and guidance documents are being prepared by Cadw with regard to the Historic Environment (Wales) Act 2016. These include a new *Technical Advice Note 24: The Historic Environment*, along with guidance on Heritage Impact Assessment and on the Setting of Heritage Assets.

5.57 The consultation draft of the new Technical Advice Note 24 (Document 9.1.7) confirms that *'The Welsh Ministers take the definition of the setting of a historic asset to be the surroundings in which it is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an*

asset, may affect the ability to appreciate that significance or may be neutral'
(paragraph 1.2.1).

5.58 The document goes on to advise that setting is primarily concerned with visual amenity and that consideration should be given to views towards and from a historic asset and also views in which the asset and the proposed development are both seen. The proposed situation needs to be compared to the existing position and not a past scenario.

5.59 Examination of the specific guidance documents produced for England and Scotland has identified the following points for consideration:

- a) All heritage assets have a setting, irrespective of the form in which they survive and whether they are designated or not.
- b) The setting of a heritage asset can enhance its significance whether or not it was designed to do so.
- c) The contribution that setting makes to the significance does not depend on there being public rights or an ability to access or experience that setting. This will vary over time and according to circumstance. Nevertheless, proper evaluation of the effect of change within the setting of a heritage asset will usually need to consider the implications, if any, for public appreciation of its significance.
- d) For the purposes of spatial planning, any development or change capable of affecting the significance of a heritage asset or people's experience of it can be considered as falling within its setting.
- e) A proper assessment of the impact on setting will take into account, and be proportionate to, the significance of the asset and the ability to appreciate it.

5.60 The methodology used in the March 2016 ES (Document 2.3.2) for the assessment of effects resulting from changes within the setting of a heritage asset responds to the above recent policy and guidance documents. Consequently, the assessment of the likely impacts and effects of the published

Scheme on the significance of a heritage asset as a result of changes within the setting of that asset addresses the following questions:

- a) Will the proposed development form part of the surroundings of a heritage asset (i.e. will it form part of the setting of the asset)?
- b) If so, what contribution does the setting make to the significance of the heritage asset?
- c) What level of impact will the proposed development have on the significance of the heritage asset, or the ability to appreciate that significance?
- d) Will the impact be positive, negative or neutral?

6. Cultural Heritage Baseline

6.1 A detailed account of the known archaeological and historical baseline within the defined study area for the published Scheme and also for the wider area is provided in the Cultural Heritage Desk-based Assessment (Appendix 8.2 of the March 2016 ES, Document 2.3.2), whilst a summarised account is provided within Chapter 8 of the March 2016 ES.

6.2 The new section of motorway crosses the Gwent Levels, much of which has been placed on the non-statutory *Register of Landscapes of Outstanding Historic Interest in Wales*, a component part of the *Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales*.

6.3 The summary description in the *Register* for the Gwent Levels Landscape of Outstanding Historic Interest (LOHI) states:

'Three discrete and extensive areas of alluvial wetlands and intertidal mudflats situated on the north side of the Severn estuary represent the largest and most significant example in Wales of a 'hand-crafted' landscape. They are entirely the work of man, having been recurrently inundated and reclaimed from the sea from the Roman period onwards. The areas have distinctive patterns of settlement, enclosure, and drainage systems belonging to successive periods of use, and a proven and possibly quite vast potential for extensive, well-preserved, buried, waterlogged, archaeological and palaeoenvironmental deposits surviving from earlier landscapes'.

6.4 The proposed new section of motorway around Newport passes through elements of the western and central areas referred to in the summary description quoted above. This is indicated on Figure 1 in Appendix A of this Proof of Evidence (WG 1.9.3). The western area is known as the Wentlooge Levels, whilst the central and eastern areas are collectively referred to as the Caldicot Levels.

6.5 A total of 21 Historic Landscape Character Areas (HLCAs) have been identified and described with regard to the Gwent Levels LOHI. Some of these extend beyond the boundary of the designated historic landscape as the actual

boundary (of the LOHI) is based on other considerations and not just on the character of a particular HLCA. The proposed new section of motorway passes through parts of seven of the 21 defined HLCAs although there is a very small area of temporary landtake within an eighth HLCA (Figure 2 in Appendix A of this Proof of Evidence (WG 1.9.3)).

- 6.6 As described in the above quotation from the *Register*, the Gwent Levels landscape is one that demonstrates the successive reclamation of land from the former tidal mudflats and saltmarshes and the subsequent utilisation of that land. The process of reclamation started in the Roman period and continued through to the 19th century, although there were periods when reclaimed land was lost to inundation and the process had to be restarted.
- 6.7 The reclaimed land is slightly higher in the coastal areas and along the major estuaries of the Rivers Usk and Ebbw and it is here that the Roman and medieval settlements are predominantly located. The lower-lying land further back from the coast is known as the back-fen and these areas of back-fen were amongst the last parts of the Levels to be drained and utilised. The proposed new section of motorway predominantly runs through the back-fen.
- 6.8 Although there has been considerable research into the history and archaeology of the Gwent Levels, much of this has been focused on the higher ground at the coastal edge. This is partly because most Roman and post-Roman settlement is located here and is more accessible here. It is also because this land has been where most development has taken place within recent years during which purposive archaeological investigation has been an integral part of the planning process. There has also been a large amount of academic research within the present intertidal zone (i.e. seaward of the reclaimed land) - this is because the post-Roman alluvium that covers earlier deposits and material within the Gwent Levels proper has been stripped away by the sea and these earlier deposits are therefore visible and more accessible.
- 6.9 However, the prehistoric and Roman remains that are recorded at surface level in the intertidal zone have also been found across the rest of the Gwent Levels, sealed within and beneath layers of alluvium and also peat. In places these

deposits extend up to 10 metres in depth. Archaeological investigations in the back-fen areas have been limited but have found buried landscapes, sites, features and objects of great significance with regard to the understanding of how this area has been utilised since the last ice age. Although poorly drained, the back-fen areas provided a range of valued resources to communities in the area.

- 6.10 The interface between the back-fen areas and the higher ground to the north is also important, as before any drainage took place in the Gwent Levels this interface would have marked the transition from dry land to intertidal mudflats and/or saltmarsh. The actual edge of that transition may not be the present edge - the sequence of post-Roman alluviation and peat formation (associated with sea-level change) is such that the earlier transition zones may lie beneath or within this material and therefore within land that is currently back-fen.
- 6.11 The potential for the presence of archaeological remains within the Gwent Levels is recognised in the designation by Newport City Council of two Archaeologically Sensitive Areas (ASAs), one covering the Wentlooge Levels (west of the River Ebbw) and one covering the Caldicot Levels east of the River Usk (Figures 3a and 3b in Appendix A of this Proof of Evidence (WG 1.9.3)). These ASAs are similar in coverage to the nationally designated Gwent Levels Landscape of Outstanding Historic Interest but in places extend beyond that designation and also beyond the identified Historic Landscape Character Areas that make up the Landscape of Outstanding Historic Interest.
- 6.12 An Area of Special Archaeological Sensitivity (ASAS) has been identified by Monmouthshire County Council to cover that part of the Caldicot Levels which is within the county. The new section of motorway would pass through this ASAS just to the west of Magor (Figure 3b in Appendix A of this Proof of Evidence (WG 1.9.3)).
- 6.13 Although material of Palaeolithic date (c. 900,000 - 8,500 BC) has been recovered from the Gwent Levels, the earliest material found within the defined study area is of Mesolithic date (c. 8,500 - 4,000 BC). This was a period

generally characterised by rising sea levels following the most recent glacial maximum.

- 6.14 A flint arrowhead of Mesolithic date has been found just outside the defined study area and may indicate the presence of seasonal or possibly more settled communities who would have exploited the resources on this drier land as well as on the wetlands at the base of the slope.
- 6.15 At Llandeenny towards the eastern end of the proposed new section of motorway, archaeological investigations have identified a stratified occupation site of late Mesolithic to early Neolithic date at the very edge of the dry land. The lack of any clear hiatus between the two deposits indicates that occupation here may have been continuous.
- 6.16 Further evidence of Mesolithic activity within the Levels includes human footprints in the intertidal mudflats at Uskmouth. Similar footprints of a slightly later date have also been found in the intertidal zone at Magor. At Goldcliff, a late Mesolithic site appears to have occupied a small wooded island surrounded by saltmarsh.
- 6.17 At the end of the Mesolithic period the rise in sea level slowed, although it was still probably about 8 metres lower than present mean sea level. A series of peat deposits formed across the Levels as land plants colonised the mudflats and saltmarshes. The dry land was quite heavily wooded during the Mesolithic period.
- 6.18 Other than the later Mesolithic/early Neolithic occupation identified at Llandeenny and discussed above, no material of definite Neolithic date has been found within the defined study area. Indeed very little material of definite Neolithic date has been found in the Gwent Levels. This may indicate that activity here was very limited during that period. However, it could also mean that the evidence of Neolithic events remains buried beneath later material.
- 6.19 In contrast, a considerable amount of information has been collated over recent years with regard to activity in the Gwent Levels during the Bronze Age. Much of this has been the result of programmes of investigation focused on the

intertidal zone, where structures and associated material of Bronze Age date are exposed at low tide in certain locations.

- 6.20 On the dry land adjacent to the fen edge, evidence of Bronze Age activity includes finds of metalwork (mostly axes and spearheads) and scatters of worked flint and also monuments such as standing stones and burial mounds (round barrows).
- 6.21 Within the defined study area the principal known site/findspot of likely Bronze Age date is a standing stone located between Undy and Llanfihangel, near to the current M4 Junction 23 (Figure 1b in Appendix A of this Proof of Evidence (WG 1.9.3)). The standing stone is a Scheduled Ancient Monument and is approximately 2.4 metres high (from current ground level). Locally, the standing stone is known as The Devil's Quoit.
- 6.22 Some of the recorded Bronze Age activity within the Gwent Levels continued on into the early part of the Iron Age (c. 700 BC - AD 43). However, this period is more generally characterised by a substantial marine transgression in which much of the Levels were reflooded and the landscape would have returned to one dominated by tidal mudflats and saltmarshes, although some areas of reed swamp were present and peats continued to form in some locations.
- 6.23 On the higher dry land to the north, evidence of Iron Age activity is dominated by the larger hillforts such as those at Wilcrick Hill and Tredegar. Within the defined study area Iron Age activity has been identified at Coedkernow. This site is located on the dry land at the edge of the back-fen. Similar enclosures have also been identified just to the west of Magor - these appear to represent settlement of Iron Age and Roman date and again the location is on the dry land close to the back-fen.
- 6.24 The initial efforts to drain parts of the Levels were made during the Roman period (AD 43 - 410). The full extent of this drainage remains unknown and much of the reclaimed land was subsequently flooded. However there is extensive evidence for Roman activity (including settlement) across the Levels.

- 6.25 A site of Roman date has been identified to the east of Coedkernow - here a Roman building was excavated which had a series of cobbled floors. An earlier underlying phase of Roman activity was characterised by the presence of a series of ditches.
- 6.26 At Llandevenny in the eastern part of the defined study area, archaeological evaluation has resulted in the identification of a complex of ditches including small enclosures, also at least one Roman building. This is on the higher ground on a small promontory facing out into the wetlands.
- 6.27 One Roman site that is just outside the defined study area (but which has considerable relevance due to its location within the back-fen) is within the Gwent Europark development, between Bareland Street and the A4810 Queen's Way. Here, archaeological investigations undertaken in connection with the construction of a distribution warehouse found a well-preserved Roman boat (known as the Barlands Farm boat). This was located on the edge of a tidal channel and was adjacent to a timber bridge (also of Roman date) that provided access from the higher dry land area into the wetlands.
- 6.28 Most of the evidence for activity within the Levels during the early medieval period (c. AD 410 - 1066) comes from documentary sources, predominantly descriptions of estate boundaries but also references to possible landing places. It is likely that there was some limited recolonisation, with small embanked 'infield' enclosures and potentially canalisation of natural channels.
- 6.29 The current landscape of the Gwent Levels is predominantly a result of the process of drainage and recolonization, which commenced during the medieval period (c. AD 1066 - 1500). Some of the drainage may be associated with monastic ownership and the establishment of grange farms both on the Levels and also on the dry land.
- 6.30 Small settlements were established on the dry land at the fen edge (e.g. Llandevenny, Bishton, Llanwern and Coedkernow) and exploited areas of the back-fen. Other settlements were established on the Levels proper; these were mostly dispersed but with some distinct foci (e.g. Redwick, Goldcliff, St Brides

and Peterstone) and were able to utilise the remaining open saltmarshes as well as the back-fens.

- 6.31 A settlement was clearly present at Newport itself at this time, probably centred on the early church at Stow Hill, which subsequently developed into the cathedral church of St Woolos. The castle further to the north and on the west bank of the River Usk dates to around the 14th century. Evidence for the growing importance of Newport can be seen with the Newport Ship - a large vessel of 15th century date, the remains of which were found on the west bank of the River Usk here. This was a merchant ship which traded along the Atlantic coast and was probably built on the Iberian Peninsula.
- 6.32 At the eastern end of the defined study area is the small settlement of Llanfihangel, near Rogiet. The Church of St Michael and All Angels here is a Grade II* listed building with a main doorway of probable Norman date and other elements of 13th and 14th century date (Figure 1b in Appendix A of this Proof of Evidence (WG 1.9.3)). A stone cross in the churchyard is also medieval and is a Scheduled Ancient Monument and also a Grade II listed building. Adjacent to the church are the historic farms centred on Old Court Farmhouse and Green Farm. A Conservation Area has been designated here (by Monmouthshire County Council), which encompasses the historic buildings and also the adjacent land including that to the north and west as far as the existing M4 and M48 motorways (Figure 1b in Appendix A of this Proof of Evidence (WG 1.9.3)).
- 6.33 The dispersed settlements across the Levels include individual farmsteads and properties, often within a moated enclosure for drainage purposes. A small moated site of probable medieval date is present within the defined study area just to the west of Lighthouse Road. A second moated site is located on the eastern side of the same road.
- 6.34 To the north east of here and just to the west of the River Ebbw a complex of earthworks adjacent to the Pont-y-cwch Reen includes at least two moated platforms. Other moated sites of probable medieval date have been identified to the east of Pye Corner, to the north and east of Tatton Farm and also adjacent

to Moor Barn south of the TATA Steel Llanwern Steelworks site. A moated site on the eastern edge of the modern settlement at Undy is now a Scheduled Ancient Monument (Figure 1b in Appendix A of this Proof of Evidence (WG 1.9.3)).

- 6.35 Many of the historic buildings within the defined study area date to the post-medieval period, including Tatton Farm, Pye Corner Farm and Fair Orchard Farm (all of which are Grade II listed buildings).
- 6.36 Tredegar House was completed in 1672, although elements of an earlier (medieval) structure are incorporated within one wing of the house. The house is now a Grade I listed building that sits within a Grade II* Park and Garden of Special Historic Interest (Figure 1a in Appendix A of this Proof of Evidence (WG 1.9.3)).
- 6.37 The 19th century saw major changes within parts of the defined study area. Most notably this includes the establishment and expansion of the docks at Newport into one of the leading coal ports in Wales. There are a number of buildings of 19th and early 20th century date within the docks that are also within the defined study area. They include a group of former railway engine running sheds later used for maintenance and repair sheds (see Appendix 8.5 of the March 2016 ES, Document 2.3.2) as well as transit sheds (where goods were stored).
- 6.38 Just to the north of the docks, the River Usk is spanned by the Newport Transporter Bridge. This was constructed to link the town with industrial development on the east side of the river and was opened in 1906. The bridge is almost 74 metres high and spans more than 195 metres - it is now a Grade I listed building (Figure 1a in Appendix A of this Proof of Evidence (WG 1.9.3)). There are only two other transporter bridges in the United Kingdom (at Middlesbrough and Warrington) and five more in the rest of the world. There is ongoing discussion regarding a potential application to UNESCO for World Heritage Site status for all of the world's surviving transporter bridges but no submission has yet been made.

- 6.39 Other buildings of 19th and 20th century date include several adjacent or close to the existing A48 road in the Castleton area such as Myrtle Cottage, Berryhill Farm and the Grade II listed Coach & Horses public house. At the eastern end of the defined study area is the Grade II listed Woodland House (also known as Magor Vicarage - Figure 1b in Appendix A of this Proof of Evidence (WG 1.9.3)), built in 1861 in a Tudor/Jacobean Revival style to the design of John Norton (the architect who also restored the church of St Mary in Magor).
- 6.40 Modern development within the Gwent Levels includes the huge TATA Steel Llanwern steelworks complex, the Uskmouth power station, chemical and aluminium plants and also the industrial estates and business parks such as the Gwent Europark and Imperial Park.

7. Effects of the Published Scheme on Cultural Heritage Resources

Introduction

- 7.1 The detailed assessment of the likely effects of the published Scheme on cultural heritage resources is presented in Chapter 8 of the March 2016 ES (Document 2.3.2) submitted in support of the Draft Orders. Further assessment (where appropriate) and clarifications/corrections can be found within the September ES Supplement (Document 2.4.4) and the December ES Supplement (Document 2.4.14).
- 7.2 All assessment has been undertaken in line with appropriate guidance, principally the methodologies described in DMRB HA208/07 (Document 6.1.8).

Designed-in Mitigation

- 7.3 A number of measures have been incorporated within the design of the published Scheme. These are described above in Section 4 of my evidence. The effects presented in Chapter 8 of the March 2016 ES (Document 2.3.2) and summarised below are those that would occur with the designed-in mitigation in place.

Effects on the Gwent Levels Landscape of Outstanding Historic Interest

- 7.4 The proposed new section of motorway cuts through the northern edge of two parts of the registered Landscape of Outstanding Historic Interest: in the Wentlooge Levels west of the River Ebbw and in the Caldicot Levels east of the River Usk (Figures 1a and 1b in Appendix A of this Proof of Evidence (WG 1.9.3)). In some areas the new section of motorway is just outside the designated historic landscape but is still within one or more of the Historic Landscape Character Areas (HLCAs) that make up the designated historic landscape. This is because the boundaries of the HLCAs can extend beyond the designated area (Figures 2a and 2b in Appendix A of this Proof of Evidence (WG 1.9.3)).
- 7.5 Where the historic landscape is directly physically impacted by the proposed new section of motorway it is mostly within what is known as the back-fen - the

part closest to the fen edge, which is the point at which the ground rises onto drier land overlying bedrock. The back-fen is the lowest-lying and wettest part of the Gwent Levels and was amongst the last parts to be enclosed and drained.

- 7.6 The back-fen has experienced considerable development during the 19th and 20th centuries, with the expansion of industrial activity including the TATA Steel Llanwern Steelworks as well as several more recent business parks and industrial estates. The establishment of the proposed new section of motorway would result in some additional loss of back-fen, whilst other parts of the remaining back-fen would be severed from the rest of the Levels.
- 7.7 A full *Assessment of the Significance of the Impact of Development on Historic Landscape Areas* (ASIDOHL2) report has been prepared (Appendix 8.3 of the March 2016 ES, Document 2.3.2). This identified the magnitude of direct physical and indirect (physical and non-physical (visual)) impacts on each of the Historic Landscape Character Areas (HLCAs) affected by the new section of motorway. The report then described the relative importance of each of the HLCAs, leading to an assessment of the overall significance of the impact of the proposed new section of motorway on each HLCA.
- 7.8 Direct physical impacts (i.e. loss of land) and/or indirect physical impacts (severance) would be experienced within 7 of the 21 HLCAs that are identified within the registered historic landscape (Figure 2 in Appendix A of this Proof of Evidence (WG 1.9.3)). These HLCAs would also experience indirect impacts (visual and noise) as well as the direct and indirect physical impacts. A further 7 HLCAs would experience indirect impacts (visual and noise) but no direct physical impacts.
- 7.9 Overall, the significance of impact would be Fairly Severe for 5 HLCAs, Moderate for 8 HLCAs and Slight for 1 HLCA. In my opinion the construction and operation of the new section of motorway would result in an appreciable reduction in the capacity for understanding or appreciating the significance of the registered historic landscape.

- 7.10 The terminology used in ASIDOHL2 with regard to levels of impact magnitude and significance of effect does not equate directly with the terminology used in DMRB. Based on the definitions provided in Table 7.3 of DMRB HA208/07 (Document 8.1.8), in my opinion the proposed new section of motorway would have a Moderate magnitude of impact on the registered historic landscape, vis: *‘Changes to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character’*.
- 7.11 This registered historic landscape has been ascribed a High value and the consequent significance of effect as produced through the matrix presented in Table 7.4 of DMRB HA208/07 (Document 8.1.8) is Moderate or Large. In my opinion the correct significance of effect is Large and in terms of the methodology this is a significant adverse effect. This effect is a result of the direct physical loss of parts of the registered historic landscape as well as severance and also indirect visual impacts on the registered historic landscape.
- 7.12 As part of the overall programme of mitigation described in the Cultural Heritage Mitigation Plan (CHMP - Appendix 8.10 of the March 2016 ES, Document 2.3.2), it is proposed that there would be a programme of historic landscape study which would examine the development and use over time of the back-fen areas of the Gwent Levels that would be traversed by the new section of motorway. This study would be linked to the programme of archaeological investigation along the route of the new section of motorway and the results would be incorporated into any reports issued for publication and dissemination to the widest possible audience.
- 7.13 The collation and provision of this information on the historical use of the back-fen would help to offset the adverse effect of the establishment of the new section of motorway on the registered historic landscape, as this work would promote a greater understanding of the processes of change that have taken place here. The undertaking of this programme of historic landscape study is addressed in Commitment Ref. No. 113 in the Register of Environmental

Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)).

Effects on the non-designated historic landscape

- 7.14 Outside of the registered Gwent Levels Landscape of Outstanding Historic Interest, the proposed new section of motorway would cross land that also has historic landscape character which could potentially be affected by the new section of motorway.
- 7.15 A series of additional HLCAs have been identified and described in order to undertake the necessary assessment of potential impacts and effects (Figure 4 in Appendix A of this Proof of Evidence (WG 1.9.3)). These are presented in detail in Appendix R8.9 of the September 2016 ES Supplement (Document 2.4.4). A total of 37 such HLCAs are described within that document, numbered HLCA100 - HLCA136.
- 7.16 These HLCAs have been identified and described using guidance provided in DMRB (Document 6.1.8) and in supplementary guidance (Document 9.1.5), and also with information taken from the relevant Aspect Areas defined within LANDMAP (a GIS based resource regarding landscape character in Wales, Document 10.3.1).
- 7.17 Of the 37 identified HLCAs, 13 would experience direct physical impacts as a result of the construction of the proposed new section of motorway. Taking account also of the indirect (non-physical) impacts as a result of the construction and operation of the proposed new section of motorway, in my opinion the significance of effect would be Slight for 12 of these HLCAs and Neutral for one HLCA.
- 7.18 The remaining 24 HLCAs would experience indirect (non-physical) impacts as a result of the construction and operation of the proposed Scheme. In my opinion the significance of effect would be Slight for 3 of these HLCAs and Neutral for 21 HLCAs. In each case these Slight and Neutral effects result from a combination of the distance of the HLCA from the Scheme along with the

presence of intervening topography, vegetation and built development including existing highways.

- 7.19 In terms of the methodology used for the assessment, Slight and Neutral effects are not significant. No further mitigation (beyond that incorporated into the design of the published Scheme) is proposed with regard to impacts and effects on the non-designated historic landscape.

Effects on Conservation Areas

- 7.20 One Conservation Area would experience direct physical impacts as a result of the construction and operation of the published Scheme. This is the Rogiet Llanfihangel Conservation Area, within the administrative area regulated by Monmouthshire County Council. The Conservation Area is centred on the surviving core of historic buildings at Llanfihangel, which includes the Grade II* listed Church of St Michael and All Angels and the two historic farmsteads of Old Court Farm and Green Farm (both of which comprise groups of Grade II listed buildings). No detailed Character Appraisal has been prepared by Monmouthshire County Council with regard to this Conservation Area, although there is a brief Conservation Area Character Description which was produced by the County Council in connection with a previous Local Plan adopted in 1997.

- 7.21 Llanfihangel was formerly a much larger settlement centred on a substantial village green located in the vicinity of the present farmyard of Green Farm. Court Cottages and Green Farm Cottages, located just to the north of the B4245 road, occupy land that was formerly part of the settlement but these cottages are almost certainly of a later date rather than being surviving elements. The Conservation Area takes in all of the land formerly occupied by this now much-reduced settlement as well as additional land that provides a 'buffer' to the current buildings here. In my opinion this Conservation Area is of Medium value (cf. Table 6.1 of HA208/07, Document 6.1.8), as it contains buildings that contribute significantly to its historic character.

- 7.22 The permanent landtake for the new section of motorway would include land within the northern part of the Conservation Area, including land required for new junctions and also for woodland planting as part of the environmental mitigation required for the published Scheme. There would also be some physical impacts on land within the Conservation Area to the south of the B4245 road; this includes land required for part of the Caldicot Road Roundabout and also a drainage connection. The permanent landtake within the Conservation Area measures 8.92 hectares. The total area of the Conservation Area is around 25.4 hectares, therefore approximately 35.1% of the Conservation Area would be within the boundary of the published Scheme. Not all of this land would be occupied by roads and associated structures – there would also be areas of woodland planting and a Water Treatment Area with a reed bed, but the character of this part of the Conservation Area would be altered.
- 7.23 Some of the land that would be physically impacted may contain buried remains associated with the former larger historic settlement. Although the loss of these buried remains would not affect the character of the Conservation Area, its overall significance could be affected. This would be offset through a programme of archaeological investigation and dissemination of results as described in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2).
- 7.24 Along with the physical impact there would also be impacts on the remaining parts of the Conservation Area in the form of visual change (including lighting at the junctions and on the slip roads leading to and from these junctions). There would also be a slight increase in traffic noise at locations close to the boundary of the proposed new section of motorway (generally between 0.5 – 6 decibels) but with no discernible change in traffic noise elsewhere within the Conservation Area.
- 7.25 In the March 2016 ES (Document 2.3.2) the magnitude of impact on the Conservation Area at Llanfihangel Rogiet was assessed as Moderate, as the resource would be significantly modified. The consequent significance of effect

would be Moderate adverse, which in terms of the methodology used for the assessment is a significant effect.

7.26 The September 2016 ES Supplement (Document 2.4.4) presents an assessment of a revised arrangement for the proposed Junction 23. This requires additional landtake within the Conservation Area (north of the B4245 road and east of Green Farm Cottages). However the lowering of the proposed M48 Roundabout by as much as 3m would lead to a reduction in the magnitude of visual and noise impacts on the church and on Old Court Farm. In my opinion the overall magnitude of impact on the Conservation Area would remain as Moderate adverse, as would the significance of effect. This effect is a result of the visual changes to the character and appearance of the Conservation Area along with the physical loss of land from within the designated heritage asset. Although the historic core of the Conservation Area and the historic buildings therein would not be directly physically impacted, the ability to appreciate and understand this historic core would be reduced.

7.27 In the March 2016 ES (Document 2.3.2), assessment was also undertaken with regard to the effects of the construction and operation of the new section of motorway on three Conservation Areas within the administrative area regulated by Newport City Council, namely the Waterloo Conservation Area, the St Woolos Conservation Area and the Redwick Conservation Area. In my opinion the significance of effect on each of these Conservation Areas would be Neutral. In each case these Neutral effects result from a combination of the distance of the Conservation Area from the new section of motorway along with the presence of intervening vegetation and built development including existing highways.

Scheduled Ancient Monuments

7.28 One Scheduled Ancient Monument would experience a direct physical impact as a result of the construction and operation of the published Scheme. This is a standing stone of probable Bronze Age date at Undy, known as the Devil's Quoit. This standing stone is located very close to the toe of the embankment that carries the existing M4 at the approach to Junction 23; it is within 5 metres

of the present highway boundary fence. Examination of historic mapping and available records indicate that the stone has not been moved from its location as initially surveyed in the late 19th century.

7.29 The design of the published Scheme enables the retention of the standing stone in its current (and presumed original) location. However the Scheduled area extends beyond the stone and there would be a need to carry out development work within the boundary of the Scheduled Ancient Monument (Figure 5 in Appendix A of this Proof of Evidence (WG 1.9.3)), which would require the granting of Scheduled Monument Consent. This issue has been discussed with Cadw and an appropriate period for this process of consenting has been identified within the overall programme leading up to construction. It would be premature to submit an application for Scheduled Monument Consent until the detailed designs for the works at this location have been prepared and agreed, however in the light of Cadw's decision not to object to the published Scheme it is reasonable for the Inspector to conclude that Scheduled Monument Consent would be forthcoming in due course.

7.30 The embankment of the off-slip from the westbound M4 connecting with the B4245 would extend further south than the present embankment. Following completion of the construction phase, the Scheduled Monument would be located within an engineered embayment in the new embankment. The toe of the new embankment would extend to approximately 5 metres from the standing stone on its north side, 10 metres on its west side and 12 metres on its east side. The revetments on each side would be 1:2 engineered slopes (i.e. 60 degree faces) in reinforced soil. The highway ditch at the base of the new embankment would be placed within a culvert at the point where it is close to the standing stone (Figure 5 in Appendix A of this Proof of Evidence (WG 1.9.3)).

7.31 In addition to the construction of the embankment and the establishment of the highway drainage ditch, the land to the west of the standing stone would be subject to the borrowing/excavation of stone required for construction purposes. Topsoil would be removed and stored in defined locations nearby prior to the removal of the underlying stone, which would then be processed on site before

being transported for use along the route. Some of the land subject to borrowing for stone would be reinstated and planted with woodland. However, the land closest to the standing stone (between the B4245 and the embankment) would be the location of a Water Treatment Area (WTA 12) and an associated reed bed which would be part of the design of the new section of motorway (Figure 5 in Appendix A of this Proof of Evidence (WG 1.9.3)).

- 7.32 Thus construction works in the immediate vicinity of the standing stone would include: the construction of a new embankment extending around three sides of the monument and to approximately 5 metres from the monument; the excavation and culverting of a highway drainage ditch along the toe of the new embankment at a distance of approximately 10 metres from the monument; the borrowing of stone from land very close to the monument with associated on-site processing of the material; and the establishment of a Water Treatment Area and reed bed.
- 7.33 Archaeological geophysical survey within the field containing the standing stone and the land immediately to the west has identified probable and possible archaeological features, including a ring-ditch and a small enclosure. All of the works areas in the vicinity of the standing stone would be subject to further archaeological investigation ahead of borrowing for stone. The full extent of the Scheduled area would be demarcated by a secure perimeter fence and any work within this area would require the granting of Scheduled Monument Consent.
- 7.34 Following the completion of construction in this area, a new footpath link would be provided from the B4245 to the standing stone along with signage indicating the location of the monument. An information board would be provided in the vicinity of the standing stone which would explain the likely nature and date of the monument. A commitment to provide the footpath and the information board has been included as Ref. No. 110 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)).

- 7.35 In my opinion, the magnitude of impact on the Scheduled standing stone as a result of the changes within its setting would be Major for both the construction and operational phases of the published Scheme, i.e. there would be considerable loss of significance of the asset. This is a High value asset and I have assessed the consequent significance of effect as Large adverse, which is a significant effect.
- 7.36 There is a second Scheduled Monument on the eastern edge of Undy, south of the B4245 road. This is a well-preserved moated site of medieval date. Construction of the new section of motorway would include temporary works within the fields immediately to the south east of the Scheduled Monument and also to the north east, across the B4245. These works comprise the borrowing of stone that is required for construction purposes. Topsoil would be removed and stored in defined locations nearby prior to the removal of the stone. The stone would then be processed on site before being transported for use along the route.
- 7.37 The land to the south east of the Scheduled Monument is reasonably well-screened from the borrow area so visual impacts would be very limited. The land to the north east, across the B4245, is not very well-screened and some of the work here would be visible from the northern edge of the Scheduled area.
- 7.38 In my opinion the magnitude of impact on the Scheduled Monument during construction would be Moderate, i.e. there would be some loss of significance of the asset as a result in a reduction in the ability to appreciate it. This is a High value asset and I have assessed the consequent significance of this temporary effect as Moderate adverse, which is a significant effect.
- 7.39 Following the temporary work during construction, the land to the south east and to the north east would be reinstated and planted with woodland as part of the environmental mitigation required for the published Scheme. In my opinion the long term impact of the new section of motorway on this Scheduled Monument would be Negligible. The consequent significance of effect would be Slight adverse, which is not significant.

- 7.40 The effects of the operation of the published Scheme on other Scheduled Ancient Monuments as a result of changes within their settings have been assessed. These Scheduled Ancient Monuments are identified above in paragraph 5.23 of this evidence.
- 7.41 In my opinion, the significance of effect would be Slight in respect of 6 Scheduled Ancient Monuments (cross base in churchyard at Llanfihangel; Pen-y-Lan Camp; Tredegar Fort; Goldcliff Moated Site; Moated Site east of Grangefield Farm; Wentlooge Castle) and Neutral in respect of a further 3 Scheduled Ancient Monuments (Coed-y-Defaid Camp; Wilcrick Hill Camp; Newport Castle). In each case these Slight and Neutral effects result from a combination of the distance of the Scheduled Monument from the published Scheme along with the presence of intervening topography, vegetation and built development including existing highways. These effects are not significant with regard to the methodology used for the assessment.

Listed Buildings

- 7.42 One Grade II listed building would be demolished in order to construct the new section of motorway. This is a vicarage at Magor built in 1861 and known as Woodland House as well as Magor Vicarage. It was designed in Tudor/Jacobean Revival style by John Norton, who was also involved in the restoration of the Grade I listed Church of St Mary in Magor in 1868.
- 7.43 The interior of the vicarage retains much of the original Tudor Revival material including the stone fireplaces and decoratively moulded panelled doors. To the rear of the vicarage are contemporary stables and a coach-house, which should be regarded as being 'curtilage buildings'. The vicarage was listed in May 1995 as a good example of a largely unaltered, mid-19th century, architect-designed vicarage with mostly contemporary fittings.
- 7.44 The value of Grade II listed buildings within the methodology used for the assessment is generally taken to be Medium, although a higher level of value can be ascribed if it is considered that the building has exceptional qualities in terms of their fabric or historical associations which are not reflected in their

listing grade. No exceptional qualities have been identified with regard to the vicarage.

- 7.45 As the vicarage (and the curtilage buildings) would be fully demolished, the magnitude of impact would be Major and I have assessed the consequent significance of effect to be Large. This is a significant adverse effect.
- 7.46 An application for Listed Building Consent for the demolition of the Grade II listed Woodland House at Magor was submitted to Monmouthshire County Council and was duly registered by the Council on 17 October 2016 (Ref. DC/2016/01033). A report was prepared by the Planning Officers ahead of the application being determined by the Planning Committee. This report recommended that the application should be ‘called-in’ for determination by Welsh Government.
- 7.47 At a meeting of the Planning Committee of Monmouthshire County Council held on 06 December 2016, it was decided that Welsh Government should be requested to ‘call-in’ the application. In a letter dated 22 December 2016, the Planning Directorate of Welsh Government advised the Head of Planning at Monmouthshire County Council that the application had been ‘called-in’ for determination by the Cabinet Secretary for Environment and Rural Affairs (Welsh Government) under the powers established in Section 12 of the Planning (Listed Buildings and Conservation Areas) Act 1990 (Document 3.1.8). The letter advises that *‘The application for listed building consent is inextricably linked with the major proposal to construct the M4 relief road which is being determined by the Welsh Ministers as a Roads Order’*.
- 7.48 Consultation has been undertaken with the St Fagans National History Museum, Cardiff (a part of National Museum Wales) with a view to the relocation of Woodland House to St Fagans to form part of the permanent collection at that site. A response was received from St Fagans (03 November 2016) advising that the museum was not interested in taking Woodland House as *‘it doesn’t fit well within our collecting interests’*.

- 7.49 The Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)) includes a commitment (Ref. No. 111) to offer the Brooking National Collection the opportunity to acquire fixtures and fittings from Woodland House prior to demolition. This offer would include fixtures and fittings from the curtilage listed structures adjacent to the vicarage. The Brooking National Collection of Architectural Detail provides a teaching and reference resource for conservation professionals, architects, designers and craft apprentices. It also holds regular Open Days for interested members of the public.
- 7.50 Commitment Ref. No. 114 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)) states that the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) would be offered the opportunity to record all buildings that would be demolished if the published Scheme were to proceed. This would include Woodland House. Commitment Ref. No. 112 of the same Register provides a commitment to undertake pre-demolition recording of historic buildings in line with the methodologies set out in the CHMP (Appendix 8.10 of the March 2016 ES (Document 2.3.2)).
- 7.51 The effects of the operation of the new section of motorway on other listed buildings as a result of changes within their settings have been assessed. These listed buildings are identified above in paragraph 5.16 of this evidence.
- 7.52 Just to the north of the docks the River Usk is spanned by the Newport Transporter Bridge. This was constructed to link the town with industrial development on the east side of the river and was opened in 1906. A gondola or moving platform is suspended from a high level beam and carries vehicles and passengers across the river. The bridge spans more than 195 metres and is almost 74 metres high; this was required in order to allow tall-masted ships to reach the wharves upstream from the bridge.
- 7.53 Although the Transporter Bridge is no longer required for its original purpose of providing access for workers to reach the east bank of the river, it remains in use. The new River Usk Crossing that forms part of the published Scheme

would cross the river approximately 800 metres downstream from the Transporter Bridge, which would no longer be the lowest crossing on the river as it has been since it was constructed.

7.54 The new crossing and particularly the two pylons for the cable-stayed bridge would be visible in many views towards the Transporter Bridge and in views from the land adjacent to the Transporter Bridge or indeed from the Transporter Bridge itself. The permeable nature of the viaduct structure and the cable-stayed bridge means that views towards the Transporter Bridge in which the new crossing would be in the foreground would not be blocked, similarly for views towards the mouth of the river and beyond from the Transporter Bridge. The Transporter Bridge would be visible to users of the new section of motorway on the elevated approaches to the new Usk Crossing. This would present a view of the bridge from locations not currently available and to audiences who may not otherwise have the opportunity to see it.

7.55 In my opinion the magnitude of impact on the Grade I listed Transporter Bridge would be Minor. This is an asset of Very High value and I have assessed the consequent significance of effect to be Moderate adverse. This is a significant effect. The effect is a result of the reduction in the ability to appreciate the Transporter Bridge when it is viewed from locations where the new Usk Crossing would appear directly behind the Transporter Bridge, also the change in status whereby the Transporter Bridge is no longer the lowest crossing of the River Usk.

7.56 Whitson Court is a Grade II* listed country house located towards the northern end of the planned linear settlement of Whitson in the Caldicot Levels. It was built for William Philips (1752-1836) and the architect John Nash may have played some role in its design.

7.57 The new section of motorway would pass approximately 1.2 km to the north of the house and this area would include the Glan Llyn junction. This junction would be fully lit at night but the lighting would be low spillage and would utilise LED luminaires designed to emit no light above the horizontal level (see Chapter 2 of the March 2016 ES (Document 2.3.2)). There may be views from

the upper floors of the house towards the new section of motorway but these views already include the large caravan storage yard at Arch Farm, the substantial electricity substation and the remaining developed part of the steelworks. However there would also be an increase in traffic noise and in my opinion the overall magnitude of impact as a result of the operation of the new section of motorway would be Moderate.

- 7.58 This is a High value heritage asset and I have assessed the consequent significance of effect to be Moderate adverse. This is a significant effect as a result of a reduction in the ability to appreciate the Grade II* listed building.
- 7.59 Tatton Farm is located approximately 1 km north east of Pye Corner. It is a three storey asymmetrical farmhouse of early 19th century appearance but potentially with earlier origins. Currently uninhabited, this Grade II listed farmhouse is in a poor state of repair.
- 7.60 The new section of motorway would pass approximately 150 metres south of the farmhouse on a low embankment; there would also be a substantial increase in traffic noise. Some of the land historically associated with the farm and therefore representing an important element of its setting would be separated from it. However some land adjacent to the farm that is also part of its setting would be designated as ecological mitigation land required as part of the published Scheme and this would provide a further level of protection against development here.
- 7.61 In the March 2016 ES (Document 2.3.2, paragraph 8.8.149), I assessed the magnitude of impact (of the operation of the new section of motorway) on the Grade II listed Tatton Farm as Major, with the consequent significance of effect as Large adverse. This is a significant effect.
- 7.62 The September 2016 ES Supplement (Document 2.4.4) presents a revised assessment undertaken following changes to the published Scheme. At Tatton Farm the revised design now includes additional planting that will screen views of the new section of motorway from the farmhouse and adjacent land. The proposed area of land required for ecological mitigation has also been

enlarged. As a result of these changes, I have assessed that the magnitude of impact (of the operation of the new section of motorway) on the Grade II listed Tatton Farm would be Moderate, with the consequent significance of effect as Moderate adverse. This remains as a significant effect. The effect occurs from the reduction in the ability to appreciate the Grade II listed farmhouse.

7.63 In my opinion, the significance of effect of the operation of the published Scheme would be Slight (adverse) in respect of a further 1 Grade I listed building (the Church of St Mary the Virgin at Nash), 1 Grade II* listed building (the Church of St Michael and All Angels at Llanfihangel) and 12 Grade II listed buildings or groups of buildings (the Waterloo Public House at Pillgwenlly; Pye Corner Farm at Nash; Fair Orchard and Fair Orchard Barn at Nash; Old Court Farmhouse and associated farm buildings at Llanfihangel; Green Farmhouse and associated farm buildings at Llanfihangel; the old windmill at Rogiet). These effects are not significant with regard to the methodology used for the assessment. In each case these Slight effects result from a combination of the distance of the listed building from the published Scheme along with the presence of intervening vegetation and built development including existing highways.

7.64 Also in my opinion, the significance of effect of the operation of the published Scheme would be Neutral in respect of 2 Grade I listed buildings (Tredegar House; St Woolos Cathedral, Newport), 3 Grade II* listed buildings (the Church of St Mary, Marshfield; the Church of St Bridget, St Brides Wentlooge; Whitson Church) and 3 Grade II listed buildings (Castleton Baptist Church; the Coach and Horses Public House, Castleton; Great House Farmhouse, Undy). These effects are not significant with regard to the methodology used for the assessment. In each case these Neutral effects result from a combination of the distance of the listed building from the published Scheme along with the presence of intervening vegetation and built development including existing highways.

7.65 I have assessed the significance of effect of the operation of the new section of motorway on the Grade II* listed George Street Bridge in Newport as Slight Beneficial. This is because the design of the new Usk Crossing within the

published Scheme is that of a large cable-stayed cantilever bridge. The George Street Bridge was listed at Grade II* on the basis that it represents the first cable-stayed cantilever bridge constructed in Britain. The proposed new bridge thus represents the evolution of an engineering concept first examined in the form of the George Street Bridge and serves to enhance the ability to understand and appreciate the earlier structure. This is not a significant effect.

Other historic buildings

- 7.66 The effects of the construction of the new section of motorway on non-listed historic buildings as a result of their demolition have been assessed and the results presented within Chapter 8 of the March 2016 ES (Document 2.3.2).
- 7.67 One group of historic buildings is located within Newport Docks. This group includes former locomotive running sheds and engineering workshops and a former graving dock (all of later 19th century date), a former locomotive engine shed and a probable swing bridge operation building (of likely early 20th century date), along with several buildings of unknown function (mostly of probable early-mid 20th century date).
- 7.68 In my opinion and by reference to the criteria identified in Table 8.3 of the March 2016 ES (Document 2.3.2), the former locomotive running sheds, engine shed and engineering workshops should be regarded as being of Medium value. This is due to the clear historic association with the establishment and use of the docks. The significance of effect resulting from the demolition of these buildings has been assessed as Moderate adverse, which is a significant effect.
- 7.69 The probable former swing bridge operation building has been assessed as being of Low value (cf. Table 8.3 of the March 2016 ES (Document 2.3.2)). This is due to its likely historical association with the establishment and use of the docks. However in my opinion the significance of effect resulting from the demolition of this building would also be Moderate adverse, which is a significant effect.

7.70 In my opinion the former graving dock should be regarded as being of Medium value (cf. Table 8.3 of the March 2016 ES (Document 2.3.2)). This is due to the clear historic association with the establishment and use of the docks. During construction of the new section of motorway here, the silt within the infilled part of the former graving dock would be consolidated and the elements associated with the dock that project above current ground level here, such as the concrete plinths with iron capstans, would also be removed. However, the dock gates would remain in place as would that part of the former dock that still holds water. The magnitude of impact has been assessed as Minor and the consequent significance of effect would be Slight adverse. This is not a significant effect. The effect would occur as a result of a reduction in the ability to understand and appreciate the former graving dock.

7.71 In my opinion and by reference to the criteria identified in Table 8.3 of the March 2016 ES (Document 2.3.2), the remaining non-listed historic buildings within Newport Docks have been assessed as being of Low or Negligible value. A Low value accrues from a building's modest historic association with the establishment and use of the docks. In each case the demolition of the building would result in a Slight adverse effect, which is not significant.

7.72 Chapter 8 of the March 2016 ES (Document 2.3.2) identified the presence of a possible barrage balloon tether site of Second World War date at Pye Corner (Nash), just to the north of the former Baptist Chapel. This was evidenced by the presence of a number of concrete blocks with iron rings set into the upper surface, also two potential concrete hut bases.

7.73 In the March 2016 ES (Document 2.3.2, paragraph 8.6.149), I assessed the value of this heritage asset to be Low. It was considered that the site was located wholly within an area of land proposed for landscape planting in connection with the published Scheme, thus affecting the site as a result of change within its setting. I assessed the magnitude of impact to be Moderate with the consequent significance of effect being Slight adverse. This is not a significant effect.

- 7.74 Following the receipt of comments on the Draft Orders from Cadw, followed by further discussions with Cadw regarding this particular site, additional more detailed appraisal of the site was undertaken and the results are reported in the September 2016 ES Supplement (Document 2.4.4).
- 7.75 The site is much better preserved than had been previously reported and the attribution of the site as a barrage balloon tether site of Second World War date has been confirmed. As a result of the rarity of the site type and level of preservation, in my opinion this should be regarded as being a High value heritage asset.
- 7.76 The location of the site has also been revised as a result of the more detailed appraisal. It is now clear that much of the site would be destroyed as a result of the construction of the published Scheme, whilst the setting of the remaining part would be substantially altered. In my opinion the magnitude of impact would be Major and the consequent significance of effect would be Large. This is a significant effect.
- 7.77 Following further consultation with Cadw regarding this heritage asset, a proposal has been developed to relocate the remaining elements of the barrage balloon site to a suitable area of land within the boundary of the published Scheme. Following the detailed recording of the barrage balloon site, the concrete blocks would be recovered and stored. At an appropriate time within the construction period the blocks would be replaced in their original formation at an alternative site.
- 7.78 A suitable site has been identified, approximately 700m west of the current location (Figure 6 on Appendix A of this Proof of Evidence (WG 1.9.3)). The proposed relocation site is within land that would be permanently acquired by for landscape mitigation (in line with the published Draft Orders) and would thus be in Welsh Government ownership, with long-term maintenance as part of the overall highway maintenance contract. The land is outside the permanent highway fence and would be subject to suitable planting – grassland within the barrage balloon site and shrubs/small trees beyond this (see Landscape Environmental Management Plan, Figure R2.4 of the September 2016 ES

Supplement (Document 2.4.4)). The National Cycle Route N4 would be aligned along the toe of the embankment (immediately outside the highway fence) and the Wales Coast Path would be routed through this landscape mitigation area (detail of the route to be agreed with NRW). Consequently there would be public access to the relocated barrage balloon site. An information board (or similar) would be placed within or close to the monument which would explain the nature of the barrage balloon site and the circumstances of its relocation to that position. The proposal to relocate the monument to here has been welcomed by Cadw.

7.79 In my opinion the significance of effect resulting from the demolition of a further 8 non-listed historic buildings or structures (White Cottage and Myrtle House, Castleton; Berryhill Farm; Pont-y-Cwaw Reen Footbridge; Barecroft House; Dunline; Undy House; Limekiln north of M4 at Undy) would be Slight adverse. This is because these historic buildings are all of Low value as a result of their modest qualities in terms of their fabric and/or historical associations (cf. Table 8.3 of the March 2016 ES (Document 2.3.2)). These effects are not significant.

Parks and Gardens of Special Historic Interest

7.80 The effects of the operation of the new section of motorway on four registered Parks and Gardens of Special Historic Interest as a result of changes within their settings have been assessed.

7.81 In my opinion the significance of effect of the operation of the published Scheme would be Neutral with regard to the Grade II* registered Tredegar Park, also Llanwern Park, Beechwood Park and Belle Vue Park (all registered at Grade II). In each case these Neutral effects result from a combination of the distance of the Park and Garden of Special historic Interest from the published Scheme along with the presence of intervening topography, vegetation and built development including existing highways. These effects are not significant.

Archaeology

- 7.82 Chapter 8 of the March 2016 ES (Document 2.3.2) includes assessment of the effects of the construction of the new section of motorway on a total of 9 known archaeological sites.
- 7.83 With regard to 6 of these known archaeological sites, in my opinion the likely significance of effect would be Slight adverse. This is mainly due to the Low value of each of these archaeological sites. In each case this value level derives from the factors described in Table 8.2 of the March 2016 ES (Document 2.3.2), as these are undesignated sites of local importance. These effects are not significant.
- 7.84 Located immediately south west of the Junction of Rush Wall and North Row is a small rectangular moated platform enclosed within a single ditch. This land was amongst the final part of the Levels to be enclosed and drained so this may represent an isolated farmstead of post-medieval or possibly medieval date. I regard this as a Medium value heritage asset as it is an undesignated asset that could contribute towards regional research objectives (cf. Table 8.2 of the March 2016 ES (Document 2.3.2)).
- 7.85 The land here is partially required for construction – the full extent of the archaeological site within the boundary for the proposed new section of motorway would need to be determined when detailed design is undertaken. In my opinion the magnitude of impact on this archaeological site is Major and the consequent significance of effect is Moderate adverse.
- 7.86 On the west side of Magor and immediately east of the A4810 road, geophysical survey has identified a series of enclosures. Trial trenches were undertaken here in connection with a previous iteration of the new section of motorway and they confirmed the presence of features of Late Iron Age through to Early Roman date. I regard this as a Medium value heritage asset as it is an undesignated asset that could contribute towards regional research objectives (cf. Table 8.2 of the March 2016 ES (Document 2.3.2)).

- 7.87 A considerable part of this archaeological site is within the permanent landtake required for the proposed new section of motorway, with some of the remaining area required for the borrowing of stone and other land also required for mitigation planting. In my opinion the magnitude of impact on this archaeological site is Major and the consequent significance of effect is Moderate adverse.
- 7.88 The hamlet of Llanfihangel was formerly much larger than its present form suggests. The archaeological remains here have the potential to provide information with regard to a number of key research aims. I regard this shrunken medieval settlement as a High value asset as it is an undesignated heritage asset that could contribute significantly towards national research objectives (cf. Table 8.2 of the March 2016 ES (Document 2.3.2)).
- 7.89 The proposed new section of motorway includes construction of various elements within land at Llanfihangel that is likely to contain evidence for medieval settlement. In the March 2016 ES (Document 2.3.2, paragraph 8.6.26), I assessed the magnitude of impact on the archaeological remains here as Moderate and the consequent significance of effect as Moderate adverse.
- 7.90 The revised design of the Magor Interchange, as described in the September 2016 ES Supplement (Document 2.4.4), requires additional landtake south of the present M48 for the proposed Windmill Hill Overbridge. This landtake was not considered in the March 2016 ES (Document 2.3.2) and has the potential to contain archaeological remains associated with the shrunken medieval settlement of Llanfihangel.
- 7.91 In my opinion, the magnitude of impact on the archaeological remains here should remain as Moderate and the consequent significance of effect should also remain as Moderate adverse.
- 7.92 Therefore with regard to 3 known archaeological sites, in my opinion the likely significance of effect of the construction of the published Scheme would be Moderate adverse. These effects are significant.

- 7.93 The March 2016 ES (Document 2.3.2) also examined the likely effect of the construction of the new section of motorway on unknown archaeological sites. Previously undisturbed land within the boundary of the proposed new section of motorway has the potential to contain buried archaeological remains of unknown date and nature, and therefore of unknown value.
- 7.94 A variety of non-intrusive archaeological surveys have been undertaken in respect of the published Scheme. In some cases these surveys have provided information with regard to the nature, extent and significance of individual archaeological sites. However elsewhere these surveys were designed to provide information regarding the overall archaeological potential of the land within the boundary of the published Scheme.
- 7.95 Within the Gwent Levels in particular, currently unknown buried archaeological remains could be present that are of High or even Very High value. In my opinion, impacts on such remains could be as high as Major, leading to effects of Large or Very Large significance. The actual magnitude of impact (and hence significance of effect) would depend on the extent of the archaeological remains within the footprint of the new section of motorway and also the nature of the impact.

Mitigation

- 7.96 Appendix 8.10 of the March 2016 ES (Document 2.3.2) comprises a Cultural Heritage Mitigation Plan (CHMP). This document identifies those historic buildings that would be subject to recording prior to demolition (either detailed recording or basic recording). This is addressed in Commitment Ref. No. 112 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)).
- 7.97 The CHMP (Appendix 8.10 of the March 2016 ES (Document 2.3.2)) also describes the programme of historic landscape study which would be undertaken in respect of the areas of Gwent Level back-fen traversed by the new section of motorway. This is addressed in Commitment Ref. No. 113 in the

Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)).

- 7.98 With regard to buried archaeological remains, the CHMP (Appendix 8.10 of the March 2016 ES (Document 2.3.2)) identifies the known archaeological sites that would be affected by the construction of the proposed new section of motorway and which require further archaeological investigation ahead of construction in order to alleviate any adverse effects. It also identifies areas where further information regarding the presence/absence of archaeological features would be sought through a programme of archaeological evaluation. Within the Gwent Levels, such evaluation would be linked to examination of archaeological potential along with a review of the likely impacts resulting from construction of the published Scheme. The locations of these proposed archaeological excavations and evaluations are indicated on Figure 6 in Appendix A of this Proof of Evidence (WG 1.9.3).
- 7.99 The CHMP (Appendix 8.10 of the March 2016 ES (Document 2.3.2)) describes how an archaeological watching brief would be undertaken during defined construction works at locations that had not been covered by other forms of archaeological mitigation and where impact on presently unknown buried archaeological sites is possible.
- 7.100 The programme of archaeological works proposed within the CHMP (Appendix 8.10 of the March 2016 ES (Document 2.3.2)) is addressed in Commitments Ref. Nos. 48 - 51 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)).
- 7.101 Annexes to the CHMP describe the detailed methodologies for the various programmes of archaeological work and historic building recording.
- 7.102 Paragraph 8.9.2 of the March 2016 ES (Document 2.3.2) explains that the implementation of the programme of archaeological work would not lead to the avoidance or reduction of the potential impacts and effects of the Scheme on heritage assets. Rather it would offset these impacts through the provision of information (gained through excavation and analysis) that would be

disseminated to the widest possible audience via appropriate media. Additional discussion on this issue is provided in Section 1 of the CHMP (Appendix 8.10 of the March 2016 ES).

7.103 Additionally the CHMP identifies that the standing stone at Undy known as the Devil's Quoit (which is a Scheduled Ancient Monument) would be protected during construction. This is addressed in Commitment Ref. No. 52 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement (Document 2.4.14)).

8. Response to Concerns raised in Representations

Cadw (OBJ0341)

- 8.1 Cadw provided a response to the Draft Orders in a letter dated 27th June 2016 (Appendix B of this Proof of Evidence, WG 1.9.3. I will address the concerns raised in this letter below on an individual basis. A detailed response was provided to Cadw in a letter dated 5th August 2016 (Appendix C of this Proof of Evidence, WG 1.9.3).
- 8.2 **Cadw comment** (with regard to the registered Gwent Levels Landscape of Outstanding Historic Interest): *'The ES concludes that the 'significance of effect' would be large but we consider that it has been underestimated. The landscape is of international importance and we consider that it is a 'very high value' heritage asset rather than a 'high value' one as quoted within the ES. When you apply the 'significance of effect matrix' with this higher end value, the 'significance of effect' is greater than that explained within the ES'.*
- 8.3 **Response:** In the March 2016 ES (Document 2.3.2), I ascribed a 'High' value to the Gwent Levels registered historic landscape. The magnitude of impact was assessed as 'Moderate' and the significance of effect matrix (as per Table 7.4 of DMRB HA208/07, Document 6.1.8) gives the consequent level of effect as 'Moderate' or 'Large' (adverse). As explained in the March 2016 ES (paragraph 8.3.47), where the significance of effect matrix gives more than one significance level, professional judgement is used to determine the significance of effect.
- 8.4 One of the factors which I took into account was the guidance set out in Table 2.3 of DMRB HA205/08 (Document 6.1.8) and reproduced as Table 8.9 of the March 2016 ES (Document 2.3.2). In this guidance document, 'Large' effects are those which *'are considered to be very important considerations and are likely to be material in the decision-making process'*, whereas 'Moderate' effects *'may be important but are not likely to be key decision-making factors'*.
- 8.5 Taking into account the guidance provided in Table 2.3 of HA205/08 (Document 6.1.8) and my professional judgement on the matter, I assessed the

significance of effect to be 'Large' (i.e. a very important consideration likely to be material in the decision-making process). This is the level therefore recorded in the March 2016 ES (Document 2.3.2) which describes the effect on the Gwent Levels registered historic landscape as long term, large and adverse.

8.6 Cadw prefer to see the value of the Gwent Levels registered historic landscape as 'Very High', saying that (page 9 of the letter of 27th June 2016) '*we recommend that as a site of international importance the Gwent Levels should be defined as a 'very high value' heritage asset, with a significance rating of Large / Very Large*'.

8.7 Guidance on establishing the value of historic landscapes is provided in Table 7.1 of DMRB HA208/07 (Document 6.1.8), reproduced as Table 8.4 of the March 2016 ES (Document 2.3.2). This provides the following factors for 'Very High' value:

- a) *World Heritage Sites inscribed for their historic landscape qualities*
- b) *Historic landscapes of international value, whether designated or not*
- c) *Extremely well preserved historic landscapes with exceptional coherence, time-depth or other critical factor(s)*

and for 'High' value:

- a) *Designated historic landscapes of outstanding interest*
- b) *Undesignated landscapes of outstanding interest*
- c) *Undesignated landscapes of high quality and importance, and of demonstrable national value*
- d) *Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s)*

8.8 The Gwent Levels historic landscape is included on the *Register of Landscapes of Outstanding Historic Interest in Wales* (my emphasis), therefore the 'High' value which we have ascribed to this historic landscape relates to the first bullet point above for this value level. However the description in the *Register* identifies the Gwent Levels historic landscape as being '*certainly of*

international importance and significance – hence I agree that it would be equally plausible to ascribe a value level of ‘Very High’ (as proposed by Cadw) with regard to the second bullet point above for this value level. However it should also be noted that the *Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process* states that, with regard to the distinction between landscapes of outstanding historic interest and landscapes of special historic interest; this is not due to qualitative differences and thus *‘both categories should be treated in the same way’* (Document 9.1.4, paragraph 1.6).

- 8.9 However, if the assessment uses a value level of ‘Very High’ as proposed by Cadw, then taken with the ‘Moderate’ magnitude of impact (which Cadw does not dispute), the significance of effect matrix provides a significance of effect of ‘Large/Very Large’. As described above (paragraph 8.4 of this evidence), in deciding which of these levels is the most appropriate I would look to the DMRB guidance on Significance of Effect Categories (Table 8.9 of the March 2016 ES, Document 2.3.2).
- 8.10 Very Large Effects are those which *‘represent key factors in the decision-making process’*, whereas Large Effects are those which *‘are considered to be very important considerations and are likely to be material in the decision-making process’*. In my opinion the correct significance of effect on the registered historic landscape would ‘Large’ rather than ‘Very Large’ when considered against the DMRB guidance – and this is what I have presented in the March 2016 ES (Document 2.3.2). This decision is based on the fact that where the new section of motorway is within the registered historic landscape, it is towards the edge of the registered area rather than directly across the centre of it. Most of the registered landscape will therefore not be physically impacted. However this effect should remain as a very important consideration within the decision-making process.
- 8.11 As described above, raising the value of the registered historic landscape from ‘High’ to ‘Very High’, as proposed by Cadw, would not change the assessed significance of effect – this would remain as ‘Large’ adverse.

- 8.12 Additionally, statutory responsibility with regard to the effects of proposed developments on registered historic landscapes is shared between Cadw and Natural Resources Wales (NRW). At a meeting held on 25th January 2016 between RPS (for M4CaN), Cadw, NRW, Monmouthshire County Council and Newport City Council to discuss landscape issues, including historic landscapes, it was agreed that NRW would take the lead on reviewing the Draft Orders submission for M4CaN with regard to the registered historic landscape.
- 8.13 In their response to the Draft Orders dated 4th May 2016, NRW (OBJ0268) explicitly agreed with the conclusion in the March 2016 ES (Document 2.3.2) that there would be a long term large adverse effect on the registered historic landscape (page 41 of NRW's letter of 4th May 2016). NRW also state (page 42 of their letter of 4th May 2016) that the registered historic landscape is of high value (and sensitivity) – i.e. NRW agree with the ascription of value as presented in the March 2016 ES.
- 8.14 All of the documentation regarding the historic environment submitted in support of the Draft Orders was reviewed by an independent archaeological 'Curator' whose appointment was approved by Cadw. The role of the Curator is described within Annex 9 of DMRB HA208/07 (Document 6.1.8) as '*the archaeologists charged with protecting and monitoring the archaeological resource*'. With regard to the assessment of the impact of the Scheme on the registered historic landscape presented in the March 2016 ES (Document 2.3.2), the independent archaeological Curator approved the ascription of a 'High' level of value.
- 8.15 **Cadw comment** (with regard to the historic buildings located within Newport Docks and proposed to be demolished for the construction of the published Scheme): '*The Wessex Archaeology report on the surviving docks (Appendix 8.5 [of the March 2016 ES, Document 2.3.2]) assumes that none of the structures or buildings would be likely to attain the level of significance required to satisfy the listing criteria. However, the assessments of significance are brief and it has not been possible for Cadw to assess these buildings for listing. We consider that many of the buildings represent good early examples of particular types of building or structure and that some could achieve listing status through*

their historic interest and/or group value. We believe that it is premature to conclude that some of the buildings to be demolished in Newport Dock are of low heritage value. Doing so places subsequent conclusions regarding the magnitude of impact and the consequent significance of the effect in doubt’.

8.16 **Response:** A Statement of Use was placed at the beginning of Appendix 8.5 of the March 2016 ES (Document 2.3.2). This explained that the Wessex Archaeology report was provided in full only for the purpose of informing the baseline position. It is not the Welsh Government’s position that *‘none of the structures or buildings would be likely to attain the level of significance required to satisfy the listing criteria’*; we have not assessed the buildings in the docks against the listing criteria as it is not our role to do so.

8.17 In the March 2016 ES (Document 2.3.2), I considered each of the historic buildings within the docks separately. Where I felt that it was appropriate, I ascribed a level of value of Medium – this is the same level of value that applies to most Grade II listed buildings in the DMRB methodology (HA208/07, Document 6.1.8). This level of value was given to three structures: a former graving dock; a group of former locomotive running sheds and engineering workshops; and a former locomotive engine shed. All other structures and buildings were ascribed a ‘Low’ level of value.

8.18 This attribution of value was not based solely on the information presented in the Wessex Archaeology report (Appendix 8.5 of the March 2016 ES, Document 2.3.2). We carried out our own inspection of the buildings in order to review any changes that had occurred subsequent to the Wessex Archaeology fieldwork which was undertaken in May 2008. One of our team that carried out this inspection was Robert Kinchin-Smith, an acknowledged expert on historic railway buildings and structures, who subsequently provided advice with regard to the appropriate level of value for each of the buildings here.

8.19 For two of the three structures or buildings ascribed a Medium level of value, the consequent significance of effect following from their proposed demolition is described in the March 2016 ES (Document 2.3.2) as Moderate adverse, which is a significant effect. The third one (the former graving dock) would not be

demolished and the significance of effect resulting from the impact of the published Scheme on this structure has been assessed in the March 2016 ES as Slight adverse. This is not a significant effect.

- 8.20 The remaining historic buildings within the docks have been ascribed a Low value. The consequent significance of effect as a result of their demolition has generally been assessed as Slight adverse, i.e. not significant. However for one building, a probable former Swing Bridge Operation Building, the significance of effect resulting from its demolition has been assessed as Moderate adverse, which is a significant effect.
- 8.21 The assessment of impacts and effects presented in the March 2016 ES (Document 2.3.2) has therefore been considered and thoughtful. I have identified that some of the historic buildings within the docks merit a level of value equivalent to that given (within the DMRB based methodology) to Grade II listed buildings. Demolition of such buildings would result in significant effects. I have also identified a higher (and consequently significant) level of effect as a result of the demolition of Low value buildings where this was felt to be appropriate.
- 8.22 I can confirm that the independent archaeological Curator approved by Cadw has approved our ascription of levels of values with regard to each of the historic buildings within the docks.
- 8.23 Regardless of the level of value ascribed to any building in the docks, the magnitude of impact would not change, *contra* the comment in the final paragraph on page 9 of the Cadw letter of 27th June 2016. Demolition will always result in a Major magnitude of impact.
- 8.24 **Cadw comment:** *'We note that there has been little or no evaluation of any potential buried archaeological resource which has not made it easy to assess the full impact of the Scheme. At our meeting, we highlighted the risk that unforeseen archaeological sites with exceptional preservation might be uncovered during the course of groundworks. It would be helpful if a more detailed rationale for the absence of such evaluation to date could be provided.'*

Should the Scheme proceed, we recommend that the full evaluation of those areas that have been identified as having high archaeological potential should be undertaken well in advance of construction. This would allow a preferred mitigation strategy to be implemented and so would minimise potential costly delays to the Scheme. Indeed, during construction, all groundworks will require archaeological monitoring so that newly discovered archaeological sites can be dealt with in an appropriate manner.

Given recent experience (for example with the Newport Ship) we would also like to draw attention to the significant cost and time required to excavate such archaeological sites (which needs to include post excavation analysis, conservation and reporting). This should not be underestimated'.

- 8.25 **Response:** Evaluation of the potential buried archaeological resource within the boundary of the published Scheme has been in the form of desk-based assessment followed by remote sensing (e.g. geophysical surveys using various methodologies and appraisal of LiDAR and satellite data), allied with the results of previous archaeological fieldwork undertaken with regard to earlier proposed iterations of a new road in the general location of the M4CaN Scheme.
- 8.26 I understand the Cadw comment that '*there has been little or no evaluation*' to refer specifically to intrusive archaeological evaluation in the form of trial trenches and/or test pits.
- 8.27 The methodology utilised for intrusive evaluation needs to be closely aligned with the nature and extent of any impact resulting from the published Scheme.
- 8.28 The Gwent Levels Archaeological Deposit Model (Appendix 8.8. of the March 2016 ES, Document 2.3.2) has helped to establish the location and extent of areas of higher archaeological potential in this part of the published Scheme. The impacts of the published Scheme in this area are described in paragraphs 5.3.13 – 5.3.17 of the CHMP (Appendix 8.10 of the March 2016 ES) and in further detail in the Buildability Report (Appendix SR3.1 of the December 2016 ES Supplement, Document 2.4.14).

- 8.29 Impacts in areas of higher archaeological potential within the Gwent Levels could occur to depths of 7m or more below current ground level. Examination of this archaeological potential through the use of trial trenches would therefore require substantial excavations – exposure of just a 2m x 2m area at a depth of 7m would require an excavation measuring at least 16m by 16m at surface level.
- 8.30 Our experience of geotechnical work in this part of the Levels shows that each area of investigation would need to be pumped on a 24 hour basis, with discharge either to ground or to a reën (with the consent of NRW), and the excavation area and spoil heaps would need to be fully fenced. There would need to be night-time security for health and safety purposes. It is likely that we would need to construct a temporary access road to each excavation location (as we have done for recent geotechnical works) to allow plant to reach these locations and operate safely.
- 8.31 On completion of the excavation at each location, the trench would have to be backfilled with the arisings. Given the nature of the ground this would result in an area of very wet, soft ground that would be unsuitable for grazing or cultivation. If there are livestock in the vicinity then the backfilled excavation area would need to remain fenced.
- 8.32 Thus it is our view that the excavation of trial trenches in the Gwent Levels at this stage could result in a considerable amount of visible and physical impact within the registered historic landscape and SSSI without the surety that the published Scheme would actually proceed. If the published Scheme does not progress through to construction then this work could leave a legacy of visible impact along with short-medium term issues regarding compensation for loss of grazing or crop acreage.
- 8.33 If intrusive archaeological evaluations are undertaken within the Gwent Levels, in my opinion this would best be done once the Orders for the published Scheme have been confirmed. This would enable the Contractor to control access, security, reinstatement etc. and if done post-CPO would also remove the issue of landowner compensation.

8.34 Outside of the Gwent Levels there are some areas where trial trenches may have assisted our understanding of the nature of buried archaeology – but such areas were brought into the published Scheme at a fairly late stage (they include borrow pits and spoil storage areas). These areas are identified within the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) and will be evaluated at the earliest possible time within the construction programme or possible in advance of this programme.

8.35 We accept Cadw’s recommendation that the construction programme needs to provide adequate time for pre-construction archaeological work. We will continue to develop the programme with this in mind and will also look to any opportunity to commence archaeological investigation work ahead of the construction programme. This has been included as Ref. No. 168 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).

8.36 We agree with Cadw’s comment that *‘all groundworks will require archaeological monitoring so that newly discovered archaeological sites can be dealt with in an appropriate manner’*. This issue is addressed in para. 5.4.1 of the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) which states *‘An archaeological watching brief would be maintained during defined construction works at locations that have not been covered by other forms of archaeological mitigation and where impact on presently unknown buried archaeological sites is possible’*. Section 5.3 of the CHMP describes the procedures for dealing with Discovered Cultural Heritage Remains, i.e. archaeological sites not yet known but identified during construction.

8.37 With regard to Cadw’s comment on the significant time and cost required to excavate archaeological sites in this environment, I can confirm that risks around addressing Identified and Discovered Cultural Heritage Remains have been considered through the Scheme Risk Register process. The issue of programming such works is discussed above in paragraph 8.35.

8.38 **Cadw comment:** *‘Where new archaeological sites are discovered, we note that the EIA proposes ‘preservation by record’ (that is excavation) rather than*

'preservation in situ'. This apparent departure from national policy (for example Welsh Government's planning policy – Planning Policy Wales) needs further explanation and justification'.

- 8.39 **Response:** The stated view that that the March 2016 ES (Document 2.3.2) proposes 'preservation by record' rather than 'preservation *in situ*' with regard to archaeological sites is a misreading of the correct position on this issue.
- 8.40 Section 8.5 in Chapter 8 of the March 2016 ES (Document 2.3.2) describes mitigation measures which are incorporated into the design of the published Scheme. Although not explicitly stated as such, this includes examples where the design has enabled the preservation of cultural heritage remains *in situ*. One example is the Scheduled standing stone at Undy (MM068) which would be retained in its current location rather than removing it as previously envisaged. Another example is at Llandeenny where a Water Treatment Area has been relocated to the south side of the new motorway in order to avoid a direct and considerable impact on a site at which a quantity of Mesolithic and early Neolithic flints was previously identified.
- 8.41 Other elements of the published Scheme have also been designed with the aim of preserving archaeological remains *in situ*. Areas identified for the storage of materials (including soils and unsuitable materials) will not be stripped of topsoil as part of the process of preparation. Instead a layer of geotextile matting would be placed over the current surface. This is described in paragraph 14.2.2 of the Buildability Report (Appendix SR3.1 of the December 2016 ES Supplement, Document 2.4.14) and will enable preservation of archaeological remains *in situ* if any such are present within these areas.
- 8.42 Similarly, within the Gwent Levels part of the Scheme topsoil will generally be retained as part of the strategy of keeping the 'crust' intact. This is described in paragraphs 7.3.36 - 7.3.38 of the Buildability Report (Appendix SR3.1 of the December 2016 ES Supplement, Document 2.4.14). A geotextile or geogrid would be placed directly over the present ground surface and then stone would be placed on top of the geotextile/geogrid. Penetrative impacts on archaeological remains within and beneath the topsoil would therefore be

limited to: interventions through this protective layer (such as band drains and pre-cast piles); in the transition zones between the piled embankments and the surcharged areas where soil mixing may be required; and for areas of cut outside of the highway footprint such as water treatment areas, replacement reens etc.

8.43 This then comes back to the issue discussed above with regard to archaeological evaluation (paragraphs 8.25 – 8.33 of this evidence). Where the impacts of the published Scheme are limited to band drains and/or pre-cast piles, archaeological evaluation in the form of trial trenches could well be more damaging to buried archaeological remains than the published Scheme itself. This is because the area of excavation required for the archaeological investigation would be larger than the area of impact resulting from construction of the published Scheme. Preservation *in situ* in this situation is best achieved by controlling impacts through the design of the construction methodologies.

8.44 Consequently any form of archaeological evaluation needs to be carefully aligned with the nature and locations of the impacts of the published Scheme and this is best done in the Detailed Design stage of work.

8.45 Once the published Scheme has been through Detailed Design and construction has started, opportunities to achieve preservation *in situ* of archaeological remains will be relatively limited. It may be possible to retain archaeological remains within borrow pits although this would require the winning of replacement stone from another suitable location within the land identified for the construction of the published Scheme, such as another borrow pit. It is less likely for archaeological sites within water treatment areas as volumes are very specific and excavating deeper in other parts of the water treatment area would not provide replacement volume. For locations where elements of the published Scheme are within cuttings it would clearly not be possible to preserve archaeological sites *in situ*.

8.46 **Cadw comment** (with regard to paragraph 3.5.2 of the March 2016 ES, Document 2.3.2): *'We recommend that all historic environment provisions within the Pre-Construction Environmental Management Plan (Pre-CEMP) and*

the Construction Environmental Management Plan (CEMP) should be shared with the Welsh Government's Historic Environment Service (Cadw) and agreed by the Scheme's appointed independent archaeological curator'.

8.47 Response: The Pre-CEMP (Appendix SR3.2 of the December 2016 ES Supplement, Document 2.4.14) makes it clear that all relevant documents relating to historic environment provisions, including the Project Design and any Further Archaeological Designs, will be agreed by the published Scheme's appointed independent archaeological Curator ahead of commencement of any part of the works described in such documents. This has been included as Ref. No. 169 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14). A commitment to share these documents with Cadw has been included as Ref. No. 115 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement).

8.48 Cadw comment (with regard to sections 1.4, 1.5 and 1.6 and paragraph 2.1.1 of the Buildability Report, Appendix 3.1 of the March 2016 ES, Document 2.3.2): *'We recommend that the significant potential for the discovery of one or more unknown archaeological sites and evidence should be acknowledged in the construction Scheme strategy and programme and potentially phasing, highlighting an appropriate contingency for successful mitigation.*

In addition to appropriate pre-construction archaeological investigation, we recommend that any scheme operations that involve ground disturbance should also be subject to adequate archaeological monitoring and investigation. This should include, but not be limited to, enabling works, topsoil stripping, piling, foundation construction, temporary and permanent ree protection works, construction of reens, culverts and retaining walls, remediation, construction of haul roads, site clearance, water management, including temporary water treatment areas, collection ditches and lagoons, and permanent carriageway, drainage and water attenuation ponds, earthworks, including provision of band drains, pre-cast piles, and soil mixing, borrow pits and re-profiled areas, accommodation works, landscaping etc.

- 8.49 **Response:** We consider that these issues are adequately addressed within the suite of documents that accompanied the Draft Orders for the published Scheme. The CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) acknowledges the potential for the discovery of unknown archaeological sites and identifies the procedures that would be implemented in the case of such a discovery. This is addressed in the draft design and construction programmes for the published Scheme.
- 8.50 The CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) also identifies those areas within the published Scheme landtake which would be subject to archaeological monitoring.
- 8.51 **Cadw comment** (with regard to section 6.2 Network Rail Interface of the Buildability Report, Appendix 3.1 of the March 2016 ES, Document 2.3.2): *'We recommend that warning signs and reasonable care should be taken around the locations of the listed GWR bridges to prevent any inadvertent damage'*.
- 8.52 **Response:** The only listed Great Western Railway (GWR) structure in the area is the Stow Hill railway tunnel in the western part of the city of Newport (Grade II). The construction and operation of the published Scheme will have no impact on this tunnel or its setting and we consider that it is not necessary to place any warning signs or take any specific precautions with regard to this structure.
- 8.53 **Cadw comment** (with regard to Section 7.2 Earthworks Strategy of the Buildability Report, Appendix 3.1 of the March 2016 ES, Document 2.3.2): *'We recommend that this section of the report should refer to the archaeological implications of any earthwork operations. As any ground disturbance has the potential to impact on buried archaeology, archaeological monitoring and investigation should be undertaken routinely'*.
- 8.54 **Response:** We consider that these issues are adequately addressed within the suite of documents that accompanied the Draft Orders. The CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) identifies those areas within the landtake for the published Scheme that would be subject to archaeological monitoring.

- 8.55 **Cadw comment** (with regard to Section 10.1 Gwent Levels Overview of the Buildability Report, Appendix 3.1 of the March 2016 ES, Document 2.3.2): *‘We recommend that this section acknowledges that the Gwent Levels is a registered historic landscape of international importance, as well as a SSSI. The report should also acknowledge that the reen drainage network has significant historical as well as ecological importance and that any works to this network, including the provision of new reens as ecological mitigation, will have an impact on the historic character of the area’.*
- 8.56 **Response:** We consider that these issues are adequately addressed within the suite of documents that accompanied the Draft Orders. Chapter 8 of the March 2016 ES (Document 2.3.2) addresses the effects of the construction and operation of the new section of motorway on the registered historic landscape, whilst Appendix 8.3 of the March 2016 ES provides a much more detailed account of the nature and magnitude of impacts on individual elements of the historic landscape including the reen network.
- 8.57 **Cadw comment** (with regard to paragraph 13.1.1 (Complementary Measures) of the Buildability Report, Appendix 3.1 of the March 2016 ES, Document 2.3.2): *‘We recommend there may be opportunities to improve the setting of Tredegar House historic park and garden through the removal of gantries and matrix boards on the route of the downgraded stretch of M4’.*
- 8.58 **Response:** We have discussed this matter with the National Trust (NT) and would continue to liaise with the NT as the design of the Complementary Measures is progressed.
- 8.59 **Cadw comment** (with regard to paragraph 4.4.1 (Regulatory bodies and other interested parties) of the Pre-CEMP, Appendix 3.2 of the March 2016 ES, Document 2.3.2): *‘We recommend the addition of the Glamorgan Gwent Archaeological Trust (GGAT), in their role as maintainers of the regional historic environment record, as an interested party for cultural heritage and archaeology. We would also recommend the addition of the appointed independent archaeological curator’.*

- 8.60 **Response:** The additions of GGAT and the independent archaeological Curator to the list of regulatory bodies and interested parties will be taken forward into the Construction Environmental Management Plan (CEMP) should the published Scheme proceed to construction. This has been included as Ref. No. 165 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).
- 8.61 **Cadw comment** (with regard to Table 5.1 (Environmental Aspects Register) of the Pre-CEMP, Appendix 3.2 of the March 2016 ES, Document 2.3.2): *'We recommend that Table 5.1 should include other activities which will also potentially impact on the potential, but as yet unknown, buried archaeological resource including band drain installation, remediation, borrow pits, construction of culverts, coffer dams, pier foundations and the creation of new reens. Appropriate forms of mitigation should be proposed'*.
- 8.62 **Response:** In my opinion the issue of identification of activities that could potentially impact on archaeological sites is adequately addressed within the suite of documents that accompanied the Draft Orders. Appropriate mitigation is described within the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2).
- 8.63 **Cadw comment** (with regard to section 6.3 Cultural Heritage Control Measures of the Pre-CEMP, Appendix 3.2 of the March 2016 ES, Document 2.3.2): *'We have been advised that adequate finance and resource will be provided to ensure that archaeological work is undertaken to appropriate standards. In addition, adequate and reasonable time will also be required to complete archaeological monitoring and investigation. As we have highlighted elsewhere, given the potential for well-preserved archaeological deposits and structures, the cost of this should not be underestimated. It will be essential that these financial commitments extend through post-excavation, publication and archival deposition stages'*.
- 8.64 **Response:** As described above (paragraph 8.49), the potential for the discovery of unknown archaeological sites is addressed in the draft design and construction programmes. In addition to the budget identified for dealing with

the known archaeological sites, the archaeological monitoring and historic building recording, a substantial contingency sum has been identified for dealing with additional archaeological sites discovered ahead of and during construction. In all cases the identified sums include for post-fieldwork analyses, reporting to publication level and deposition of archives.

- 8.65 **Cadw comment** (with regard to paragraph 8.3.65 of the March 21016 ES, Document 2.3.2): *'We recommend that further explanation is required that highlights the limitations of the remote sensing approaches to the archaeological assessment and the rationale behind the absence of archaeological evaluation to date.'*

If the Scheme proceeds, it is essential that full evaluation in those areas that have been identified as having high archaeological potential should be undertaken well in advance of construction – for example through using the Gwent Levels Archaeological Deposit Model (Appendix 8.8) and as detailed in the Cultural Heritage Mitigation Plan (Appendix 8.10: Sections 5.2 and 5.3). Should archaeological sites be identified, this approach would allow a preferred mitigation strategy to be implemented and so would minimise potential costly delays to the Scheme.

If there is agreement that excavation is the preferred form of mitigation, it is essential that adequate resources are made available, including for any post excavation analysis, conservation, reporting and archiving. Given the potential level of preservation and given recent experience (for example with the Newport Ship) the cost should not be underestimated.

- 8.66 **Response:** As described in the March 2016 ES (Document 2.3.2), evaluation of the potential buried archaeological resource within the boundary for the proposed new section of motorway has been in the form of desk-based assessment supported by remote sensing allied with the results of previous archaeological fieldwork undertaken with regard to earlier proposed iterations of a new road in the general location of the proposed new section of motorway.

- 8.67 The remote sensing has included ground-based geophysical surveys and also airborne surveys. Two separate types of geophysical surveys were undertaken:
- a) Gradiometer (fluxgate magnetometer) survey of land on the higher ground at each end of the proposed new section of motorway; and
 - b) Electrical Resistance Tomography and Electro-Magnetic surveys within the Gwent Levels part of the proposed new section of motorway.
- 8.68 The results of the gradiometer surveys were reported in detail in Appendix 8.4 of the March 2016 ES (Document 2.3.2) and also summarised in Appendix 8.2 of the March 2016 ES. These surveys were aimed at identifying features or sites of archaeological interest within published Scheme landtake at each end of the proposed new section of motorway. The methodology employed (gradiometry) was considered to be an appropriate technique for use on the subsoils in these areas. However, this methodology would not be appropriate for use for the Gwent Levels part of the proposed new section of motorway as the waterlogged subsoils here do not respond to magnetic surveys and gradiometer survey was not proposed for these areas.
- 8.69 As identified in paragraph 8.3.66 of the March 2016 ES (Document 2.3.2), there are some areas of land where gradiometer survey was proposed but where it was not possible for this work to be undertaken. In some cases, this was due to the land use not being conducive for this type of survey (such as areas of scrub, or plant nurseries), or as a result of the land being too steep for the survey to be carried out.
- 8.70 There are also some areas of land where gradiometer survey was proposed but where it was not possible to agree access for the work; mostly because of the presence of livestock that the owner/tenant was not willing to move for the duration of the survey. Additionally there are also some areas of land at each end of the proposed new section of motorway which were brought into the published Scheme at a stage when it was not possible to carry out ground-based remote sensing. This includes some areas of temporary landtake required for storage of materials.

- 8.71 Initial proposals were for 60 hectares of land to be surveyed using gradiometer techniques. However, the total area of land that was actually surveyed was 52.4 hectares, for the reasons set out above. For the remainder of the land and for the land where gradiometer techniques were not proposed, desk-based methodologies were employed as set out in the March 2016 ES (Document 2.3.2).
- 8.72 As described above, a programme of Electrical Resistance Tomography (ERT) and Electro-Magnetic (EM) surveys was undertaken within the Gwent Levels part of the proposed new section of motorway. The detailed results of these complementary surveys are described in Appendix 8.4 of the March 2016 ES (Document 2.3.2).
- 8.73 The purpose of the ERT and EM surveys was not to identify features or sites of archaeological interest. These surveys provided data which were used in determining the character and distribution of the main lithological units within that part of the Gwent Levels traversed by the proposed new section of motorway. As with the gradiometer survey, there were some areas of land where ERT and EM survey was proposed but where it was not possible for this work to be undertaken or not possible to agree access for the work.
- 8.74 The data obtained through the ERT and EM surveys were combined with further information taken from the geotechnical surveys and used to construct a detailed Archaeological Deposit Model for that part of the Gwent Levels traversed by the proposed new section of motorway (Appendix 8.8 of the March 2016 ES, Document 2.3.2). The deposit model shows the depth and nature of the Holocene deposits within the Gwent Levels at this location. This information would be used in formulating the detailed methodologies and extents of the further archaeological works to be undertaken in these areas, following review of the likely impacts resulting from construction of the published Scheme. Such methodologies would be agreed with the independent archaeological Curator appointed by Welsh Government.
- 8.75 As mentioned above, additional remote sensing was undertaken in the form of airborne surveys and appraisal of other acquired datasets. This work applied to

the whole of the route of the proposed new section of motorway and was aimed at the identification of features or sites of archaeological interest at surface or immediate subsurface level.

8.76 This additional remote sensing comprised three principal elements:

- a) An archaeological review of LiDAR (Light Detection and Ranging) data provided specifically for the published Scheme;
- b) An archaeological review of commercially available orthorectified satellite data; and
- c) An archaeological review of aerial photogrammetric data obtained through purposive flights using a light aircraft.

8.77 The results of the additional remote sensing are reported in Appendix 8.7 of the March 2016 ES (Document 2.3.2) and assimilated into the desk-based assessment presented as Appendix 8.2 of the March 2016 ES. There were no areas where this additional remote sensing had been proposed but not carried out.

8.78 A considerable number of features or sites of archaeological interest were identified, mostly in the form of earthworks representing agricultural activity. This information would be used in formulating the detailed methodologies and extents of the further archaeological works to be undertaken in these areas, following review of the likely impacts resulting from construction of the published Scheme. Such methodologies would be agreed with the independent archaeological Curator appointed by Welsh Government.

8.79 No purposive intrusive archaeological evaluation in the form of trial trenches and/or test pits specific to the published Scheme was undertaken ahead of the publication of Draft Orders. Some work of this type has been previously undertaken with regard to previous iterations of the proposed new section of motorway and the results of such work have been examined and described within the desk-based assessment presented as Appendix 8.2 of the March 2016 ES (Document 2.3.2).

- 8.80 The rationale behind the decision not to undertake intrusive archaeological evaluation in the Gwent Levels area of the new section of motorway is explained above (paragraphs 8.25 - 8.33 of this evidence).
- 8.81 The CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) describes the programme of further archaeological work that would be undertaken ahead of and during construction, should the Scheme proceed. A total of 47 areas are now identified where further archaeological evaluation is required – these include land where gradiometer survey has been previously proposed but not undertaken, along with those areas of land that were brought into the published Scheme at a late stage and/or where no archaeological evaluation has been undertaken other than desk-based assessment. The areas for further archaeological evaluation are shown on Figure 7 in Appendix A of this Proof of Evidence (WG 1.9.3).
- 8.82 The appropriate methodologies and extent of the archaeological evaluations to be undertaken in these areas would be determined following review of the likely impacts resulting from Scheme construction. Such methodologies would be agreed with the independent archaeological Curator appointed by Welsh Government. This has been included as Ref. No. 169 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).
- 8.83 The programme of archaeological evaluation would be undertaken as early as possible within the main construction programme, in order for all works to be completed to the appropriate standards. Where detailed archaeological excavation is considered to be necessary, the agreed budget for such works would include for post-fieldwork analyses, reporting to publication level and deposition of archives. This is in line with the mitigation strategy established in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2).
- 8.84 **Cadw comment** (with regard to section 8.6 of the March 2016 ES, Document 2.3.2): *'We recommend that those areas of known archaeological resource should be avoided by tree planting and left as open grassed areas, where shallow rooting will not harm the archaeology'*.

- 8.85 **Response:** The Scheme design needs to balance environmental effects and tree planting is required at selected locations for screening and/or for replacement habitat. We will review all areas of proposed tree planting that coincide with known archaeological sites to see if open grassland is suitable given the balancing requirements for the Scheme. This it has been included as Ref. No. 166 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).
- 8.86 **Cadw comment** (with regard to section 8.6 of the March 2016 ES, Document 2.3.2): *'We would also advise that the independent Archaeological Curator should be an MClfA or work for a ClfA Registered Organisation as well as the archaeological contractor. The independent Curator should be impartial, qualified, experienced, independent and knowledgeable of the archaeology of the Scheme area'.*
- 8.87 **Response:** We agree with this recommendation and it has been included as Ref. No. 116 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).
- 8.88 **Cadw comment** (with regard to section 8.6 of the March 2016 ES, Document 2.3.2) *'We recommend that there should be pro-active dialogue with Cadw during the pre-construction evaluation phase and during the construction phase so that, as and when new archaeological sites are discovered, we will have an opportunity to consider new evidence in line with our statutory duties. If a site or monument is considered to be of national or international importance, all reasonable options to preserve such sites will need to be considered in line with national policies and professional standards and guidance'.*
- 8.89 **Response:** We agree with the recommendation to engage in pro-active dialogue with Cadw at all stages of the archaeological work and it has been included as Ref. No. 115 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14). If any discovered sites or monuments are considered to be of national or international importance then we would look at reasonable options to ensure preservation *in situ* of such sites or monuments.

- 8.90 **Cadw comment** (with regard to section 8.6 of the March 2016 ES, Document 2.3.2) *‘The demolition of the listed vicarage, along with its associated outbuildings, should be an option of last resort. We recommend that if demolition is to proceed, a fully recorded and researched survey of recording should take place prior to any demolition work commencing. We also recommend that the Royal Commission on the Ancient and Historical Monuments of Wales should be given reasonable access to the buildings for the purpose of recording’.*
- 8.91 **Response:** Examination of design options in this area has found that it is not possible to retain the vicarage. The CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) includes a commitment to undertake pre-demolition detailed recording of this building and associated structures. This has been included as Ref. No. 112 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14). We would also offer the Royal Commission on the Ancient and Historical Monuments of Wales the opportunity to record the buildings – this it has been included as Ref. No. 114 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement).
- 8.92 **Cadw comment** (with regard to section 8.6 of the March 2016 ES, Document 2.3.2) *‘We recommend that the heritage value of the barrage balloon site is high. The moderate impact would therefore have a large ‘significance of effect’. While the benefit of retaining the heritage asset in situ is acknowledged, we would recommend changes to the proposal to plant at this location’.*
- 8.93 **Response:** The site has been reassessed following a further site visit (see paragraphs 7.73 - 7.75 of this evidence). The value of this heritage asset is now considered to be High (in line with Cadw’s comment) whilst the magnitude of impact has also changed from moderate to Major. A proposal to relocate this monument after it has been properly recorded has been welcomed by Cadw (see paragraphs 7.76 - 7.77 of this evidence).
- 8.94 **Cadw comment** (with regard to section 8.7 of the March 2016 ES, Document 2.3.2): *‘However, given the significant cumulative impact of all of the Scheme’s*

elements proposed at the Devil's Quoit Standing Stone (MM068) we recommend that serious consideration should be given to how the impact of this proposal can be lessened. For example, the re-siting of the water treatment area and reed bed further away from the monument should be given careful consideration'.

- 8.95 **Response:** We are mindful of this issue and will give it careful consideration during any review of the arrangements for this Junction and also during the Detailed Design which we will undertake if the Scheme proceeds to construction. However there are a number of constraints in this area and drainage is a critical issue.
- 8.96 **Cadw comment** (with regard to section 8.8 of the March 2016 ES, Document 2.3.2): *'We recommend that reasonable care should be taken around the locations of the listed buildings to prevent any inadvertent damage, for example by vibration or vehicular damage. The ES should explain the measures that will be taken to avoid any such damage'.*
- 8.97 **Response:** We are not aware of any listed buildings that are at risk of damage during the construction and operation of the published Scheme (other than Woodland House, also known as Magor Vicarage).
- 8.98 **Cadw comment** (with regard to section 8.8 of the March 2016 ES, Document 2.3.2): *'We note that in applying the 'significance of effect' matrix to (the) Newport Transporter Bridge the adverse effect is judged to be 'moderate or large' and that it is concluded to be 'medium' (sic). We would welcome further explanation of the rationale that led to this conclusion'.*
- 8.99 **Response:** In the March 2016 ES (Document 2.3.2), I assessed the magnitude of impact (of the published Scheme) on the Newport Transporter Bridge as 'Minor', as a result of the likely change within the setting of this heritage asset of 'Very High' value. This presented a choice in the significance of effect matrix of either 'Moderate' or 'Large' (Table 8.9 of the March 2016 ES). I then reviewed this against the DMRB guidance on Significance of Effect Categories (Table 8.9 of the March 2016 ES). Large effects are those which 'are

considered to be very important considerations and are likely to be material in the decision-making process’, whereas Moderate effects are those which ‘may be important, but are not likely to be key decision-making factors’. In my opinion, the significance of effect with regard to the Newport Transporter Bridge is ‘Moderate’ adverse rather than ‘Large’ when considered against the DMRB guidance.

8.100 **Cadw comment** (with regard to section 8.9 of the March 2016 ES, Document 2.3.2): *‘We suggest that the work proposed in the Cultural Heritage Mitigation Plan would be better described as compensation for the impact of the Scheme on heritage assets. As stated above, we recommend that every effort should be made to preserve any buried archaeological remains found within this Scheme during its preparatory, construction and mitigation phases in line with national policy and best practice’.*

8.101 **Response:** Paragraph 8.9.2 of the March 2016 ES (Document 2.3.2) identifies that the proposed programme of further archaeological work described within the CHMP (Appendix 8.10 of the March 2016 ES) should be regarded as ‘offsetting’ the impacts and effects of the published Scheme on heritage assets. Paragraph 1.1.3 of the CHMP (Appendix 8.10 of the March 2016 ES) identifies that the works described within that document should not be considered as ‘mitigation’ in the way that the term is used within the EIA process. Rather such works represent the ‘offsetting’ of the impacts and effects of the published Scheme on heritage assets. The term ‘compensation’ is not appropriate as this has a different and specific meaning within the EIA process and within DMRB. The issue of the preservation (*in situ*) of buried archaeological remains is addressed above in paragraphs 8.39 – 8.45 of this evidence.

8.102 **Cadw comment** (with regard to section 8.9 of the March 2016 ES, Document 2.3.2): *‘We recommend that monitoring should be undertaken during the constructional phases, during which the cultural heritage investigative work should be subject to sign-off, monitoring and approval by the appointed independent archaeological curator’.*

8.103 **Response:** The procedures described in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) confirm the arrangements for archaeological monitoring during construction. All investigative works would be subject to approval and sign-off by the independent archaeological curator. This has been included as Ref. No. 169 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).

8.104 **Cadw comment** (with regard to section 8.9 of the March 2016 ES, Document 2.3.2): *'There will be significant opportunities for reflective practice and new learning. Given the scale and complexity of the proposed development and the historic environment sensitivity of the development location, we recommend that that a comprehensive study with regard to the land take, construction and operational effects of the Scheme should be undertaken in order to inform best practice for subsequent road Schemes in Wales. We also recommend that the monitoring should include an assessment of whether the conclusions reached in the ES Cultural Heritage chapter were correct, and an analysis of how historic environment features fared in relation to other considerations such as the natural environment. Such a study should also seek to identify how the organisation, deployment, operation and review of cultural heritage arrangements can be improved, including any requirements to add to or amend relevant chapters of DMRB. For example it is clear that there is some ambiguity in the relationship between the terminology used in national policy, ASIDOHL2 and DMRB. This review should include the Historic Environment Service (Cadw) and the appointed archaeological curator and contractor(s). Due to the extent of the potential buried archaeological intervention, and the possible significance of the buried archaeological resource, it would be best practice to consider publishing a monograph presenting the results of the archaeological investigations. Consequently we recommend that a retrospective review should be undertaken once the motorway is operational.'*

8.105 **Response:** Outputs from scheme-specific Environmental Liaison Meetings (to which Cadw are invited) and 'lessons learnt' on highway schemes in Wales are currently collated and reviewed within Welsh Government. The results of all archaeological investigations undertaken in connection with the Scheme would

be published in appropriate formats, as described in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2).

8.106 The responsibility of adding to or amending the DMRB rests with Highways England. Welsh Government can only forward its thoughts to Highways England for further consideration.

8.107 With regard to the publication of the results of the programme of archaeological investigation (and historic building recording), this is addressed in section 5 of the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2). Paragraph 5.5.9 identifies that publication in the form of a monograph may be the most suitable way to disseminate the results of the programme of cultural heritage works undertaken with regard to the construction of the published Scheme.

8.108 **Overall response to Cadw:** The responses to each of the concerns raised by Cadw were submitted to that body in a letter dated 05 August 2016. These responses were in line with those described above (paragraphs 8.1 – 8.107 of this evidence).

8.109 Cadw (OBJ0341) responded further in a letter dated 24 August 2016 (Appendix D of this Proof of Evidence, WG 1.9.3). In this letter Cadw confirmed that they were not objecting to the published Scheme, rather they were seeking to '*highlight the issues within the Environmental Statement that would normally be explored at a Public Inquiry. Therefore we recommend that the helpful explanations that you have provided could usefully be included within the Supplementary Environmental Statement*'. Much of the information and clarification provided to Cadw in the letter dated 05 August 2016 has been incorporated within the September 2016 ES Supplement (Document 2.4.4).

8.110 Cadw additionally noted that '*We acknowledge that the nature of the land may require a departure from national policy and this will be a matter for the Inspector to consider*' (Appendix D of this Proof of Evidence, WG 1.9.3). I understand this to be a reference to the absence of intrusive archaeological investigation within the Gwent Levels part of the proposed new section of

motorway and the subsequent issues arising with regard to the potential for the *in situ* preservation of archaeological sites. As explained above (paragraphs 8.40 – 8.45 of this evidence), in my opinion that the approach taken does not represent a departure from national policy.

8.111 An additional response was received from Cadw on 1st November 2016, following publication of the September 2016 ES Supplement (Document 2.4.4). In an e-mail Cadw stated that *'we agree with the proposed detailed recording of the Pye Corner Barrage Balloon Site and recommend that consideration be given to carefully lifting and relocating the arrangement of anchorage blocks and associated structures to a nearby location as this is believed to be the last remaining Second World War barrage balloon site to survive in Wales'*.

8.112 **Response:** We have proposed to relocate the barrage balloon to a suitable position approximately 700m west of its current location (Figure 6 in Appendix A of this evidence). This proposal has been welcomed by Cadw.

Natural Resources Wales (NRW)

8.113 NRW (OBJ0268) provided an initial response to the published Scheme in a letter dated 4th May 2016.

8.114 **NRW Comment:** With regard to the Gwent Levels Landscape of Outstanding Historic Interest, NRW agreed with the conclusion presented in Chapter 8 of the March 2016 ES (Document 2.3.2) that the construction and operation of the published Scheme would result on a long term large adverse effect on this registered historic landscape (NRW letter of 4th May 2016, page 41).

8.115 NRW further stated in their response (NRW letter of 4th May 2016, page 9): *'We advise that the elements of the Cultural Heritage Management Plan (CHMP) which relate to the Gwent Levels Registered Landscape are further developed into firm proposals'*. Additionally (NRW letter of 4th May 2016, page 44), *'We welcome the proposal to take forward an integrated programme of historic landscape analysis in order to offset some of the impacts on the historic landscape. We recommend that interpretation of and access to the physical historic landscape should also be considered, given the significant adverse*

effects on the Gwent Levels Historic Landscape. We would expect these proposals to be taken forward within the Statement of Commitments’.

8.116 **Response:** If the Orders are confirmed and the Scheme goes ahead, the programme of historic landscape study described in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) would be refined and implemented. This commitment is included as Ref. No. 113 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14). All current access routes into the historic landscape would be maintained or re-provided.

8.117 **NRW Comment:** NRW also advised (letter of 4th May 2016, page 10) that *‘Further consideration is given to potential offsite screening to protect the setting of Tatton Farm’.*

8.118 **Response:** This has been addressed in the September 2016 ES Supplement (Document 2.4.4). Additional planting has been provided along the northern side of the new section of motorway in the vicinity of Tatton Farm. This planting would screen views of the motorway from land adjacent to the farmhouse. As a consequence, in my opinion the significance of effect as a result of change within the setting of the Grade II listed Tatton Farm has been reduced to Moderate adverse, compared with the Large significance of effect that was identified in paragraph 8.8.149 of the March 2016 ES (Document 2.3.2). However this is still a significant effect.

8.119 **NRW Comment:** With regard to Marine Licensing, NRW advised that information was required regarding the effects of the published Scheme on the marine historic environment.

8.120 **Response:** Information regarding the likely effects of the published Scheme on the marine historic environment was included within the September 2016 ES Supplement (Document 2.4.4, paragraphs 3.1.39 – 3.1.43). This concludes that there would be no significant effect on any aspect of the marine historic environment.

Newport City Council (NCC)

8.121 NCC (SUP0192) provided a response to the published Scheme in a letter dated 11th May 2016. With regard to Chapter 8 of the March 2016 ES (Document 2.3.2), NCC noted that *'The M4CaN development will have an impact on the setting of the Transporter Bridge and Tatton Farm. It is requested that when detailed design is being considered, that the Conservation Officer is consulted so efforts can be made to try and mitigate the impact as much as possible'*.

8.122 **Response:** All of the relevant detailed design would be undertaken with the aim of mitigating as far as possible all impacts on designated heritage assets resulting from change within their settings. This has already been done to some extent at Tatton Farm with the additional planting as described in the September 2016 ES Supplement (Document 2.4.4). We would continue to consult with the Conservation Officer at NCC with regard to any aspect of detailed design that is relevant to impacts on designated heritage assets. This has been included as Ref. No. 167 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).

Monmouthshire County Council (MCC)

8.123 MCC (ISU0002) provided an initial response to the published Draft Orders in a letter dated 29th April 2016.

8.124 **MCC comment:** *'Impacts and effects upon the Landscape of Outstanding Historic Interest are unclear although it is considered that there will be an appreciable reduction in the capacity for understanding of the significance of the historic landscape which is likely to have a significant detrimental effect upon a number of HLCA's. It is noted that 'since Registration there has been a cumulative gradual decline/reduction in value due to business parks & industrial estates, wetlands, golf courses, pylons & wind turbines'. Further information as to alternative options and suitable mitigation should be considered and explored'*.

8.125 **Response:** The impacts on the registered Gwent Levels Landscape of Outstanding Historic Interest are clearly described in the ASIDOHL2 report (Appendix 8.3 of the March 2016 ES, Document 2.3.2). Some mitigation of the likely adverse effect on the registered historic landscape has been achieved through design, such as the placement of the water treatment areas north of the new section of motorway wherever possible. Further offsetting of this adverse effect is proposed by way of a programme of historic landscape study described in the CHMP (Appendix 8.10 of the March 2016 ES).

8.126 **MCC Comment:** *'The proposed demolition of Magor Vicarage is referred to as 'a permanent large adverse effect'. The programme of building recording and analysis prior to demolition is welcomed. However it would be preferable to have a stronger commitment with regards to the re-use of the remains of the building post-demolition. In addition it is suggested that an appropriate method of demolition is employed which ensures maximum retention and reuse of the historic fabric'.*

8.127 **Response:** The CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) describes how certain historic buildings would be subject to detailed building recording ahead of demolition. With regard to Woodland House (also known as Magor Vicarage), the CHMP (paragraph 5.2.42) states that there is an opportunity to recover material that could be presented to the Brooking National Collection for permanent preservation. This has been included as Ref. No. 111 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14). The methodology for the demolition of this building will have regard to the agreed recovery of historic material.

8.128 **MCC comment:** *'In relation to the impacts on the Llanvihangel Conservation Area and associated listed buildings, the designated heritage assets are clear and it's obvious that the proposals will have a significant permanent detrimental impact on their character and setting. The character of which at present is made up of a varied and cohesive quality group of agricultural buildings, which have a strong relationship with the primary farmhouse and church. Despite the proximity of the M4 and M48 their relationship with the wider landscape is of*

equal importance and is essential in understanding and appreciating them. The proximity, height and scale of the proposed junction and roundabout together with the addition of lighting columns and signage will be overbearing and the intensive use and nature of the development will have a permanent long lasting adverse effect. In addition the junction creates an increased pressure for residential development in the immediate area which could have a further impact on the setting of the listed buildings and the Conservation Area. It is recommended that alternative options be considered and propose that the junction alignment be reviewed with the aim of mitigating this impact – one potential option might be in the realignment of the slip road which may help lower the height of the junction and thus help reduce the impact upon the Conservation Area’.

8.129 **Response:** In the March 2016 ES (Document 2.3.2) I assessed the magnitude of impact on the Llanfihangel Rogiet Conservation Area as ‘Moderate’, with the consequent significance of effect also being ‘Moderate’ adverse. The September 2016 ES Supplement (Document 2.4.4) presents an assessment of a revised design for the Magor Interchange. This allows for the lowering of the main part of the junction which serves to reduce visual and noise impacts on this Conservation Area and on several listed buildings within the designated area. However the revised junction design also requires additional landtake within part of the Llanfihangel Rogiet Conservation Area and an increase in visual and noise impacts in that part of the Conservation Area. In my opinion the magnitude of impact of the revised junction design would remain as ‘Moderate’, as would the consequent significance of effect. Any increase in pressure for residential development within or adjacent to the Conservation Area would be a matter for the local planning authority.

8.130 **MCC comment:** *‘The loss of such a significant proportion of the Conservation Area puts its designation into question and thus in the interests of maintaining some integrity of the remaining listed buildings and general arrangement some form of compensation for their ongoing maintenance, management and potential re-use should be considered to address the considerable blight that the current proposal is likely to result in. Building recording is also proposed for*

some buildings outside the study area, however the listed buildings within this conservation area have not been included. Consideration should be given to providing a suitable record in order to provide a record of the buildings prior to construction. In addition to this further mitigation should be considered (additional screen planting) and more sensitive lighting and signage options for the proposed Caldicot Roundabout and elevated slip roads – as this intrudes quite significantly into the setting and visual continuity between Green Farm and Red Barn Farm. Additional viewpoints and photomontages will be required of this area to demonstrate impact’.

8.131 **Response:** The designation of a Conservation Area is a matter for the relevant planning authority – none of the buildings within the historic core of the Llanfihangel Rogiet Conservation Area would be physically impacted as a result of the published Scheme.

8.132 Blight is a matter for individual property owners to pursue through the established mechanisms for this issue.

8.133 No building recording is proposed for buildings ‘*outside the study area*’. Building recording is proposed only for historic buildings that would need to be demolished in order to construct the published Scheme. Such buildings are clearly identified in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2) and also on Figure 6 in Appendix A of this Proof of Evidence (WG 1.9.3).

8.134 Additional photomontages are provided in the September 2016 ES Supplement (Document 2.4.4) to illustrate the impacts of the redesigned Magor Junction on the Conservation Area and listed buildings at Llanfihangel.

8.135 **MCC Comment:** *‘There are concerns that the Scheme will impact on unknown archaeology since the ground beneath is waterlogged and will be subject to drying out and compression. The waterlogged nature of the ground allows archaeological remains to be preserved. Whilst resistology (sic) & magnetrometry (sic) have been carried out, it is understood that these only reach to a depth of 1m. There would be no radar survey and some remains*

may be as much as 10m deep – clarification of how these areas would be protected is requested’.

8.136 **Response:** The magnetometry surveys that have been undertaken have not covered any waterlogged areas as this is not a suitable method for such ground conditions. These magnetometry surveys are capable of providing information regarding buried archaeological sites to a depth of at least 1m (Appendix 8.4 of the March 2016 ES, Document 2.3.2).

8.137 The Electrical Resistance Tomography (ERT) and Electro-magnetic (EM) surveys that have been undertaken have covered the waterlogged areas and are capable of providing information to a depth of up to 30m (Appendix 8.6 of the March 2016 ES, Document 2.3.2). These surveys have been used in conjunction with other information in order to develop an archaeological deposit model for that part of the Gwent Levels traversed by the new section of motorway. This model will be used to guide the programme of further archaeological fieldwork that would be undertaken ahead of and during construction.

8.138 Radar surveys have not been undertaken (and none are proposed) as this is not a suitable technique for the identification of archaeological remains in the types of subsoil present within the boundary of the published Scheme.

8.139 The methodologies to be used for construction within the Gwent Levels minimises compression and dewatering of waterlogged deposits and therefore impacts on archaeological sites resulting from such actions would be reduced. Where significant archaeological remains are identified and are at risk from compression and / or dewatering, suitable methodologies for protection would be agreed with Cadw and with the independent archaeological curator. Direct impacts from piling, band drains etc. would be addressed through a programme of further archaeological fieldwork that would be undertaken ahead of and during construction, as described in the CHMP (Appendix 8.10 of the March 2016 ES, Document 2.3.2).

Other objectors

8.140 **Comment:** A number of Objectors to the Draft Orders have made reference to the impact on the historic landscape of the Gwent Levels (e.g. OBJ0012; OBJ0013; OBJ0024; OBJ0039; OBJ0040; OBJ0041; OBJ0065; OBJ0083; OBJ0085; OBJ0086; OBJ0093; OBJ0094; OBJ0105; OBJ0109; OBJ0144; OBJ0178; OBJ0184; OBJ0185; OBJ0198; OBJ0244; OBJ0284).

8.141 **Response:** An assessment of the impact and effect of the published Scheme on the registered Gwent Levels Landscape of Outstanding Historic Interest has been undertaken in accordance with the relevant guidance. This assessment has identified that the registered historic landscape would experience a long term Large adverse effect. This would be offset to some extent by a programme of historic landscape study that would examine the development and use of the back-fen, which is the area of the registered historic landscape traversed by the proposed new section of motorway. The effect of the published Scheme on the registered historic landscape has to be weighed against the significant social, economic and other environmental benefits that the published Scheme would bring to Newport, the wider Cardiff region and Wales as a whole.

8.142 **Comment:** A number of Objectors to the Draft Orders have made reference to the demolition of the Grade II listed Woodland House (also known as Magor Vicarage) (e.g. OBJ0006; OBJ0053; OBJ0083; OBJ0152).

8.143 **Response:** Given the location of this listed building and the physical constraints associated with identifying a suitable highway route around Magor, demolition is required. Should the published Scheme go ahead, a detailed record of the building will be made prior to demolition. The St Fagans National History Museum (part of National Museum Wales) has been contacted but do not think the building is suitable as an addition to their collection. The Brooking National Collection would be offered the opportunity to remove and retain fixtures and fittings from the building. This has been included as Ref. No. 111 in the Register of Environmental Commitments (Appendix SR18.1 of the December 2016 ES Supplement, Document 2.4.14).

8.144 **Comment:** OBJ0132 refers to the impact of the published Scheme on the setting of the medieval church at Llanfihangel.

8.145 **Response:** An assessment of the impact and effect of the published Scheme on the Grade II* listed Church of St Michael and All Angels at Llanfihangel as a result of change within its setting has been undertaken in accordance with the relevant guidance. In my opinion, the construction and operation of the published Scheme would result in a Minor magnitude of impact, with a consequent Slight adverse significance of effect (paragraph 8.8.120 of the March 2016 ES, Document 2.3.2). The redesign of the Magor Junction, as described in the September 2016 ES Supplement (Document 2.4.4), would alter the nature of the changes within the setting of the Church of St Michael and All Angels but in my opinion would not alter the magnitude of impact or the consequent significance of effect.

8.146 **Comment:** OBJ0206 refers to the impact on the Conservation Area at Llanvihangel and considers that the tranquil setting of the Conservation Area would be destroyed; also impacts on the Grade II* listed church (of St Michael and All Angels) and an ancient medieval farm (Old Court Farmhouse).

8.147 **Response:** An assessment of the impact and effect of the published Scheme on the Llanfihangel Rogiet Conservation Area has been undertaken in accordance with the relevant guidance. In my opinion, the construction and operation of the published Scheme would result in a Moderate magnitude of impact, with a consequent Moderate adverse significance of effect (paragraph 8.6.102 of the March 2016 ES, Document 2.3.2). The redesign of the Magor Junction, as described in the September 2016 ES Supplement (Document 2.4.4), would alter the nature of the changes to this Conservation Area but in my opinion would not alter the magnitude of impact or the consequent significance of effect.

8.148 The results of the assessment of impacts and effects on the Grade II* listed Church of St Michael and All Angels at Llanfihangel are described above (paragraph 8.145).

- 8.149 An assessment of the impact and effect of the published Scheme on the Grade II listed Old Court Farmhouse has been undertaken in accordance with the relevant guidance. In my opinion, the construction and operation of the published Scheme would result in a Minor magnitude of impact, with a consequent Slight adverse significance of effect (paragraph 8.8.160 of the March 2016 ES, Document 2.3.2). The redesign of the Magor Junction, as described in the September 2016 ES Supplement (Document 2.4.4), would change the nature of the changes within the setting of this listed farmhouse but in my opinion would not alter the magnitude of impact or the consequent significance of effect.
- 8.150 **Comment:** OBJ0134 refers to the impact on historic sites in Magor and OBJ0286 also refers to the historical status of Magor.
- 8.151 **Response:** An assessment of the impact and effect of the published Scheme on the historic environment in the vicinity of Magor has been undertaken in accordance with the relevant guidance and the results are reported in the March 2016 ES (Document 2.3.2) and the September 2016 ES Supplement (Document 2.4.4).
- 8.152 The assessment has identified that the published Scheme would have a long term Large adverse effect on the registered Gwent Levels Landscape of Outstanding Historic Interest. There would also be a permanent Large adverse effect resulting from the demolition of the Grade II listed Woodland House (also known as Magor Vicarage) and a permanent Large adverse effect resulting from changes within the setting of a standing stone at Undy (known as the Devil's Quoit) which is a Scheduled Ancient Monument. There would also be adverse effects of lesser significance on other designated heritage assets in the vicinity of Magor.
- 8.153 The effect of the published Scheme on the historic environment, including taking into consideration all of the proposed mitigation, has to be weighed against the significant social, economic and other environmental benefits that the Scheme would bring to Newport, the wider Cardiff region and Wales as a whole.

8.154 **Comment:** OBJ0152 refers to the removal of a standing stone at Llanfihangel in order to facilitate the construction of an interchange. OBJ0083 also refers to the loss of a scheduled monument.

8.155 **Response:** I understand these comments to refer to the standing stone at Undy (known as the Devil's Quoit) which is a Scheduled Ancient Monument. This stone would not be removed in order to facilitate the construction and operation of the published Scheme. The setting of the monument would change, however a new footpath would be established to provide access from the B4245 road to the stone and information regarding the monument would be located adjacent to it. I have assessed that the construction and operation of the new section of motorway would lead to a long term Large adverse effect as a result of the change within the setting of this Scheduled Ancient Monument (paragraphs 8.7.17 and 8.8.67 of the March 2016 ES, Document 2.3.2).

8.156 **Comment:** OBJ0024 refers to the Gwent Levels and states '*.... there are archaeological implications which seem to have been totally swept aside in the rush to proceed with the route....*'. OBJ0185 also refers to the likely discovery of important archaeological remains '*which will delay the build and increase costs*'.

8.157 **Response:** The potential impact of the published Scheme on known and unknown archaeological remains is addressed in chapter 8 of the March 2016 ES (Document 2.3.2). The programme and budget for the construction of the published Scheme takes account of the programme of archaeological work described in the CHMP (Appendix 8.10 of the March 2016 ES), including a considerable contingency sum identified for dealing with archaeological sites that may be discovered during construction.

9. Conclusions

- 9.1 I have identified the likely effects of the published Scheme on cultural heritage resources in line with appropriate methodologies and guidance. In the March 2016 ES (Document 2.3.2), I described the following significant effects:
- a) Long term Large adverse effect resulting from direct and indirect impacts to the Gwent Levels Landscape of Outstanding Historic Interest;
 - b) Permanent Large adverse effect resulting from the demolition of the Grade II listed Woodland House (Magor Vicarage);
 - c) Long term Large adverse effect resulting from changes within the setting of a Scheduled Ancient Monument (the Devil's Quoit standing stone at Undy);
 - d) Long term Large adverse effect resulting from changes within the setting of a Grade II listed building (Tatton Farm);
 - e) Permanent Moderate adverse effects resulting from the demolition of three historic buildings or groups of buildings within Newport Docks;
 - f) Long term Moderate adverse effect resulting from direct and indirect impacts to the Llanfihangel Rogiet Conservation Area;
 - g) Long term Moderate adverse effect resulting from changes within the setting of the Grade I listed Newport Transporter Bridge;
 - h) Long term Moderate adverse effect resulting from changes within the setting of the Grade II* listed Whitson Court;
 - i) Long term Moderate adverse effect resulting from direct impact on the remains of a series of settlement enclosures of Roman and Iron Age date west of Magor;
 - j) Long term Moderate adverse effect resulting from direct impact on the remains of a shrunken medieval settlement at Llanfihangel;

- k) Long term Moderate adverse effect resulting from direct impact on the remains of a small moated site of medieval or post-medieval date at the junction of Rush Wall and North Row;
 - l) Long term Moderate adverse effect resulting from direct impact on a complex of earthworks adjacent to Pont-y-Cwaw Reen; and
 - m) Short to medium term Moderate adverse effect resulting from changes within the setting of a Scheduled Ancient Monument (a medieval moated site at Undy) during construction.
- 9.2 In the September 2016 ES Supplement (Document 2.4.4), I reviewed changes to the design of the Scheme since publication of the Draft Orders. I found that the additional planting proposed immediately to the north of the section of new motorway at Tatton Farm would provide visual screening. In my opinion the significance of the long term adverse effect resulting from changes within the setting of the Grade II listed farm here should be Moderate adverse rather than Large adverse as reported in the March 2016 ES (Document 2.3.2).
- 9.3 Following correspondence with Cadw, I also undertook further assessment of the impacts and effects with regard to a location close to Pye Corner comprising the remains of a possible barrage balloon site of likely Second World War date. This further assessment included an additional site visit and in my opinion there would be a permanent Large adverse effect as a result of the almost complete loss of this site and the changes within the setting of the surviving part. A proposal to relocate the barrage balloon site to a new position some 700m west of the current location has been welcomed by Cadw.
- 9.4 There is also the potential for significant adverse effects to occur as a result of direct physical impacts during construction on currently unknown archaeological sites within the Gwent Levels. The significance of effect would depend on the nature of the archaeological remains and the type and scope of any impact.
- 9.5 Impacts on cultural heritage resources have been reduced wherever possible within the design of the published Scheme. A programme of further

archaeological investigation and historic building recording has been identified within the Cultural Heritage Management Plan (CHMP - Appendix 8.10 of the March 2016 ES, Document 2.3.2), along with a requirement for an archaeological watching brief and the procedures for carrying out additional archaeological investigations where necessary. The CHMP also describes a programme of historic landscape study that will be carried out alongside the archaeological investigations.

- 9.6 The works described in the CHMP, leading to dissemination of all collated information in suitable formats and the deposition of the archive at appropriate locations, will help to offset the impacts and effects of the published Scheme on cultural heritage resources.
- 9.7 Comments on the published Scheme have been received from a number of statutory and non-statutory consultees. These comments have been examined and a full response provided within my evidence.
- 9.8 With regard to national planning policy, the Proof of Evidence presented by Mr John Davies (WG 1.23.1) describes how, although the published Scheme is contrary to the Welsh Government's objectives expressed in Chapter 6 of *Planning Policy Wales* (Edition 9, Document 5.1.12) of preserving or enhancing the historic environment, this policy recognises that the overarching objectives for the historic environment cannot always be met and that exceptions must sometimes be made. For example, paragraph 6.5.5 of *Planning Policy Wales* addresses developments that would result in an adverse effect on a scheduled monument, whilst paragraph 6.5.14 addresses the demolition of listed buildings.
- 9.9 The Large adverse effect of the published Scheme on the registered Gwent Levels Landscape of Outstanding Historic Interest is clearly at odds with Policy CE4 of the *Newport Local Development Plan 2011-2016* (Document 5.3.1) which requires that '*Sites included in the Register of Landscapes, Parks and Gardens of Special Historic Interest and identified Historic Battlefields should be protected, conserved, enhanced and where appropriate, restored*'.

9.10 Similarly, the Moderate adverse effect of the published Scheme on the Llanfihangel Rogiet Conservation Area is not in line with Policy HE1 of the Monmouthshire *Local Development Plan 2011-2021* (Document 5.3.2), as this requires development proposals to:

- a) *'Preserve or enhance the character or appearance of the area and its landscape setting;*
- b) *Have no serious adverse effect on significant views into and out of the Conservation Area;*
- c) *Have no serious adverse effect on significant vistas within the area and the general character and appearance of the street scene and roofscape'.*

9.11 However, the draft *Technical Advice Note 24:Historic Environment* (Document 9.1.7) states that changes in the historic environment are inevitable and can be the result of, amongst other things, the need to respond to social, cultural, economic and technological changes. This is precisely the reason for the published Scheme.

9.12 I can confirm that this evidence represents my true and professional opinion.