

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



Objection Ref OBJ0270

Llywodraeth Cymru
Welsh Government

File Ref WG/REB/OBJ0270-8 GWT/Bakere

Response to Objector's Evidence: Richard Bakere (Gwent Wildlife Trust)

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1. GROUNDS FOR OBJECTION

1.1. Details

1.1.1. Richard Bakere has submitted a Statement of Evidence dated February 2017 in relation to the draft statutory Orders associated with the Welsh Government's proposals for the M4 Corridor around Newport, which has been received via the Programme Officer.

1.1.2. The Welsh Government understands the evidence submitted within Richard Bakere's Statement to be based on the following:

1. States that the part of Magor Marsh Nature Reserve which lies on Barecroft Common was purchased by Gwent Wildlife Trust in 2012.
2. States that the purchase of Barecroft Common, a unique piece of ground, was funded by an appeal to the members of Gwent Wildlife Trust, and other likeminded individuals and organisations including the Gwent Ornithological Society, who appreciated the value of this ground. In recognition of the wildlife value of the ground the money raised for the land purchase was matched by the CCW (now Natural Resources Wales).
3. Considers that the two fields that are part of the Magor Marsh Nature Reserve which would be lost or partially lost to the motorway together are home to a rare habitat (both rare on the Gwent Levels and rare in the UK) which includes the terrestrial habitats of Fen meadow, Marshy grassland and Rush pasture (section 7 habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales).
4. Considers that the proposal risks the very essence of the Nature Reserve at Magor Marsh by threatening the water that creates the wetland habitat in the reserve by disruption of ground water flow to the spring in the nature reserve which is vital to maintaining the high water levels on the whole nature reserve.
5. Considers that reduced water levels and reduced water quality would lead to a loss of biodiversity and localised extinctions of sensitive species across the whole reserve.
6. Considers that the quality and stability of this water preserves the archaeology both that we know of and that which we have yet to find (the

Romano- Celtic boat found 1km west of the reserve and adjacent to the line of the proposed route being one such example).

7. Considers that polluted water from the carriageway would be likely to pass into the ree and ditch system. Concerned about run off from the carriageway carrying additional pollutants including increased oil levels, and catalytic converter particulates.
8. Concerned about silt flow into the historic SSSI ditch network during the build process caused both by the creation of new water courses and from direct run off from the construction site.
9. Considers that the wildlife isolated on the northern side of the road would no longer be able to effectively link with that to the south, decreasing the robustness of populations on both sides of the divide.
10. Considers that noise, which would be carried from the elevated level on the prevailing wind over the nature reserve, would adversely affect both people and any wildlife that relies on calls, whether for establishing territories (such as cuckoos) or for warning of the approach of predators (water voles).
11. Concerned about contamination of watercourses from motorway embankment construction (including leaching from the use of contaminated material in embankment construction).
12. Considers that there will be an increased flood and drought risk from disturbance to the drainage system.
13. Considers it is likely that bats would suffer under the increased risk of collision with vehicles.
14. Considers that otter casualties are likely to increase.
15. Concerns over robustness of ditch mitigation with reference to: the timescales for equivalent habitat to become established on new watercourses; the mitigation ratio of 1:1; and the sites of proposed mitigation within existing SSSIs.
16. Concerned about the impact on people who use the reserve.
17. Considers that the proposal will be hugely detrimental to both the archaeology and the wildlife of this landscape.

2. REBUTTAL

2.1. Points Raised

2.1.1. The above points are dealt with by topic by the relevant witnesses in the following sections. Readers should also make reference to the Proofs of Evidence in their entirety for a full understanding of the Welsh Government's case. For ease of reference the places where the above points are addressed in this Rebuttal are listed in the table below:

Objector's point reference	Rebuttal paragraph reference	Objector's point reference	Rebuttal paragraph reference
1	2.2.1	10	2.4.3
2	2.2.1	11	2.6.1
3	2.2.2	12	2.7.1
4	2.3.1	13	2.8.1
5	2.4.1	14	2.4.4
6	2.5.1	15	2.4.5
7	2.3.2	16	2.2.2
8	2.3.3	17	2.5.2
9	2.4.2		

2.2. Matthew Jones (Chief Witness)

2.2.1. Response to **Points 1 and 2** (States that the part of Magor Marsh Nature Reserve which lies on Barecroft Common was purchased by Gwent Wildlife Trust in 2012), (States that the purchase of Barecroft Common, a unique piece of ground, was funded by an appeal to the members of Gwent Wildlife Trust, and other likeminded individuals and organisations including the Gwent Ornithological Society, who appreciated the value of this ground. In recognition of the wildlife value of the ground the money raised for the land purchase was matched by CCW (now Natural Resources Wales):

1. Gwent Wildlife Trust were aware of the proposed road alignment and its protected corridor as first published in 1995 as amended in 1997 and 2006 when they purchased the land in 2012. The protected corridor was published in the Monmouthshire Unitary Development Plan in 2006, and was carried over into the Local Development Plan in 2014 (and subsequently revised with the 2014 Preferred Route modification).

2. The Trust's website¹ confirms:

"Gwent Wildlife Trust and other organisations have been campaigning against proposals for a new M4 relief road across the Gwent Levels for over 20 years."

And the website further confirms that that half of the purchase cost was met by CCW, who were aware of the M4 proposals at that time²:

"...with significant generosity from GWT members, we raised £65,000. CCW offered to match whatever we spent at auction. In less than a month, we had £130,000 for Barecroft Common."

3. The actual purchase price was £124,000 with half coming from CCW³.
4. CCW and more recently Natural Resources Wales have been engaged with the Welsh Government about the M4 proposals since the early 1990s including at times when the protected corridor was established and subsequently revised.

2.2.2. Response to **Points 3 and 16** (Considers that the two fields that are part of the Magor Marsh Nature Reserve which would be lost or partially lost to the motorway together are home to a rare habitat (both rare on the Gwent Levels and rare in the UK) which includes the terrestrial habitats of Fen meadow, Marshy grassland and Rush pasture (section 7 habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales), (Concerned about the impact on people who use the reserve):

1. Neither the Newport Wetlands National Nature Reserve and RSPB Reserve, nor the Magor Marsh and Great Traston Meadows Gwent Wildlife Trust Nature Reserves would be significantly affected, although a small area of land owned by the Gwent Wildlife Trust would be acquired (refer to the plans published by the Welsh Government at Document 2.3.1; Sheet 15, 15/7 plot series⁴). Views of the new section of motorway from Magor Marsh Nature Reserve would be screened by the existing

¹ <http://www.gwentwildlife.org/how-you-can-help/m4-relief-road-help-us-protect-gwent-levels>

² <http://www.gwentwildlife.org/sites/default/files/Wild%20About%20Gwent%20August%202012.pdf>

³ <http://www.bbc.co.uk/news/uk-wales-south-east-wales-17896501>

⁴ Gwent Wildlife Trust are also named as having access over some plots in the 15/9 series, of which the freeholder of this land is Mr William Reece

woodland and vegetation within and surrounding the nature reserve and residential properties within Magor.

2. The draft CPO (and hence the footprint of the Scheme) covers 3395 sq m (0.34 ha) at the northern corner of this land (excluding the adjacent section of road - 766 sq m) and thus only some 3% of the area (11.3 ha) of the fields Gwent Wildlife Trust purchased in 2012, which is itself only a small part of their landholding on the Gwent Levels.
3. In relation to the use of the Magor Marsh Nature Reserve, as a recreational and educational resource, the information on the extent of the Reserve on the Trust's web-site and on the information board at the Reserve guides the public towards the 'Dragonfly Trail' and the 'Butterfly Trail' which are located to the west of the car park, between Whitewall Reen and Blackwall Reen. There is signage to the Nature Reserve from the junction of the B4245 and Newport Road in Magor.
4. Julia Tindale (WG1.10.1) clarifies further that the land at Barecroft Fields is within the landholding of Gwent Wildlife Trust and is currently in grassland use with some horse grazing, not being managed for nature conservation purposes. It lies over 840 metres to the west of the nearest point of the Dragonfly Trail' and the 'Butterfly Trail' and is not signed from the M4 or the A4810. Access into this land is from Barecroft Common via a padlocked gate, with no formal public access across this area

2.2.3. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.3. Richard Graham (Water Quality)

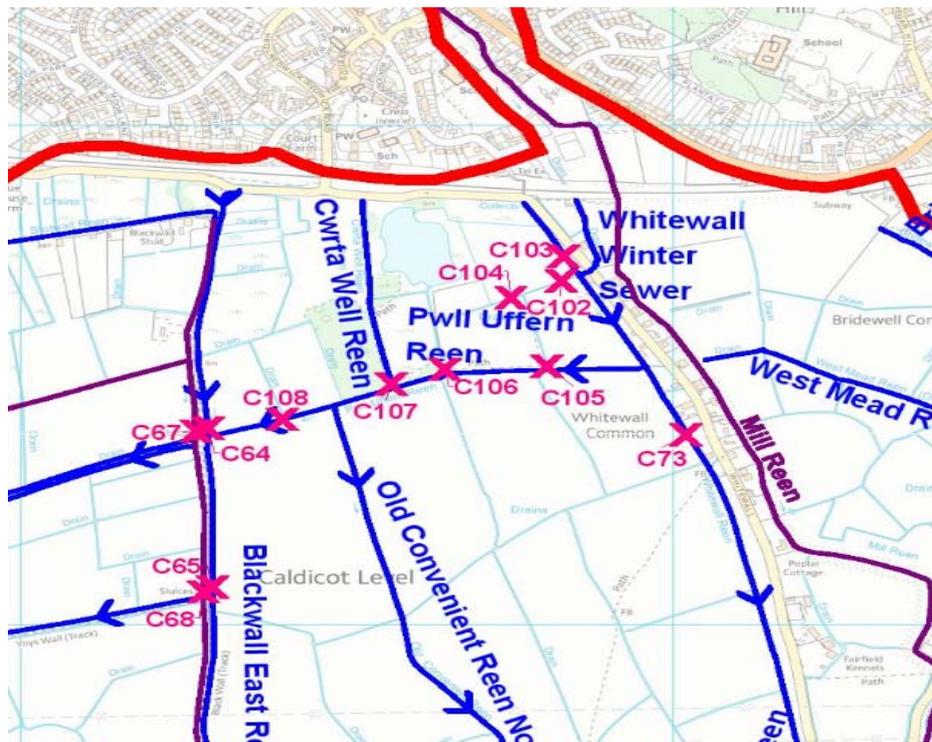
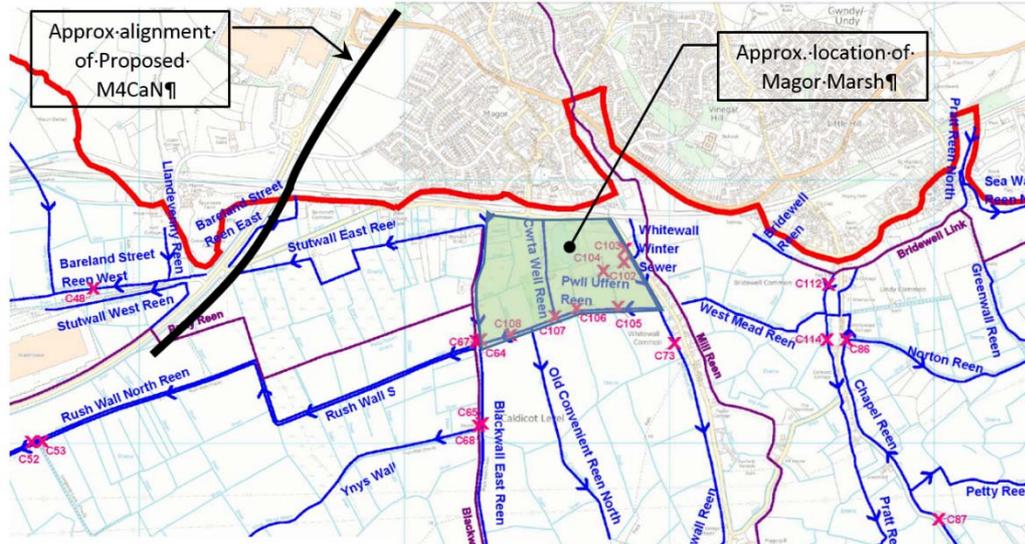
- 2.3.1. Response to **Point 4** (Considers that the proposal risks the very essence of the Nature Reserve at Magor Marsh by threatening the water that creates the wetland habitat in the reserve by disruption of ground water flow to the spring in the nature reserve which is vital to maintaining the high water levels on the whole nature reserve):

1. The proposed Scheme is located over 1km north of Magor Marsh comprising, at this location, embankment construction around Magor Junction 23A.
2. Widening of an existing cutting (associated with the current M4 carriage way) is also proposed along the eastbound carriageway of the Scheme.
3. This proposed widening does not require deeper excavations, with works not exceeding a depth of approximately 33 metres above Ordnance Datum (mAOD). These works are sited at a much higher elevation than Magor Marsh at an elevation of approximately 6 mAOD, and south of the South Wales Main Line.
4. Historical boreholes⁵ within the vicinity of the proposed cutting (advanced up to 15 metres below ground) did not encounter groundwater, indicating groundwater is not present at least above an elevation of approximately 23 mAOD, i.e. approximately 10 metres below the elevation of the motorway. Borehole evidence in the vicinity of Magor Marsh suggests the Tidal Flat Deposits (TFD) to be approximately 6 metres in thickness resting on gravels over the Mercia Mudstone Group. Groundwater within the TFD at Magor Marsh, and throughout the Caldicot Levels generally, is restricted due to the low porosity and permeability of these marine alluvial clay deposits and peats and consequently does not constitute a significant groundwater body or aquifer.
5. Groundwater levels are recorded within underlying bedrock at elevations located within the TFD. Separate to this water level, a shallow, impersistent and variable water table may be present near and typically above this elevation within the TFD at an elevation of approximately 4-5 mAOD (Appendix 16.2 to the March 2016 ES Document 2.3.2). This water table is the principal source of groundwater, albeit in very low quantities owing to its low permeability, for Magor Marsh, particularly for shallow surface ponds constructed within the TFD.

⁵ http://scans.bgs.ac.uk/sobi_scans/boreholes/387046/images/10709085.html
http://scans.bgs.ac.uk/sobi_scans/boreholes/387045/images/10709084.html
<http://www.bgs.ac.uk/lexicon/lexicon.cfm?pub=BRL>
http://scans.bgs.ac.uk/sobi_scans/boreholes/387058/images/14833724.html

6. As stated at paragraph 5.4.9 in Appendix 16.2 to the ES, areas of higher elevation at the study area around Magor are characterised by less evidence of groundwater emergence and southerly flow towards the Levels. This is consistent with the limited number of groundwater abstractions sources identified at this end of the study area, despite the generally more productive nature of the bedrock geology and absence of superficial deposits in this area.
7. In summary, I conclude that the construction of the Scheme will not impact on shallow groundwater levels at Magor Marsh due to the following:
 - a) the proposed cutting for the Scheme is only a widening of the existing M4 cutting, which does not represent a significant alteration to the baseline groundwater environment;
 - b) the absence of groundwater within the proposed depth of both the existing M4 cutting and proposed cutting widening. As a consequence, no impact on groundwater levels is likely. This conclusion is supported by the observation that the existing M4 cutting is not significantly affecting water levels at Magor Marsh;
 - c) the distance between Magor Marsh and the proposed cutting widening being over 1 kilometre. Potential effects on groundwater within low permeability strata like the TFD are insignificant at this distance;
 - d) Magor Marsh is located at an elevation approximately 27 metres below that of the proposed cutting. Potential effects on groundwater are typically insignificant at such a vertical separation;
 - e) the dominance of limited local and shallow groundwater conditions within the TFD on water flows within Magor Marsh.
 - f) The TFD are not present at the site of the proposed cutting widening and therefore these deposits are unaffected by the proposals. No shallow groundwater pathway therefore exists within the TFD between the proposed Scheme and Magor Marsh.
8. Michael Vaughan (Flood Consequences) confirms that the project team has assessed the hydrological setting of the nature reserve by reference to plans held by the former Caldicot and Wentlooge Internal Drainage

Board, (now Natural Resources Wales). An extract from the plans is shown below.



9. The plans indicate that the surface water flow regime within the nature reserve is to the south of Magor and from the east. These areas are remote from, and unlikely to be impacted by the proposed Scheme. In conclusion, construction works associated with the proposed Scheme will

not impact the flow of surface water that supports the wetland habitat within nature reserve.

2.3.2. Response to **Point 7** (Considers that polluted water from the carriageway would be likely to pass into the reen and ditch system. Concerned about run off from the carriageway carrying additional pollutants including increased oil levels, and catalytic converter particulates):

1. Polluted water from the carriageway is to be directed to the water treatment areas via specially designed grass lined channels. These provide measure to remove sediments, hydrocarbons and other pollutants. The treatment capacity of these lagoons is designed for the 1 in 100 year event with a 30% allowance for climate change.
2. Following the three stages of treatment via (1) the grass lined channels (2) the bypass oil separator/pollution control lagoon and (3) the wet balancing pond, the runoff undergoes a final stage of 'polishing' via the reed bed (4), to provide the necessary treatment of residual soluble and suspended pollutants, prior to discharge to a receiving watercourse.
3. Reed beds are widely acknowledged to provide a relatively high level of treatment. Thus is particularly the case where the reed bed forms part of a wider hierarchy of complementary water treatment stages and where flows are attenuated to provide a low energy environment with adequate residence times for pollutant uptake and attenuation to occur.
4. Commitment numbers 4, 5, 59 and 159 ensure that the quality and quantity of water discharged to the reen network is controlled and adheres to the control levels for the Gwent Levels SSSI agreed with Natural Resources Wales. The Register of Commitments can be found in Appendix SR18.1 of the December 2016 ESS.
5. Further details of the treatment mechanisms and levels of treatment proposed can be found in Appendix 16.3 of the March 2016 ES and the ESS (December 2016).
6. Untreated run off from the existing M4 currently drains into Mill Reen. The predicted reduction in traffic on the declassified M4 as a consequence of the proposed new section of motorway will lead to a reduction in the pollution being directed to this watercourse that flows into the SSSI to the east of Magor Marsh.

2.3.3. Response to **Point 8** (Concerned about silt flow into the historic SSSI ditch network during the build process caused both by the creation of new water courses and from direct run off from the construction site):

1. Barry Woodman explains (WG 1.6.1) that run-off from the construction site would be contained by bunds. All run-off originating within the bunded area would be conveyed to temporary water treatment areas where silt would be settled out prior to discharge to the reen system. Replacement reens and ditches would be excavated outside the bunded area. They would be excavated leaving a plug between the excavation and the existing reen system. Any standing water within the reen will be allowed to settle out before gradually removing the plugs to connect to the existing reens and ditches, water would be allowed in slowly to minimise turbulence and further suspension of sediment. The risk of silt flow with this approach would be less than from the current maintenance de-silting of the reens and management of ditches adopted throughout the Gwent Levels.

2.3.4. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.4. Keith Jones (Ecology)

2.4.1. Response to **Point 5** (Considers that reduced water levels and reduced water quality would lead to a loss of biodiversity and localised extinctions of sensitive species across the whole reserve):

1. As explained in the evidence of Ben Sibert (WG 1.5.1) and Barry Woodman (WG1.6.1) the new section of motorway has been designed to ensure that drainage connections across the line of the road are maintained so that there would be no reduction in quantities of water at Magor Marsh. Richard Graham (WG 1.15.1) explains that the highway drainage system, comprising grass-lined channels leading to water treatment areas with siltation ponds, attenuation lagoons and reedbeds, would ensure a high degree of treatment of run-off so that there would be no detriment to water quality in the reen system. This would ensure that there was no consequential loss of biodiversity or localised extinctions.

2.4.2. Response to **Point 9** (Considers that the wildlife isolated on the northern side of the road would no longer be able to effectively link with that to the south, decreasing the robustness of populations on both sides of the divide):

1. Culverts and dry mammal tunnels will provide routes for wildlife to move across the line of the new section of motorway (see Keith Jones' Proof of Evidence WG 1.18.1 section 7.3.1 related to otter but applies to other wildlife including bats, water voles, badgers, great crested newts, and dormice. Richard Green in his evidence (WG 1.20.1 paragraphs 5.3.5 to 5.3.9) describes in detail how these measures would assist bats in crossing the new section of motorway. Jon Davies in his evidence (WG 1.19.1) describes how the measures would enable water voles to cross (paragraphs 5.2.21 to 5.2.26). He also explains at paragraphs 5.3.6 to 5.3.9 how dormice would be able cross the new section of motorway.

2.4.3. Response to **Point 10** (Considers that noise, which would be carried from the elevated level on the prevailing wind over the nature reserve, adversely affecting both people and any wildlife that relies on calls, whether for establishing territories (such as cuckoos) or for warning of the approach of predators (water voles)):

1. The March 2016 Environmental Statement (Doc 2.3.2) includes detailed considerations of the potential effects of noise on the species considered to be most sensitive. Thus there is detailed consideration of the potential effects of construction noise on migratory, estuarine and freshwater fish, breeding birds and wintering birds. Similarly for operational noise from the road there is detailed consideration of the potential effects on breeding and wintering birds (see Keith Jones' Proof of Evidence 1.18.1 section 7.4.33).

2.4.4. Response to **Point 14** (Considers that otter casualties are likely to increase):

1. As explained in Keith Jones Proof of Evidence (WG 1.18.1 paragraph 5.3.30) as shown on the revised Environmental Masterplan (EMP) (September 2016 ES Supplement (Document 2.4.4) Figure R2.6), permanent mammal fencing would be provided along most of the length of the new section of motorway, other than the elevated section through Newport Docks and the viaduct to the east of the Usk where fencing

would not be necessary. The mammal fencing would be specifically designed to prevent otter and badger from accessing the highway.

2. The otter exclusion fencing would be installed along both sides of the new road in order to prevent otters from entering the road network. The fencing would not only prevent access to the road but would also direct otters towards culverts and dry mammal crossings that would be constructed to enable otters to safely cross under the road. With regard to otters, the purpose of fencing, culverts and dry mammal crossings would be to prevent an increase in otter casualties by road traffic collision.
3. Thus there is no reason why otter road casualties would increase as a result of the operation of the new section of motorway.

2.4.5. Response to **Point 15** (Concerns over robustness of ditch mitigation with reference to: the timescales for equivalent habitat to become established on new watercourses; the mitigation ratio of 1:1; and the sites of proposed mitigation within existing SSSIs):

1. As explained in Keith Jones Proof of Evidence (WG 1.18.1) at paragraph 7.6.6, mitigation described in the March 2016 Environmental Statement chapter 10 (Document 2.3.2) has been designed to aid re-colonisation of new watercourses, for example by the maintenance of all existing reed connections across the line of the new section of motorway, including temporary connection during construction, and the translocation of aquatic plant material and sediment from existing to new reeds/ditches.
2. Many of the existing ditches do not hold water all year round, and therefore are inhabited by a community of aquatic invertebrates that is tolerant of fluctuating water levels and occasional drying, and therefore is able to recolonise such areas naturally.
3. It should be recognised that all of the new reeds and ditches would be connected to existing watercourses, and that these existing reeds and ditches are themselves artificial water courses which have been excavated in the past, and in the case of the reeds are subject to a programme of regular clearing out as part of the NRW management regime.

4. There is no reason why the new features would not become established and colonised by vegetation and fauna of the neighbouring connecting watercourses within a few years at most.
5. The ratio for provision of new reens and ditches was agreed with NRW. The reason that the ratio of new to loss of existing is not greater is because NRW were concerned that proposals which included a greater proportion of new reens and ditches could have had adverse effects on the hydrology of the levels (Keith Jones Proof of Evidence (WG 1.18.1 paragraph 7.3.63)).
6. The proposals for the SSSI Mitigation Areas at Maerdy Farm, Tatton Farm and Caldicot Moor are set out in the draft SSSI Mitigation Strategy (December 2016 Environmental Statement Supplement (Document 2.4.14) Appendix SR10.35. Tatton Farm and Maerdy Farm are within the Gwent Levels SSSIs and the proposed measures will enhance the biodiversity value of the land within the designated sites. Caldicot Moor is outside the SSSIs and the proposed measures will similarly enhance the biodiversity value of the land.
7. As explained in Keith Jones Proof of Evidence (WG 1.18.1) at paragraph 7.3.67, in determining the area of land required to provide sufficient mitigation, in addition to physical and ecological characteristics, and the aim of providing mitigation land to both the west and east of the River Usk, land ownership was an important consideration in identifying land which would be suitable for ecological enhancement so as to provide the essential mitigation for the loss of grazing marsh.
8. In the first instance land already owned by Welsh Government was considered in order to avoid the need to acquire privately owned land. The land at Tatton Farm is owned by the Welsh Government. Consideration was next given to land within agricultural holdings which would be significantly affected by the proposed new section of motorway and where there is the potential for reversion of arable land to grassland. Maerdy Farm was identified as a suitable site where the land is severed by the proposed new section of motorway and comprises arable land.
9. Finally, consideration was given to land close to but outside the existing SSSIs, which is otherwise of similar character and would be capable of

ecological enhancement. Caldicot Moor was the only such area identified.

10. NRW, in its letter of 4th May 2016 confirmed that:

“Taking into account the nature of the Gwent Levels, as a relatively extensive area containing a variety of land use practices within the site boundaries, we are prepared to accept the principle that works within the Gwent Levels SSSIs could be regarded as making a contribution both to the compensation for the loss of SSSI grazing marsh area due to the undertaking of the M4 CaN project, and to favourable management of the reed and field ditch network as a whole. In particular, we would look favourably on proposals which sought to restore current arable use to grazing marsh, where this seeks to restore the historic drainage pattern including in field grips.”

And that:

“We would not wish to see all such mitigation/ compensation/ enhancement works brought forward within the existing SSSI boundaries and for that reason we welcome the consideration of Caldicot Moor...”

2.4.6. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.5. Mick Rawlings (Cultural Heritage)

2.5.1. Response to **Point 6** (Considers that the quality and stability of this water preserves the archaeology both that we know of and that which we have yet to find (the Romano-Celtic boat found 1km west of the reserve and adjacent to the line of the proposed route being one such example):

1. The quality and stability of the water within the Gwent Levels would not be affected by the published Scheme hence there would be no change to the current preservation levels pertaining to archaeological remains. The Romano-Celtic boat referenced by Mr Bakere is known as the Barlands Farm Boat. It was found during the construction of the Gwent Europark at a location approximately 260m from the highway boundary of the published Scheme.

2.5.2. Response to **Point 17** (Considers that the proposal will be hugely detrimental to both the archaeology and the wildlife of this landscape):

1. Effects on wildlife have been addressed by Keith Jones in his Proof of Evidence WG1.18.1.
2. The likely effects of the construction and operation of the published Scheme on buried archaeological remains is presented in Chapter 8 of the March 2016 Environmental Statement (Document 2.3.2). Further information on the nature of the archaeological remains within the Gwent Levels that could be affected by the published Scheme is presented in its Appendices 8.2 – 8.10. There is no evidence that the Scheme would be 'hugely detrimental' to the archaeology of the area and Cadw (Welsh Government's principal adviser on archaeology) have confirmed that they are not objecting to the Scheme.

2.5.3. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.6. Andy Clifton (Contamination)

2.6.1. Response to **Point 11** (Concerned about contamination of watercourses from motorway embankment construction (including leaching from the use of contaminated material in embankment construction)):

1. The design of the Scheme has been subject to an assessment of land contamination and also a remediation strategy has been developed to deal with known and potentially contaminated material following current UK guidance. This is described within Chapter 11 of the March 2016 Environmental Statement (Document 2.3.2) and supporting information was provided in ES Appendix 11.1 (Land Contamination Assessment Report) and ES Appendix 11.2 (Outline Remediation Strategy Report).
2. Following completion of the 2016 Ground Investigation the Land Contamination Assessment Report and Outline Remediation Strategy Report was updated and published in the September 2016 Environmental Statement Supplement as Appendix R11.1 and R11.2 respectively (Document 2.4.4).

3. The design of the embankment has been undertaken using the sustainable principle of retention and reuse of contaminated materials within the Scheme, provided that such materials do not result in unacceptable risks to human health or controlled waters.
 4. The treatment of lagoon silt and slag originating from Llanwern Steelworks would be subject to compliance with the Environmental Permitting Regulations. A Mobile Treatment Licence (or a Bespoke Waste Permit if the treatment operation is expected to last over 12 months) would be obtained from NRW prior to construction. Compliance with the Mobile Treatment Licence would help demonstrate to NRW that the treated material placed in the core of the embankment is suitable for reuse and the material is longer subject to regulation as a waste.
 5. The potential risks of contaminants leaching from other potentially contaminated soils placed within the embankment have been assessed as low and this is described throughout Chapter 16 of the March 2016 Environmental Statement (Document 2.3.2) including Sections 16.7.10-20 and Tables 16.22 to 16.25 and Table 16.27..
- 2.6.2. Further information on the design of the embankment and the re-use of suitable, potentially contaminated soils is set out in the response to PIQ0057. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.
- 2.6.3. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.7. Mike Vaughan (Flood Consequences)

- 2.7.1. Response to **Point 12** (Considers that there will be an increased flood and drought risk from disturbance to the drainage system):
1. Run off from the carriageways will be directed to the water treatment areas. The discharge from these treatment areas was included in the hydraulic modelling to check for changes in flood risk. The hydraulic modelling and Flood Consequences Assessment (Appendix 16.1 of Document 2.3.2) confirmed that there would be little impact on flood risk. The reen mitigation strategy has been derived to ensure hydraulic connectivity across the proposed motorway embankment. The 'collect,

pass, and spread' approach will minimise disturbance to the drainage system, both preventing any increase in food risk and ensuring continuity of the existing feed supplies during drought.

2. As part of the Reen Mitigation Strategy (Appendix 2.3 of the September 2016 Environmental Statement Supplement Document 2.4.4) we are introducing an additional 44 water control structures. These will provide additional controls to allow water to be redistributed around the Gwent levels as required. These controls will be managed to ensure water level management around the Gwent Levels can be optimised to the benefit of all.

2.7.2. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.8. Richard Green (Bats)

2.8.1. Response to **Point 13** (Considers it is likely that bats would suffer under the increased risk of collision with vehicles):

1. The risk of injury and fatality to foraging and commuting bats is addressed in paragraphs 10.9.270 – 10.9.273 and 10.9.286 – 10.9.288 of the ES. In addition, the Draft Bat Mitigation Strategy seeks to develop mitigation measures for bats further. We are currently considering where culverts can be increased in height to improve their effectiveness for bats, in consultation with NRW, in order to reduce the likelihood of bats flying over the road and colliding with vehicles.

2.8.2. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.