THE METROPOLITAN BOROUGH OF STOCKPORT (HAZEL GROVE (A6) TO MANCHESTER AIRPORT A555 CLASSIFIED ROAD) COMPULSORY PURCHASE ORDER 2013

THE METROPOLITAN BOROUGH OF STOCKPORT (HAZEL GROVE (A6) TO MANCHESTER AIRPORT A555 CLASSIFIED ROAD) (SIDE ROADS) ORDER 2013

THE HIGHWAYS ACT 1980

-and-

THE ACQUISITION OF LAND ACT 1981

THE HIGHWAYS (INQUIRIES PROCEDURE) RULES 1994

COMPULSORY PURCHASE (INQUIRIES PROCEDURE) RULES 2007

REFERENCE: LAO/NW/SRO/2013/40 and LAO/NW/CPO/2013/41

A proof of evidence relating to the GCN aspect of the

A6 to Manchester Airport Relief Road

-of-

Jamie Bardot

BSc, LLM, CEnv, MIEMA

on behalf of

The Metropolitan Borough Council of Stockport

acting on its behalf and on behalf

-of-

Manchester City Council

-and-

Cheshire East Borough Council

VOLUME 1 – Proof

Local Public Inquiry – 30th September 2014

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Personal Details

1. My name is Jamie Bardot and I hold the position of Principal Environmental Advisor with Morgan Sindall plc. I have a degree (BSc) in physical Geography and a masters (LLM) in Environmental Law. I am a chartered environmentalist (CEnv) and a full member of the Institute of Environmental management and Assessment (IEMA). I have over 10 years' experience in earth sciences, ecology and construction schemes through the UK. I have delivered over £2bn of work for Morgan Sindall and over 50 schemes which contain GCNs (GCNs). I hold several external appointments including:

   - Current Chair of the Rail Industry Environment Forum
   - British Standards Institute (BSI) Biodiversity committee member
   - The construction industry representative on the future Chartered Institute of Ecology and Environmental Management (CIEEM) guidance on Ecological Clerks of Works (EcoW).

Commission for the A6MARR

2. Working for Morgan Sindall we are part of a joint venture with Carillion plc (CMS) and pending approvals, will be the construction company used by the client group to finish designing and subsequently constructing the A6MARR scheme. My role in this team is of Consents Manager, the person responsible for obtaining all the environmental related consents. As part of this role I have an oversight into the design mitigation works and will appoint the environment team to work on the scheme.

3. This proof of evidence relates to the use of land both inside and outside of the CPO boundaries for the protection of GCNs. One of the requirements for land take as part of the published CPO is to ensure there is adequate habitat compensation for GCNs (and other species) within the footprint of the scheme as required by law. The requirement for land currently sitting outside of the CPO, to be secured either by CPO or negotiation is to facilitate the mitigation required for the GCNs during the construction of the scheme at the same time as the permanent compensation areas.

4. The requirements for the permanent CPO and the temporary use for mitigation are dealt with under the headings, 'compensation' and 'mitigation' respectively.

Ecology of the GCN

5. The Great Crested (or warty) Newt Triturus cristatus is widespread across lowland England apart from the extreme southwest. The species is absent or rare in upland areas, highly urbanised areas and areas with a very low pond density. Like most amphibians, it breeds in water and spends a large proportion of its life on land. For breeding it prefers small to medium sized ponds that are un-shaded, fish-free and have substantial aquatic plant cover. GCNs often form meta-populations, i.e. a series of sub-populations that are linked by dispersal of individual newts. GCNs often inhabit ponds that are part of a 'pond cluster', and individuals move between ponds with varying frequency. Each cluster of GCNs is known as a 'metapopulation'.

6. Most GCN breeding ponds in England are field ponds in arable or pastoral settings. The species may also be found in a range of other pond types, and the largest populations are recorded from ponds formed in abandoned workings, such as chalk or clay pits. On land, GCNs can be found in a range of

habitats, with large numbers often found in ancient woodland, scrub and rough grassland where there are suitable ponds nearby.

7. Adult newts emerge from hibernation around February, depending on local climate, and head towards ponds where breeding occurs from around March to June. Females lay eggs individually on the leaves of aquatic plants. Eggs hatch out after around two weeks, and larvae then take around 12 weeks to complete metamorphosis, at which time they leave the pond as juveniles (or efts). It then takes two to four years to reach sexual maturity, during which time some immature newts may disperse towards ponds further away. Some newts will return to the pond where they were laid as eggs. GCNs may disperse several hundred metres, sometimes over 1km, from the breeding pond, though at most sites the majority of the population is normally found within around 100 - 250m of it.

8. Adults grow to around 17cm maximum length. Larvae feed on small aquatic invertebrates such as water fleas Daphnia. Immature and adult newts will take mainly invertebrates and larval amphibians; they may feed both on land and in the water.

9. The GCN has undergone serious declines in England since the middle of the twentieth century. Declines have been mainly due to the loss of breeding ponds, reduction in breeding pond suitability (notably through shading and fish introduction) and fragmentation of habitats. Although the species may still be found in up to around 40% of ponds in some local areas, it has been lost from many ponds, and most populations are at a reduced size and viability[1].

Legal Protection

10. Great Crest Newts (GCN's) are a European Protected Species (EPS) afforded protection by the Habitats Directive[2] which is the highest possible form of protection given to Wildlife in the European Union. The United Kingdom has transposed the requirements of the Directive into domestic regulations; the Conservation of Habitats and Species Regulations 2010[3].

11. In essence, EPS are listed in Schedule 2 to the regulations and include inter alia otters, wild cats, GCN's, bats and dormice. Regulation 41 sets out the following offences:

    41. (1) A person who—

    (a)deliberately captures, injures or kills any wild animal of a European protected species, .

    (b)deliberately disturbs wild animals of any such species, .

    (c)deliberately takes or destroys the eggs of such an animal, or .

[1] Abstracted from Natural England Guidance for land mangers http://www.naturalengland.org.uk/Images/esis01_tcm6-3776.pdf Core Document Ref: 4427
[2] Council Directive 92/43/EEC Core Document Ref: 4428
[3] SI 2010/490 (as amended by SI 2012/1927) replacing SI 1994/2716 and subsequent amendments including SI 2007/1843 Core Document Ref: 4429, 4430, 4431, 4432.

(d)damages or destroys a breeding site or resting place of such an animal, .

is guilty of an offence.

A breeding site in this instance would be a pond used for breeding and the resting place would be suitable hibernacula i.e. pond margins, hedgerows, tussocky grass land etc.

12. Disturbance is given special treatment in the regulations in para. 2 where it outlines:

(2) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely—

(a)to impair their ability— .

(i)to survive, to breed or reproduce, or to rear or nurture their young, or .

(ii)in the case of animals of a hibernating or migratory species, to hibernate or migrate; or .

(b)to affect significantly the local distribution or abundance of the species to which they belong.

13. The GCN and its habitat is protected. The A6MARR scheme passes through several dense areas of GCN habitat therefore without mitigation and compensation and the grant of a licence an offence would be committed. The ES draws the conclusion at 11.5.52 that the residual impact (which includes the compensation) on GCNs would be 'negative, but not significant'.

Licensing

14. Regulation 53 allows derogation from committing an offence by way of reg. 41 through the grant of a licence by the appropriate authority (in this case, Natural England). This licence will allow the capture and disturbance *inter alia* of GCNs to allow the development to proceed. The broad areas for Natural England to consider when examining an licence application are:

- The authorised activities (for a licence) are for a specified purpose, usually over-riding public interest or conservation.
- There is no satisfactory alternative.
- The activities would not compromise the favourable conservation status of the species.

15. The level of detail required for both the Town and Country Planning Regime ("planning") and EPS licencing regimes differ as they are separate and distinct consenting processes.

16. As yet, the European Court of Justice has not given a clear indication for the interpretation of 'Imperative Reasons of Overriding Public Interest' (IROPI) in relation to protected species. Natural England apply the same considerations as the planning authorities in answering this question – will the activities / developments meet or provide a contribution to meeting a specific need such as:

- The requirement to maintain the nation's health, safety, education, environment (sustainable development, green energy, green transport);
- Complying with planning policies and guidance at a national, regional and local level;
- Requirements for economic or social development (Nationally Significant Infrastructure Projects, employment, regeneration, mineral extraction, housing, pipelines etc).

17. The arguments for the points outlined in para. 14 above are covered by the fact the scheme has been through the Town and Country Planning regime and gained planning permission from the three relevant local authorities. As part of the licence application a 'reasoned statement' section is designed to draw out these points and the evidence is supplied from the planning application and environmental statement.

18. It ought to be recognised that there are always going to be alternatives to a proposal and in terms of licensing decisions, it is for Natural England to determine that a reasonable level of effort has been expended in the search for alternatives. In terms of the macro aspects of the scheme, the alternative options have been through public consultation and the preferred option has emerged through the planning process.

19. On a micro level, the alternatives in terms of the licence to capture, disturb *inter alia* GCNs are discussed at length later in this document however the strategy chosen to deliver both the compensation and mitigation works has been selected to deliver the minimal impact upon the project, local residents and crucially for present purposes the GCN itself.

20. The proposed mitigation strategy for the A6MARR requires additional third party land (outside the CPO limits) so as to relocate GCNs off the footprint of the site while construction takes place (of both the road and compensation areas) and then allow the amphibians to return naturally over time to the enjoy the compensation areas.

21. This is in preference to the following sequence of events:

    - Trapping out, removing newts and displacing them elsewhere into the footprint of the A6MARR while the compensation areas establish themselves. It ought to be noted that there are not enough ponds untouched within the footprint of the works which could be made suitable to accept newts.

    - After this an optimum period of 1-2 years would need to be allowed for so the area can 'mature' and become suitable for GCNs[4].

    - The remaining footprint of the A6MARR would be trapped out – therefore trapping individual GCNs for a second time. The double handing of the species can be detrimental to its survival and Natural England guidance steers development strategies away from this approach[5].

[4] Section 8.3 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433
[5] Section 4 of Natural England Guidance 'WML-G11 (0209) Master Plan Guidance – GCNs' http://www.naturalengland.org.uk/Images/WML-G11_tcm6-9930.pdf Core Document Ref: 4434

22. It should be noted that the nature conservation regulator – Natural England – are a statutory consultee of the planning process and did not raise any material objections to the scheme stating the following:

"Natural England does not consider that this application poses any likely or significant risk to those features of the natural environment for which we would otherwise provide a more detailed consultation response and so does not wish to make specific comment on the details of this consultation". [6]

23. Natural England know that the detail of GCN mitigation will be taken care of through the licensing process[7].

24. Natural England have already received a document outlining the situation with regard to GCNs and phases of development concerned with the A6MARR[8]. This 'masterplan' accompanied an EPSL application for accommodation works at Styal Golf Course. The development of the A6MARR requires three phases of work:

    a. Accommodation Works at Styal Golf Course.
    b. Diversion of the OPA Pipeline near Bramhall Oil Terminal.
    c. Constructing the A6MARR itself.

25. The first phase will comprise work at Styal Golf Course on the western end of the A6MARR scheme. The work will remodel the golf course as the A6MARR will cut across the top of it and reduce its area. Several agricultural fields to the south-east of the golf course have been purchased and will be used to develop new playable holes to compensate for where the old ones are lost, and maintain a full 18 hole course so that this business, which is locally important, remains viable.

26. A licence was granted by Natural England for these works to commence in 2014.

27. The master plan places context around the phases of development and gives Natural England 'a heads up' of the potential issues surrounding the scheme[9]. The feedback received from Natural England is what has driven the chosen mitigation strategy for the scheme. A draft licence application combining phases (b) and (c) from para. 24 was submitted in August 2014 to Natural England which addresses the feedback. The rationale for this is explained later in this document.

Surveys

28. Ecological surveys were undertaken by Penny Anderson Associates in 2007 to support a previous planning application for the scheme. Further ecological surveys were also undertaken in 2010 by Mouchel to support a new planning application for the scheme under a revised layout, and these

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[6] Letter from Natural England (Anthony Bremner) to Cheshire East Council (Peter Hooley) [29 November 2013] ***Planning consultation:*** *SEMMMS Construction of the A6 to Manchester Airport relief road*. Core Document Ref: 5527

[7] *Pers. Con.* with David Carter, Lead Advisor for the NW (Natural England) 15 April 2014.

[8] Joyce, P (2013) GCN mitigation phased development master plan, Mouchel. Core Document Ref: 5528

[9] Natural England, Favourable Conservation Status (FCS) Test response, to Styal Golf Course EPSL and A6MARR Masterplan. 22 March 2014. Core Document Ref: 5530

were updated in 2013 when the application was submitted to the three local authorities through which the scheme passes. GCN are present within the scheme and a mitigation plan has been developed to offset impacts on these animals, and comply with legislative requirements under the Conservation of Habitats and Species Regulations 2010 (as amended).

29. The scheme design has set out several compensation areas and replacement ponds for habitat lost through the construction of the scheme. These compensation areas are in appropriate areas based upon the GCN surveys which formed part of the Environmental Statement for the scheme.

30. Repeat surveys as a result of the planning conditions and Natural England requirements to obtain up -to-date survey data for licence applications were conducted in 2014.

31. The surveys were conducted using a variety of methods and the specification used can be found in the Aecom Great Crested Newt Survey Protocols – Whole Scheme document[10].

Results of the surveys

32. The 2014 surveys have shown that there has been change in the population dynamics across the scheme; for example, some ponds where GCNs have not previously been identified are now found to contain either GCNs or their eggs. Likewise, some ponds now do not contain GCNs. The 2014 work now identifies GCNs being present at the following locations:

    a. Hazel Grove
    b. West of Macclesfield Road
    c. South of Mill Hill Hollow
    d. Hill Green Farm
    e. Woodford Road
    f. Bramhall Oil Terminal
    g. A34
    h. West of B5368
    i. Styal Golf Course
    j. Moss Nook

33. Prior to 2014, surveys did not highlight populations that affect the scheme at, West of Macclesfield Road or Moss Nook. The impact of all populations and the survey results are discussed throughout the rest of this document.

Compensation

34. This section discusses the requirements for the permanent land take as outlined in the CPO required to ensure the favourable conservation status of the GCN in the long term. Compensation can be defined as “works which offset the damage caused by the development (e.g. habitat creation)”. This is the “end product” of the scheme.

[10] Aecom (2014) Great Crested Newt Survey Protocols – Whole Scheme. Core Document Ref: 5532

Size of compensation required

35. The ES outlines that the damage caused by the scheme for GCNs will be the loss of ponds and terrestrial habitat. The ES outlines at Table 11.5 that a total of 17 ponds suitable for GCNs would be lost to the scheme. The ES does not explicitly outline the amount of terrestrial habitat to be lost, but this is provided in the GCN master plan provided by Mouchel[11] where the tables in sections 4.3 and 5.3 shows a total of 69ha being permanently lost from the A6MARR development.

36. Compensation for the scheme for the ponds lost follows the guidance set out in Langton et al (2001)[12] which outlines that the compensation areas chosen for new ponds, which replace ponds removed due to the scheme at a ratio of 2:1 are located within 500m of the ponds to be lost. The ratio of ponds is chosen so as to ensure that the conservation status of the species is not compromised over the long-term.

37. This would mean that for the 17 ponds lost, 34 would be created for compensation. It should be noted that there is a discrepancy between the text of the ES which outlines the 17 ponds lost / 34 created and the approved drawings which accompanied the ES where figures 5.31 to 5.44 only show 26 ponds to be created as compensation.

38. The 2014 surveys undertaken by CMS (Aecom) have updated the lost / compensation figures for ponds. These are now a total of 12 suitable water bodies to be lost (as a result of detailed design and the updated survey), however it is still proposed to create the 26 ponds, plus enhance a further two. This is to ensure that the compensation contains sufficient water bodies to cope with the population dynamics of the GCN.

39. Compensation for the 69ha of terrestrial habitat lost or damaged was not calculated as part of the ES and the Mouchel 'masterplan' simply stated that the size of the compensation areas were down to detailed design. The compensation areas would simply be part of the total scheme landscaping of some 93.7ha.

40. Further to this, following the 2014 surveys and detailed design, CMS calculate that 79ha of terrestrial habitat is to be lost or damaged[13]. An increase of 10ha arises from updated survey data finding new metapopulations and detailed design.

41. As the ES did not calculate the area available for compensation it is assumed that the GCN's would have access to part of the 93.7ha of total landscaping across the scheme. The 2014 surveys and detailed design calculates that 37ha of specialist terrestrial habitat is being created as part of the scheme[14]. Therefore the 79ha of GCN habitat which is lost- is offset by the 37ha of specialist habitat.

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[11] Joyce, P (2013) GCN mitigation phased development master plan, Mouchel. Core Document Ref: 5528
[12] Section 8 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433
[13] GCN (draft) licence application, table E3. August 2014. Core Document Ref: 5529
[14] *Ibid* Core Document Ref: 5529

42. Natural England guidance [15] outlines that there needs to be adequate area to allow for at least an equivalent population as that existing at the donor site. Hence, receptor sites should be of equivalent size to the habitat due to be lost. Smaller sites may be allowable if it can be clearly demonstrated that the receptor site will be of a higher habitat quality.

43. Higher quality habitat can be demonstrated by means of the population density which a given area of habitat type will carry. Population density can vary between favourable and non favourable habitat. For example the Density of GCN in the favourable habitat (covering 20ha) was 50-1500 GCN per hectare. In agricultural habitat from various study sites (size of sites is unknown) density varied from 20-250 GCN per hectare[16]. In summary, higher quality habitat can support a greater number of GCN.

44. The ES outlines at 11.4.8 and 11.4.11 that the scheme footprint (and hence GCN habitat to be lost) contains very large areas of either agricultural or amenity grassland types. The compensation areas will be of much higher value as outlined in the 'masterplan' at 5.4 and these will consist of scrub, rough grasslands and ponds which are of a higher value to GCNs. Further detailed design work undertaken by CMS has produced a series of drawings that typically include the following habitat types management options:

    a. Woodlands
    b. Scrub creation
    c. Hedgerows
    d. Aquatic vegetation management in ponds
    e. Hibernation mounds
    f. Log piles

45. A set of these drawings entitled 'Metapopulation Post Activity Management' are included in Appendix A. These demonstrate that the habitat quality to be created is of much higher value and will be subject to management agreements with the road operator so they are managed for GCNs, greatly contributing to ensuring the conservation status of the species is not compromised.

Location of the compensation areas

46. The compensation areas outlined as part of the CPO are based upon information and surveys supplied to support the ES. The driving force for the locations of these compensation areas are the locations of the GCN metapopulations which will be affected by the scheme development and the locations of ponds to be lost to the development.

[15] Section 8.2.4 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

[16] Oldham, R. (1994) Habitat Assessment and Population Ecology. In: Proceedings of a symposium on Conservation and Management of GCNs, Kew Gardens. cited in Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

47. Natural England guidance points out that new ponds should preferably be within 250m of each other, with no barriers to dispersal, and may be sited a similar distance from any existing ponds to speed up the natural dispersal and colonisation of the flora and fauna on which GCN populations depend[17]. The set of drawings in Appendix B demonstrate which ponds are to be lost, damaged or remodelled and the habitat compensation areas. For ease of reference, the Appendix B drawings give the metapopulations the following identities:

    a. Hazel Grove
    b. West of Macclesfield Road
    c. South of Mill Hill Hollow
    d. Hill Green Farm
    e. Woodford Road
    f. Bramhall Oil Terminal
    g. A34
    h. West of B5368
    i. Styal Golf Course
    j. Moss Nook

48. For each metapopulation an area of terrestrial habitat compensation has been designated and clearly shown on the Appendix B drawings.

49. It should be noted that metapopulations (b), and (j) are 'new' populations discovered during the 2014 surveys and were not previously identified in any previous surveys. Population (e) was identified in previous surveys, but as pond 185 was not originally going to be lost there was not a requirement to provide replacement ponds. The locations of compensation areas did not take into account these two new populations or the new ponds required for the replacement of pond 185.

50. The compensation for these new areas have accordingly now been included within the existing CPO boundary in the following ways:

    a. **West of Macclesfield Road**. There is no GCN pond lost here, however there is a loss of habitat. The drawings in Appendix C entitled 'metapopulation habitat creation'), show that within the existing CPO there is to be planting of individual trees, open grassland and woodland. The specific figure is A6MARR – 0 – W-30-003-FI-312 rev P1.

    b. **Woodford Road**. It was always known that there are ponds containing GCNs adjacent to the scheme (pond 180) in this location. These ponds are unaffected by the scheme development. However, the 2014 surveys show that pond 185 contained some GCN eggs and therefore must be considered a breeding pond. This pond is to be lost to the scheme development and therefore the landscape drawing

[17] [17] Section 8.3.1 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

A6MARR – 0 – W-30-003-FI-312 rev P1 shows the creation of two new ponds and species rich grassland.

c. **Moss Nook**. Pond 18 in this location had not previously shown any GCNs and therefore mitigation was not previously considered in this area. The 2014 surveys show that the pond is used by GCNs. The landscape drawing A6MARR – 0 – W-30-003-FI-321 rev P1 show two new ponds being created, hedgerow protection and species rich grass land.

51. Note: The drawings showing Revision P1 discussed here show some log piles and other measures outside of the CPO. All use of land outside of the CPO is discussed in detail during the 'mitigation' chapter.

Conclusions on Compensation

52. CMS calculate that 79ha of GCN habitat is to be lost as a result of the A6MARR scheme. This is an increase from the 69ha calculated for the ES. The reason for the increase results from the 2014 surveys which either show extended metapopulations or two new metapopulations.

53. A total of 37ha is being provided in the scheme design (within the CPO) based upon the 2014 survey data.

54. Natural England guidance [18] outlines that there needs to be adequate area to allow for at least an equivalent population as that existing at the donor site. Hence, receptor sites should be of equivalent size to the habitat due to be lost. Smaller sites may be allowable if it can be clearly demonstrated that the receptor site will be of a higher habitat quality.

55. The replacement habitats are of higher quality than those lost.

56. Detailed design resulting from the 2014 survey data has reduced the number of ponds to be lost from 17 to 12. This means that the compensation proposals of 26 ponds shown in the ES drawings 5.31 to 5.44 meets the Natural England criteria for pond compensation.

57. The new ponds will be created within land which is within the CPO boundary, adjacent to the A6 MARR. For each meta-population the new ponds are to be located within 250m of each other and within 250m of other breeding and non-breeding ponds associated with the individual meta-populations.

58. Founded on the evidence presented here and through the planning process, the compensation proposals with regard to GCNs are sound enough to reasonably foreseeable that Natural England would grant a licence for these proposals.

[18] Section 8.2.4 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

Mitigation

59. Mitigation can be defined as "practices which reduce or remove damage (e.g. by excluding bats from buildings scheduled to be demolished, or by capturing newts from a development footprint to avoid killing them)". The 'compensation' for the scheme describes the 'end product' and the mitigation, in this case is the journey or the method by which that is achieved. Mitigation is designed so as to ensure the conservation status of the species is not compromised.

60. Mitigation was not a subject of discussion in the ES and as para. 23 outlined, Natural England ensure that mitigation is adequate based upon a licence application made to themselves which is either granted or not.

61. The only clues on what form the mitigation may take from the ES are outlined in table 11.5. These are quoted below:

    a. Creation of ponds will be complete before ponds within the proposed scheme footprint are destroyed.
    b. Animals will be relocated to suitable habitat adjacent to the working corridor, or newly created compensatory habitats close to the capture area which will act as receptor sites.

62. Natural England comments on the Mouchel 'masterplan' give further insight into what ought to be considered while developing mitigation proposals[19]. In summary these are:
    a. Avoid double handling of the GCNs. This means avoiding having to trap the same population twice. This aspect was mentioned several times through the document.
    b. Combine the OPA pipeline diversion and the A6MARR works.
    c. Limit fragmentation of the GCN populations caused by severance of the road, possibly through the use of tunnels.
    d. A note, that any new ponds created should be done a minimum 6 months before any GCN is to use them. (Natural England do not specifically outline that ponds must be created before any are destroyed).
    e. Secure management agreements for the compensation areas.
    f. Provide post-scheme monitoring.

63. Following this guidance a mitigation strategy has been devised. It would be normal practice to have a pre-application meeting with Natural England to discuss proposals but due to massive staff shortages, they declined to meet. Therefore CMS have decided to submit a licence proposal in August 2014 so that Natural England are duty bound to respond with comments. The proposal can then be fine tuned for a 'real' licence application in October 2014. The first draft EPSL application was submitted to Natural England on 20 August 2014. Natural England have 30 days in which to

[19] Natural England, Favourable Conservation Status (FCS) Test response, to Styal Golf Course EPSL and A6MARR Masterplan. 22 March 2014. Core Document Ref: 5530

respond, therefore their comments are not available for this proof, but may be in time for the Public Inquiry.

64. The mitigation strategy has also been discussed with the Local Planning Authorities[20] as it forms part of planning condition(s) 15 and 14 (from Stockport and Manchester respectively). Although the strategy for enabling both the compensation and mitigation has not been formally approved by discharge of the planning condition the county ecologists were in agreement that what is proposed is a sensible way forward and addresses Natural England's point from para. 62 above.

65. The proposed mitigation strategy addresses Natural England's points in the following way:

Avoid double handling of the GCNs.

66. To avoid double handling of the GCNs it is not possible to follow the statement contained within the ES at Table 11.5 where it outlines that ponds must be created before any are destroyed. The ponds required to be dug as part of the compensation package are located in areas of terrestrial habitat for the GCN. A licence would be required for this aspect of work which would involve trapping out the land in question and relocating any GCNs found in that area. If the GCNs were relocated into land contained within the CPO then they would have to be re-captured at a later date and moved into the compensation areas 'manually'.

67. Our proposal is to trap out the areas for the compensation areas, and the main works at the same time and re-locate any captured GCNs into similar habitat outside of the current CPO boundary. Then when the ponds and associated works within the compensation areas have finished, these areas will be opened back up (while maintaining a barrier to amphibians entering the road scheme), so that GCNs can migrate back naturally into the compensation areas when they see fit.

68. Therefore it is proposed to acquire rights to translocate GCNs into third party land.

69. There is strong evidence that the GCNs will, over time, disperse back and occupy the compensation areas. This is set out below:

    a. It is widely recognised that GCN have the ability to move between ponds within a metapopulation and that GCN commonly move between ponds that are within around 250m of each other, although the presence of suitable terrestrial habitat connectivity between ponds is an important factor[21].

    b. A research paper on colonisation of newly constructed farm ponds compared with long-standing farm ponds found that the frequencies of amphibian occupation of the two ponds types were similar (65% and 71% respectively), although GCN were found less frequently than some other amphibian species in the new ponds. The

[20] Minutes of a meeting between Stockport and Manchester's county ecologists and CMS held on 26 August 2014. Core Document Ref: 5531

[21] Section 4.2 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

location of the new ponds relative to existing ponds was a significant factor and GCN were found not to colonise ponds at distances of greater than 400m from existing ponds. Overall, the study found that amphibians are readily able to colonise new ponds on mixed farmland, especially where fish were not stocked in the new ponds, and these were located less than 400m from existing ponds with GCN[22].

c. The following extracts are from the GCN Conservation Handbook[23]:

   i. 'The rate of movement of GCN has been little studied but some individuals have been found to move 120m in one night, and small numbers of GCN have been known to colonise distances of 1km or more. GCN are able to colonise a newly created or restored pond if, firstly it provides a suitable breeding habitat, secondly it is sufficiently close to the existing population, and thirdly if the intervening habitat is conducive to dispersal and there are no significant barriers to movement. Newts may encounter ponds during their normal terrestrial activities, or may seek out new ponds, possibly using smell. In some cases colonisation can be rapid, whilst in others it can take several years'.

   ii. 'Newts have been known to colonise newly dug ponds 300m away from existing ponds in the first year'.

   iii. 'New ponds should ideally be sited within 500m of a known GCN breeding pond. The position of purpose built GCN ponds within surrounding terrestrial habitat is important as young newts may disperse for the first time in any direction'.

d. In a study of GCN population ecology in an agricultural landscape looking at population dynamics, pond fidelity and dispersal it was found that GCN successfully colonised two out of four newly created ponds (and used these for breeding) within 430m to 1940m of other existing ponds within a known GCN metapopulation over the 7-year study period[24].

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[22] Baker, J.M.R. and Halliday, T.P. (1999) Amphibian Colonisation of New Ponds in an Agricultural Landscape. In Herpetological Journal Vol. 9, pp. 55-63 cited in Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

[23] Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001) GCN Conservation Handbook. Froglife, Halesworth. Core Document Ref: 4436

[24] Kupper, A. and Kneitz, S. (2000). Population Ecology of the GCN (Triturus cristatus) in an Agricultural Landscape: Dynamics, Pond Fidelity and Disperal. In: Herpetological Journal, Vol. 10, pp. 165-171 (2000) cited in Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

e. In another study of the success of GCN translocation schemes, a large scale translocation of 1000 adult GCN found that during the first year following translocation, adult newts showed a strong tendency to move towards their previous breeding site, some travelling 500m in doing so. At least 60% of the translocated population either escaped from, or attempted to leave, the receptor area. The remainder accepted ponds within the receptor area, some of which were less than one year old, and bred successfully[25].

70. In summary, there is strong evidence from the literature that GCN will disperse to, and successfully colonise, new ponds at distances of up to 1km but more typically up to 250m, provided that there is good habitat connectively between them, and particularly if the new ponds are located close to the original breeding sites.

71. This strategy forms part of the licence submission to Natural England and should broadly be acceptable to them. Further evidence for this can be ascertained from previous licences granted for similar works:

72. Norton Bridge Nationally Significant Infrastructure Project
The mitigation scheme, licensed by Natural England, involved translocation of GCN from the proposed rail construction corridor into a temporary receptor site on third party land approximately 200m from the construction corridor and within the same metapopulation from which the GCN originated. The GCN were temporarily held in a fenced receptor area whilst new pond creation was undertaken on immediately adjacent land. This fencing was then removed. In the longer term GCN would also recolonise the wider area from which they had been translocated, including the new rail corridor and associated landscape planting of hedgerows, new woodland, balancing ponds and wetland habitats within approximately 200m of the temporary receptor site.

73. Rugby Western Relief Road
This mitigation scheme, also licensed by Natural England, involved the creation of a series of new ponds and associated terrestrial habitat for GCN for a new road scheme, including ponds located within approximately 200m, on the opposite side of the road to existing ponds containing GCN. The mitigation scheme included creation of underpasses for mammals and amphibians to allow GCN to colonise the mitigation ponds. Penny Anderson Associates have been monitoring the new ponds for 4 years. The latest survey was completed in 2014 and a small, breeding population of GCN recorded, confirming colonisation of the ponds by GCN. These GCNs negotiated the tunnel system and still managed to recolonise ponds.

[25] Oldham. R.S. and Humpries, R. N. (2000). Evaluating the Success of GCN (Triturus cristatus) Translocation. In: Herpetological Journal, Vol. 10, pp. 183-190 cited in Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

A1 Schemes:

74. A1 – Dishforth to Leeming

Gatenby. New habitat (including ponds) was created on land adjacent to the CPO boundary. The receptor site was owned by a third party who signed a section 253 agreement with the Highways Agency for habitat creation and maintenance of the receptor site area, and as part of this agreement they agreed to accept GCNs.

75. A1 – Leeming to Barton

High Goskins. GCNs were moved to existing terrestrial habitat on land adjacent to the CPO boundary. The receptor site was owned by a third party who agreed that GCNs could be placed onto his land.

76. Norton Bridge and the two A1 schemes are projects where GCN were moved from the footprint of a scheme onto third party land and allowed to migrate back into the scheme as appropriate.

Selection of the third party receptor sites

77. The third party receptor sites have been chosen as they already contain populations of GCNs (confirmed by the 2014 survey) so the translocation does not extend the natural range of the newt. This translocation exercise is simply a transfer of GCNs within the same site (their own 'metapopulation').

78. The receptor sites are all ponds with some surrounding suitable habitat and within 250m of the originating source of the newts and the new compensation areas. The ponds selected are part of the natural range of the metapopulations in question and as the previous surveys have shown, the use of ponds by GCNs in the area changes year on year. This is summarised through the drawings supplied in Appendix D which shows the presence / absence of newts in ponds across the scheme over time.

79. Natural England themselves recognise that GCN have the ability to move between ponds within a metapopulation and that GCN commonly move between ponds that are within around 250m of each other, although the presence of suitable terrestrial habitat connectivity between ponds is an important factor[26].

80. The same guidance goes on to state that *'In cases involving the movement of only a part of a population ... it may be better to introduce the newts to an existing population but only in conjunction with suitable habitat enhancement'* .

81. The flexible population dynamics and potential carrying capacity of receptor sites is covered by looking at the density of GCN in favourable habitat which has been shown to be around 50-1500

[26] Section 4.2 of Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

GCN per hectare. In agricultural habitat density varied from 20-250 GCN per hectare[27]. The prediction of population density is further complicated by annual fluctuations in numbers and paucity of information on the juvenile phase. That said, concerns regarding population density appear to relate to potential extinction risk at low density, rather than concerns about too many GCN.

82. This suggests that any concerns regarding carrying capacity could be overcome by appropriate habitat enhancement at the receptor site(s). In fact, the (licensed) project examples above involved relocating GCN into habitats within the same metapopulation area on the proviso that habitat enhancements were carried out.

83. I am therefore of the opinion that it is reasonable to assume that the risk of the chosen receptor site (or any individual pond) not being able to support additional newts is low, provided that:

    a. appropriate habitat enhancements have been carried out, in line with NE guidance and summarised in the table found in para. 84.
    b. the pond is located within 250m of other suitable ponds to allow for movement between ponds (and therefore opportunity for GCN to disperse); and
    c. the existing population density does not exceed the suggested range of densities for GCN in a 'typical' agricultural landscape (i.e. somewhere between about 20-250 GCN per hectare). The survey evidence demonstrates that this density would not be exceeded.

84. The third party receptor sites have been selected as follows:

Meta-population	**Receiving Pond**	**Evidence that this pond is suitable for GCNs.**	**Type of 'enhancement' suggested as per NE Guidelines**
Hazel Grove Golf Course	Pond 234	GCN will be translocated to pond 234 (Habitat Suitability Index [HSI] of 0.74) which is good. Whilst this pond supports a small breeding population, this pond is within 180m of pond 231 which is lost to the scheme and is therefore considered to be part of the same meta-population (which is considered to be a medium-	Four hibernation mounds to be provided within the vicinity of 234.

[27] Oldham, R. (1994) Habitat Assessment and Population Ecology. In: Proceedings of a symposium on Conservation and Management of GCNs, Kew Gardens. cited in Natural England Guidance 'GCN mitigation guidelines' http://publications.naturalengland.org.uk/publication/810429 Core Document Ref: 4433

		population) as pond 231.	
South of Mill Hill Hollow	Pond 219	GCN will be translocated to pond 219. It is unknown if this pond supports a breeding population of GCN, as presence/absence surveys could not be completed in 2014 due to Health and Safety concerns. However this pond does have an HSI of 0.78 indicating that this pond has good suitability to support GCN. It is considered that as the pond is within 180m of pond 217, then the population within the receptor site is also likely to be small. Pond 217 is not entirely lost to the scheme, but will require newts to be removed to facilitate the construction of the road.	Two hibernation mounds to be provided within the vicinity of 219. In addition this pond will require planting up with aquatic plants.
Woodford Road	Pond 180	GCN will be translocated to breeding pond 180 (HSI 0.65 indicating that the pond has good suitability to support GCN), adjacent to the development site. Whilst this pond supports a small breeding population, this pond is within 250m of pond 185 which is lost to the scheme and is therefore considered to be part of the same meta-population (which is considered to be a medium-population including data from pond 176) as that found within the pond to be lost. As such it is likely that GCN found within pond 185 would use pond 180 at some point.	Nothing
Bramhall Oil Terminal	Pond 163	Pond 163 has a small population with an HSI of 0.78. Whilst this pond had a small GCN population, the meta-population is considered to support a medium population.	Two hibernation mounds within the vicinity of 163.
Bramhall Oil Terminal	Pond 149	Breeding pond 149 has an HSI of 0.53 and associated terrestrial habitat. Aquatic newts found in pond 157 and 259 (which are lost) will be placed in pond 149 and terrestrial newts found within vicinity of these ponds and within 250m of the ponds will be placed within terrestrial	Two hibernation mounds within the vicinity of 149.

		habitat around pond 149. This pond is within approximately 360m of the ponds to be lost and therefore considered to be within the same meta-population. As such the receptor site is within the home range of newts found within and associated with pond 157 and 259.	
A34	Land near to Ponds 108 & 111	Only terrestrial habitat is being lost near to these two ponds. GCN population size within the receptor site is medium and all newts found within the development site will be part of the population recorded within these ponds. As such newts trapped and translocated will be moved to a receptor site which is within their home range.	Two hibernation mounds and two log piles within the vicinity of 108.

73. The suggested habitat enhancement is vital to ensure that 'core' habitat surrounding any given pond provides sufficient cover for newts trapped from the scheme and relocated during day-light hours when they are at most risk from predation.

74. Therefore it is proposed to seek rights to provide for the relocation of GCNs and the enhancements outlined in the table above in respect of which, Natural England will wish to see some form of management agreement in place to ensure the long-term viability of these arrangements.

75. The location of the hibernacula and log piles can be agreed on site (micro-sited) so as not to cause any inconvenience to the landowners. These features will take the form of installing log piles (a pile of logs – an hour to make) or constructing some hibernacula (a small scrape, filled in with logs then covered with soil) which would typically measure 2x2x1 m. This will be a day's work and involve a Land Rover, trailer and minidigger. The management agreement would broadly take the form of not asking the landowners to do anything different than they are currently doing around these ponds – avoiding damage to the hibernacula / logs piles or in-filling the pond.

76. Pond 219 does require some further enhancements with the addition of more aquatic plants. This will mean access with a landrover and trailer full of plants, and workers in waders planting up a section of the pond. This will take a day.

77. All of these works would commence in March or April next 2015. But if landowners were amenable the enhancements could be done to pond 219 now and log piles (but not hibernacula) as that activity would require an EPSL.

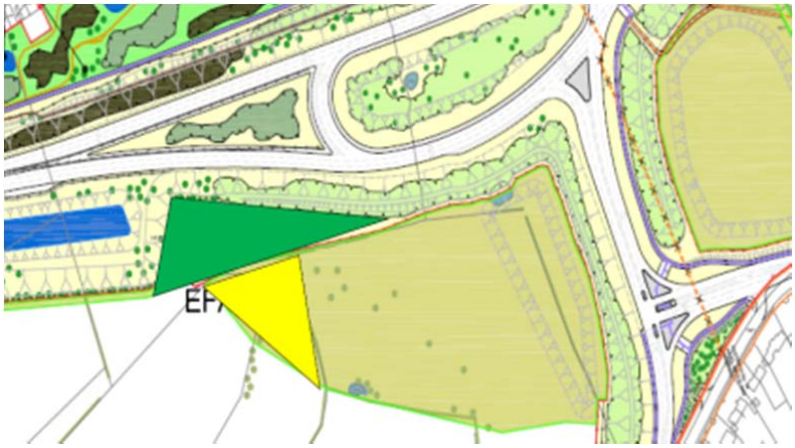
78. Further to continuing development work post submitting the draft licence to Natural England, the metapopulations not mentioned in the table above can be managed within the existing confines of the CPO in the following way.

Metapopulation	Mitigation Method
West of Macclesfield Road	Here, only terrestrial habitat is lost so any GCNs found should be returned to terrestrial habitat. Their pond of 'origin' is likely to be Pond 223 to the North of the scheme. There is sufficient room within the CPO to ensure a habitat strip remains untouched on the Northern edge of the development. The newts will be translocated into this area and allowed to migrate back towards their pond.
Hill Green Farm	Here, only terrestrial habitat is lost so any GCNs found should be returned to terrestrial habitat. Their pond of 'origin' is likely to be Pond 196 to the South of the scheme. There is sufficient room within the CPO to ensure a habitat strip remains untouched on the Southern edge of the development. The newts will be translocated into this area and allowed to migrate back towards their pond.
West of B5368	Here, only terrestrial habitat is lost so any GCNs found should be returned to terrestrial habitat. Their pond of 'origin' is likely to be Pond 90 to the North of the scheme. There is sufficient room within the CPO to ensure a habitat strip remains untouched on the Northern edge of the development. The newts will be translocated into this area and allowed to migrate back towards their pond.
Styal Golf Course	Here, a mix of terrestrial habitat and pond loss occurs. There is sufficient room within the CPO to ensure a habitat strip remains untouched on the Southern Edge of the development. Any GCNs in their aquatic phase can be translocate into either Pond 78 or 67 as both of these are contained within the CPO.
Moss Nook	The loss of Pond 18 will occur, along with the loss of terrestrial habitat. This metapopulation was only found from the 2014 surveys, so no compensation was built into the approved scheme. Current proposals lie within para. 50 of this document and may be subject to further review after feedback from Manchester Airport and Natural England over aircraft safety and pond creation is sought.

79. It would not be expected that these changes would affect the draft GCN licence comments, as they can only be seen as favourable by Natural England for reducing the reliance on third party agreements.

Combine the OPA pipeline diversion and the A6MARR works

80. Referring to the figure below the issues in the area are that it is not possible to commence creation of the compensation area (the green triangle) due to the oil pipeline blighting this area until November 2015 when the OPA complete their works to the pipeline diversion. This compensation area is required to house the ponds for the scheme in the long term and a replacement main badger sett. The current strategy sitting with Natural England, which resolves the issue, proposes not building ponds during the early part of 2015 in this area and moving any GCNs captured, south on to third party lands at ponds 149 to facilitate both the pipeline diversion and the A6MARR scheme.

81. 

82. Following advice from Natural England the proposal is to trap out the works areas for both of these schemes and relocate the GCN populations to land surrounding pond 149 hence combining both schemes.

Limit fragmentation of the GCN populations

83. The permeation of GCNs through the scheme is still undergoing detailed design and feasibility. The ES has made some suggestions as to locations for amphibian tunnels (combined with badger tunnels) and these are shown within the existing CPO.

Any new ponds created should be done a minimum 6 months before any GCN is to use them

84. The creation of ponds and compensation areas can be opened up upon completion so these areas have the potential to accommodate GCNs. Although the habitat may not be suitable at this time, the option for the GCN to re-colonise them is there. They would still have the habitat to which they were translocated to as part of their wider metapopulation in which to reside until such time they moved into the created habitat.

Secure management agreements for the compensation areas.

85. For the receiving ponds outlined above Natural England will want to secure management agreements for temporary receptor sites and the scheme compensation areas.

Scheme compensation areas

86. The responsibility for delivering management and maintenance of the GCN Habitat Creation Areas will be that of the Landowner, who will be SMBC. SMBC will manage the areas, with the initial management plan being for a 5 year period, after which the management measures will be reviewed and updated as required.

87. The site will be subject to the Construction Environmental Management Plan (CEMP) throughout the construction of the road. Upon completion of construction, the management of the site will be passed to SMBC via the Handover Management Plan (HEMP).

88. Monitoring of the GCN population at the existing and new ponds will be undertaken by ecologists during the breeding season (March until July).

89. Management and Maintenance

a. Grassland within the habitat creation area will be mown annually to a height no lower than 15 cm, every summer after flowering (July/August), during dry warm weather. Cuttings will be removed from the site. Grassland immediately surrounding the pond, within a 5m buffer, will be left uncut.
b. The areas will not be stocked with livestock.
c. Maintenance of areas of scrub, trees and new hedgerow will be as follows:
    i. Any dead trees or scrub will be removed and replaced with the same or similar species, planted in winter with rabbit protection;
    ii. Young hedgerows (newly planted) need a light annual trim for 10 years after planting to train them into a good shape, and any gaps should be filled with local provenance stock of mixed species;
    iii. Trimming should take place outside of the bird breeding season, therefore outside of March to August; and
    iv. If gaps are developing in the hedgerow or the hedgerow is turning into a line of trees, hedgerow restoration in the form of laying or coppicing will be carried out.
    v. The hibernacula and log piles will be maintained, and repaired if damaged (March to August).
d. The ponds will be managed and maintained as follows:
    i. Any alien plant species such as New Zealand pygmyweed (Crassula helmsii), water fern (Azolla filiculoides)), least duckweed (Lemna minuta) and floating pennywort (Hydrocotyle ranunculoides) would be removed during winter;
    ii. Fish will not be introduced to the pond and if fish are observed to have colonised the pond, they would be removed under the supervision of an ecologist (September);
    iii. If the pond is covered by over two-thirds cover of floating and submerged vegetation, this excess vegetation will be removed by hand between September and November (material can be left on the bank). Therefore at least one third of the pond's surface will be kept open from plants;
    iv. Monitor sediment build up and clear leaf litter from the pond if necessary. This should be carried out by hand between September and November. Any material should be left on the site, in a hedgerow; and
    v. Any trees or scrub shading the pond will be cleared, ensuring that there is no more than 20% shading of the pond.
e. The use of agro-chemicals will be avoided within the site.
f. Should any damage occur to the area such as fire or a pollution incident, the area will be reinstated.

g. Any rubbish on the site will be removed.
h. Amphibian fencing monitored and repaired as necessary. If grassland adjacent the fence needs to be cut it will be cut as outlined in point a above.

Temporary receptor sites

90. Rights are being sought to enter into the following activities:

91. As a minimum for the GCN licence the following will be required from each landowner involved.

a. *Confirmation that relevant landowner consent/s has/have been granted to accept GCNs onto land outside the applicant's ownership.*

The landowner who will be receiving the newts will need to sign an agreement stating that they will allow CMS to enter their land and allow newts to be collected from the working area and moved onto their land/into their ponds.

b. Confirmation that landownership consent/s has/have been granted to allow the creation of the proposed habitat compensation (aquatic or terrestrial) on land outside the applicant's ownership.

The hibernacula created would need to be checked yearly and maintained as required. It needs to be agreed if this would be done by the landowner or by the Local Authority.

Other management/monitoring requirements may include:

- Limiting the use of chemicals
- Checking for and removing fish from ponds
- Managing the ponds to prevent them from becoming overgrown and silted up
- Areas of grassland to be left uncut to provide dense tussocky grassland near hedgerows to provide habitat links to ponds

c. Confirmation that consent/s has/have been granted by the relevant landowner/s for monitoring and maintenance purposes, on land outside the applicant's ownership.

During the licensable operations Natural England may carry out a site visit, the landowners will need to agree to allow Natural England representatives onto their land.

A monitoring plan will be put in place to assess whether the GCN population has responded favourably to the mitigation, and to inform ongoing habitat management.

This is discussed in more detail below.

Provide post-scheme monitoring.

92. Population monitoring of the GCN population in each area will be required. This will involve surveying new ponds within the CPO boundary as well as existing GCN ponds where ponds/adjacent

terrestrial habitat has been lost to the scheme. This is to monitor the long-term conservation status of the GCN.

93. The gaining of these monitoring agreements is common practice and paras. 72 - 75 outlines a similar scheme where monitoring access was granted. Similarly, on the A1 scheme landowners have entered into section 253 agreements (Highways Act) for maintenance and monitoring.

94. The ponds would need to be surveyed either four times for presence/absence or six times for population assessment between March and June, every year for up to 10 years. The survey methodology will take the form as described earlier in the Aecom methodology[28].

Conclusions

95. As demonstrated in the evidence contained in this proof the proposed compensation, mitigation, management and monitoring requirements with regard to GCNs are based upon methodologies and guidance which have previously been granted licences by Natural England. This gives confidence that a licence would be granted for this work. This evidence also justifies the land-take for the CPO and requirement for access to third party land.

[28] Aecom (2014) Great Crested Newt Survey Protocols – Whole Scheme. Core Document Ref: 5532