



Template Method Statement to be used within a Dormice Development Licence Application

This template Method Statement is to be used to form part of your Licence Application for a European Protected Species Development Licence. It will be used to determine the impact of the application on the favourable conservation status of the species concerned (Regulation 53(9) (b) of the Conservation of Habitats and Species Regulations 2010). It must be prepared by a consultant ecologist or other suitably qualified person. You are strongly advised to refer to the **Dormouse Conservation Handbook (2nd edition)**¹. Please submit your Application and supporting Method Statement electronically to the contact details provided below.

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Method Statement Title:	St Athan Northern Access Road- Hazel Dormouse Method Statement
Method Statement Version Number:	Draft Rev 1 for Planning Application
Method Statement Issue Date:	May 2017
Site Address:	From the B4265, near Llanwit Major in the west to Eglwys Brewis Road in Pickeston in the east.

¹ Dormouse Conservation Handbook (IN29) available to download from the Natural England website

Background and Supporting Information

A Executive Summary.

To be completed for final licence submission.

B Introduction

B.1 Background to activity/development

Proposals for major development at St. Athan received outline planning permission in 2009 from the Vale of Glamorgan Council which granted two planning permissions for redevelopment of the military camp at St Athan:

- the first permission was for the Defence Technical College (DTC) then proposed by the Ministry of Defence, application no. 2009/00500/OUT;
- the other permission was for the Aerospace Business Park (ABP) proposed by the Welsh Government, application no. 2009/00501/OUT.

Common to both these applications was the Northern Access Road (NAR) which was intended to serve as the principal access to both developments as well as to the service families' housing associated with the College. Although those applications were made in outline, the NAR was fully designed and full planning permission was granted for it.

The Defence Technical College did not proceed and the planning permissions have since expired. Nevertheless, the Welsh Government remains committed to the Aerospace Business Park and the Northern Access Road is considered essential in order to deliver the economic and social benefits associated with the Cardiff Airport St Athan Enterprise Zone.

The NAR will serve existing and proposed development at St Athan including:

- The Aerospace Business Park, which occupies a large part of the former RAF camp, including the operational runway;
- The proposed Aston Martin car manufacturing facility, which will occupy the existing super hangar building on the Aerospace Business Park; and
- Proposed residential development on land lying south of the proposed Northern Access Road and between it and Eglwys Brewis Road.

The Northern Access Road will not serve the MoD camp at St Athan, which will continue to be served via its existing access road at Main Gate.

B.2 Full details of proposed works on site that are to be covered by the licence

The proposed development includes the construction of a new highway (called the Northern Access Road) with footways and a cycleway, new junctions, lighting, signs, fencing, flood alleviation works, acoustic barriers and other environmental mitigation measures, landscaping, demolition of the garage at Rose Cottage, and all associated engineering and building operations (see AECOM Drawing 60509148-SHT-30-0000-CT-3020 Planning Application Boundary). The works gained full planning permission in (to be completed for final licence submission) from the Vale of Glamorgan Council (planning application reference (to be completed for final licence submission)).

The works to be covered by the licence comprise construction phase vegetation clearance and translocation of all identified suitable dormouse habitat within the site to allow the construction of the development. The habitat areas to be impacted are shown in AECOM drawings 60509148-SHT-30-0000-CT-0201 to 60509148-SHT-30-0000-CT-0208 and includes 710m of hedgerow and 12,930 m² of dense scrub (3,393 m² temporary impacted). All suitable hedgerows will be translocated to the NAR boundaries to prevent habitat loss and maintain connectivity.

All vegetation clearance and translocation will be carried out in line with the two phase clearance methodology detailed in Section E.1 over Winter/ Spring 2017/2018. This work will be carried out at the start of the project to allow construction access across the site.

B.3 Actions requiring licensing

The construction phase vegetation clearance and translocation has the potential to disturb, damage or destroy a breeding site or resting place.

C Survey and site assessment

C.1 Existing information on the dormice at the survey site.

Site and species-specific information has been sourced through direct consultation with the South East Wales Biological Records Centre (SEWBRc) regarding the presence of nature conservation designations and protected and notable species within 2 km of the centre of the site (including dormice). In addition all available previous ecological reports for the site and surrounding area (associated with the previous planning applications) were reviewed for relevant information; the most up to date reports applicable to the site are detailed below:

- Capita Symonds. (2009). St Athan: Home of the Defence Technical College and Aerospace Park, Outside the Wire. Ecological Surveys;
- Capita Symonds. (2009). St Athan: Home of the Defence Technical College and Aerospace Park, West Camp Access. Ecological Surveys.

SEWBREC returned no records of hazel dormouse within 2 km of the site.

In 2002 and 2003, Capita Symonds were commissioned by the Welsh Development Agency (WDA) to undertake an Extended Phase 1 Ecological Survey of land in and around St Athan airbase. This was updated and extended in 2004 and 2005 to cover a survey area of approximately 700ha. As part of the 2004 to 2005 surveys, nut searches were undertaken to assess suitable habitat for the presence of dormice. A standard methodology² was followed and over a thousand nuts were examined. Only nuts opened by squirrels and wood mice were found. However, the study concluded that the potential for dormice to be present in hedgerows and small patches of woodland around the airbase still remained. Hazel dormouse nest tube surveys were not undertaken onsite by Capita Symonds during the 2008 assessment within the 'Outside the Wire' site (which includes the current application area). However nest tube surveys undertaken by Capita Symonds at 'West Camp Access' in 2008 recorded a single dormouse nest located in a hedgerow to the south of Eglwys Brewis Road between the B4265 and the railway. The record is located outside the site approximately 110m from the south west access to the site off Eglwys Brewis Road, however it is 380m from the closest point of the NAR development itself. The record is separated from the site by Eglwys Brewis Road and the railway but arboreal connectivity may exist in places.

C.2 Statutory sites notified for the species (SSSIs) within 10km

No statutory sites for dormice are located within 10km.

C.3 Objectives of any specific survey

The previous surveys undertaken to support the previous planning applications at the site identified dormouse are present within the wider area of the site. To inform the current application an extended Phase 1 habitat survey was carried out by WYG in June 2016 which again highlighted the potential of the hedgerow habitats on site for hazel dormice. Following this detailed hazel dormouse nest tube surveys were undertaken of the site to update previous surveys and determine if the habitats are used by the species and establish the conservation importance of the site for this species. Due to the elusive nature of the species, nest tube surveys can only be used to determine presence or likely absence of hazel dormice and cannot provide a population estimate for the species (and therefore based on suitable connective habitat, hazel dormice are considered likely to be present in low numbers in all hedgerows and scrub across the site).

² As detailed by the Highways Agency (2001) in their publication 'Design Manual for Roads and Bridges Volume 10 Environmental Design'.

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The survey information has been used to influence design decisions that have been made to ensure that effects on dormouse are, as far as possible, avoided or limited in their extent. Where effects are unavoidable the survey informed the mitigation strategy to minimise impacts to the species during the proposed development works, and to compensate/mitigate for any potential adverse effects of the development on dormice populations.

C.4 Scaled plan/map of survey area

A scaled map of the survey area is provided as Figure C.4a and C.4b (aerial map) with AECOM drawing 60509148-SHT-30-0000-CT-0100 Location Plan.

C.5 Site/habitat description (relevant to dormice).

The site contains a mosaic of habitats being largely dominated by grassland, subject to varying levels of agricultural improvement, and arable fields. Smaller areas of habitat present include dense scrub, semi-natural broadleaved woodland and amenity grassland (which is associated with the St Athan military base). The site is drained by Llanmaes Brook which flows in a southerly direction through the west of the site with Boverton Brook located to the south. Field boundaries within the site largely comprise hedgerows of varying species diversity.

A number of hedgerows are present on site where they function as boundary features, with management largely comprising a flail cut on an annual basis. Hedgerows range from intact species rich hedgerows to defunct species poor hedgerows as detailed in Table 1 below. The hedgerows are largely of limited species diversity, being gappy/ leggy in places, and are considered to be of low to moderate value for breeding/ foraging hazel dormice but offer suitable arboreal connectivity to the wider area for commuting.

Table 1- Hedgerow description (see Figure C.5a and C.5b for location)

Hedge ref	Description	Species
H1	Managed species poor defunct hedgerow with number of gaps separating agricultural fields	Hawthorn, blackthorn
H2	Relatively unmanaged outgrown hedgerow that has turned into line of scrub on raised bank. Linked to semi-natural broadleaved woodland and wider hedgerow network. Separating agricultural fields.	Hawthorn, field maple, dog rose, blackthorn, dog rose, hazel
H3	Unmanaged outgrown hedgerow on bank separating agricultural fields.	Hawthorn, blackthorn, elder and dog rose
H4	Managed species poor defunct hedgerow separating agricultural fields.	Hawthorn, blackthorn, elder, ash
H5	Managed species poor intact hedgerow with bank separating agricultural fields.	Hawthorn, blackthorn, elder, dog rose
H6	Managed species poor intact hedgerow with bank separating agricultural fields.	Hawthorn, elm, field maple, dog rose, blackthorn
H7	Managed intact hedgerow on bank separating agricultural field from adjacent highway, H8 parallel to hedge	Hawthorn, elm, elder, dog rose, blackthorn
H8	Managed intact hedgerow on bank separating agricultural field from adjacent highway, H7 parallel to hedge	Hawthorn, elm, elder
H9	Managed intact hedgerow on bank separating agricultural field from adjacent highway, parallel to hedge to other highway boundary	Hawthorn, hazel, blackthorn, elder, dog rose, elm
H10	A managed intact species-poor hedgerow separating agricultural fields.	Hawthorn, elder
H11	A managed intact species-poor hedgerow separating agricultural fields.	Hawthorn, elder, dogwood, ash, blackthorn, dog rose

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Hedge ref	Description	Species
H12	A managed intact species-poor hedgerow separating agricultural fields.	Hawthorn, elder, field maple, dog rose
H13	A managed intact species-poor hedgerow separating agricultural fields.	Hawthorn, elder, dog rose, blackthorn
H14	A managed intact species-poor hedgerow separating agricultural fields.	Hawthorn
H15	A managed intact species-poor hedgerow with some standard trees separating agricultural fields	Hawthorn, field maple, ash

The site is separated into an east and west split (separated by Llanmaes Lane through the centre of the site which prevents arboreal connectivity). However it is likely hazel dormice will cross this barrier with known evidence of this taking place across sites in the UK.

C.6 Field survey(s).

A nest tube survey was undertaken following the methodology as described in *The Dormouse Conservation Handbook* (Bright *et al.*, 2006). Within the guidance it is recommended that a standard survey should use at least 50 nest tubes with an index of probability of detecting dormice presence in each month of the survey season used to calculate a survey effort score. For example 50 nest tubes installed in March and left in situ until the end of November would score 25 (the sum of probability index figures for each month). A minimum search effort score of at least 20 is required in order to confidently determine likely absence.

70 artificial nest tubes were installed in suitable habitat on site in April 2016. These are readily used by hazel dormice for breeding and daytime shelter. Tubes are made from stiff double walled black plastic sheet, 5 x 5cm in cross section and 25cm long. A small plywood tray is placed inside, projecting 5cm beyond the tube's entrance to allow the animals' easy access. The opposite end of the tube is sealed with a wooden block mounted on the tray. The tubes are suspended by wire or tape, fixed firmly underneath horizontal limbs, where they resemble a hollow branch.

Nest tubes were located along suitable hedgerows and areas of scrub that will be impacted by the development approximately 20m apart. Tubes were positioned on trees and shrubs at between 1 and 2 metres from the ground.

Survey visits to check each tube for the presence of dormice, or evidence of dormice, were made monthly (or as a minimum every other month) between May and October 2016. This achieves a reasonable survey effort based on the index of probability scoring system. Surveys were conducted by WYG experienced surveyors, Chris Meddins MCIEEM (NRW survey licence number 56681:OTH:SA:2014), Sarah Dillon and Elliott Hughes (who has been an accredited agent on Sarah Dillon ACIEEM NRW licence number 699968:OTH:SA:2016 since September 2016).

C.7 Survey results.

Surveys recorded a single hazel dormouse nest and adult within hedgerow 12, adjacent to the arable fields in the east of the site (see Figure C.7 for location). No signs of hazel dormouse breeding were recorded.

No other signs of hazel dormice were recorded across the remainder of the site.

Table 2- Hazel dormouse survey results

Survey No.	Date	Records			Notes
		Tube No.	Nest	Individual	
1	26/05/2016	-	-	-	No small mammals recorded
2	15/06/2016	51	X	X	Hazel dormouse nest recorded with

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Survey No.	Date	Records			Notes
		Tube No.	Nest	Individual	
					adult
3	16/08/2016	51	X	-	Hazel dormouse nest
4	14/09/2016	51	X	-	Hazel dormouse nest
5	20/10/2016	51	X	X	Hazel dormouse nest recorded with adult

C.8 Interpretation/evaluation of survey results

Following the desk study and field survey, hazel dormice have been confirmed as being present within hedgerow 12 in the east of the site with an historic record located 380m from the closest point of the NAR development, no other records were recorded across the remainder of the site or in immediate surrounding area despite extensive surveys. It is possible that this nest was created by a dispersing individual, as hedgerows and other linear features are often used for this purpose³. However as a worst case scenario, due to limitations in the presence/ likely absence based on suitable connective habitat, hazel dormice are considered likely to be present in low numbers in all hedgerows and scrub across the site.

For hedgerows spring densities are estimated at 1.3 adults per hectare (Bright and MacPherson, 2002) and unknown for scrub habitats; the identified suitable habitat across the site to be impacted totals approximately 0.21 ha of hedgerow (based on 710m of hedgerow approximately 3m in width) and 1.29 ha of scrub and therefore theoretically it could be assumed a population size of 2 adult individuals could occur (English Nature 2006b) within the habitats (if apply the 1.3 adults per hectare across all habitats to be impacted). However the hedgerows and scrub are not considered to be of optimum quality for hazel dormice and therefore a population estimate is considered unreliable and the actual figure is likely to be below this figure.

Even though the population may be small the record of dormouse at the site still represents a newly identified population in an area where dormice are considered rare^{Error! Bookmark not defined.} in terms of biodiversity value. The population is therefore of conservation value.

D Impact assessment – potential impacts of proposed works in absence of mitigation/compensation.

D.1 Short-term impacts: disturbance

Disturbance and injury and/or killing to individual hazel dormice: if sensitive working practices are not followed there is a risk of harm to small numbers of individual dormice during the clearance of 710m of hedgerow and 1.29 ha of scrub. This includes hedgerow 12 where the hazel dormouse nest was recorded; therefore there is moderate to high potential for the hazel dormouse using the site to be individually significantly affected by the development.

Disturbance: during vegetation clearance and the construction phase there will be an increased level of disturbance (e.g. noise) in these and directly adjacent areas. However it is considered this will not represent a significant impact on dormice with dormice on site presumably habituated to some level of disturbance due to ongoing management work.

D.2 Long-term impacts: habitat modification.

The long term impacts from habitat modification associated with the construction of the NAR are considered to be habitat loss and habitat fragmentation. No habitat modification is included as part of the development.

³ The Dormouse Conservation Handbook, English Nature (now Natural England) 2006

D.3 Long-term impacts: habitat loss.

Loss of hazel dormouse habitat: in the absence of mitigation the habitat clearance will result in the loss of 710m of hedgerow and 1.29 ha of scrub of low to moderate value for breeding/ foraging hazel dormice. The extent of site clearance is detailed in AECOM drawings 60509148-SHT-30-0000-CT-0201 to 60509148-SHT-30-0000-CT-0208.

There are no studies on the minimum number of dormice required to maintain a population, although the Dormouse Conservation Handbook suggests a population of less than 20 would be vulnerable to extinction. Based on a density of 1.3 individuals per hectare occurring within hedgerows (and assumed for scrub), approximately 15ha of hedgerow/ scrub habitat would be required to support a viable population. From an aerial photograph of the site and the land to the north and north east it is clear that many of the agricultural fields are bounded by hedgerows and that there appears to be linkages via hedgerows to remnant pockets of broadleaved woodland located south of Cowbridge and Llantrithyd (to the north and north east of the site). Whilst the quality of the hedgerows as habitat for dormouse has not been assessed, it appears that suitable habitat is available in the wider area. Therefore, it is likely that permanent loss of suitable habitat due to the NAR development will not significantly affect the long-term distribution or abundance of the local, regional or national population. Nonetheless, additional habitat creation will be undertaken to enhance the value of the habitat available to dormice.

D.4 Long-term impacts: fragmentation and isolation

Fragmentation of hazel dormouse habitat: to allow development of the NAR, 710m of hedgerow and 12,930 (3,393 temporary) m² of scrub will need to be cleared. As a precautionary approach it has been assumed all of this could be used by hazel dormice to move between habitats. Once functional, the NAR will form a permanent barrier to hazel dormouse movement. This will cause the separation of those hazel dormice present to the south of the new road from any population to the north. Given the potentially limited habitat present south of the new road, should the connections be severed to the south west (associated with the railway embankments), the size of any dormouse population in this area may not be sufficiently large to be viable in the long-term and could have an impact on the breeding success of the population in the area (e.g. if too many female dormice were isolated from males reproduction rates would slow).

As such, the mitigation measures required to maintain connections between the habitats north and south of the NAR have been designed to be usable by the species as quickly as is possible. These measures, for example, include the translocation of already existing hedgerows.

D.5 Post-development impacts

No post development impacts are predicted for the development during the operation phase.

D.6 Predicted scale of impact

Site & Local Level- in the absence of mitigation in combination the possible disturbance and injury/ killing of small numbers of hazel dormice, loss of suitable habitat (710m of hedgerow and 12,930 (3,393 temporary) m² of scrub) during vegetation clearance and resulting fragmentation impacts of the NAR during the operation phase will potentially have a significant negative impact on the hazel dormouse population at a Site and Local level.

County and Regional Levels- in the Vale of Glamorgan there have been a number of likely dormouse records associated with the Cowbridge area however it is likely the species is under recorded in the county⁴ with limited knowledge on the distribution in the Vale of Glamorgan and across the whole of South Wales.

Due to the small numbers of dormice likely to use the habitats (based on hedgerows spring densities per hectare, Bright and MacPherson, 2002) and potential restricted use of the habitats to dispersing dormice

⁴ Vale of Glamorgan Local Biodiversity Action Plan, Vale of Glamorgan Council 2002.

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only it is unlikely the development will have a significant impact on the hazel dormouse at a County and Regional level.

The extent of site clearance is detailed in AECOM drawings 60509148-SHT-30-0000-CT-0201 to 60509148-SHT-30-0000-CT-0208 with the dormouse record indicated on Figure C.7.

Delivery Information – Mitigation, compensation and monitoring

The development design maintains habitat connectivity around and through the site and between the wider area through provision of extensive areas of additional habitat to highway boundaries, translocation of hedgerows (where possible) and provision of north to south connectivity.

The clearance of the vegetation avoids the dormice breeding and hibernation season with the vegetation cleared and hedgerows translocated using a two stage process to avoid both the hibernation and breeding seasons, with all above ground vegetation cut back by hand to a height of 300mm during December to February with stump and root removal/ or hedgerow translocation undertaken in May, the following season after the dormouse hibernation season ends.

The proposed design retains and enhances connectivity and quality of habitats with clearance timings to avoid impacts on dormice during sensitive periods.

E Works to be undertaken

The following works will be undertaken by a licensed ecologist;

- Supervision of all vegetation clearance and hedgerow translocation including hand searches prior to cutting and translocation stages (see Section E.1);
- Supervision of compensatory planting and mitigation construction i.e. 'dead hedge';
- Post development monitoring.

In addition an ecologist will be retained throughout construction to provide advice as required.

E.1 Site clearance methods

To prevent killing and injury of hazel dormice a two-stage clearance methodology will be carried out in all suitable habitat as detailed below:

- Firstly the above ground vegetation will be cut back to 300mm using hand tools during December to February with all arisings carefully removed from site. All works will be supervised by a suitably licensed ecologist who will perform hand searches of the vegetation prior to cutting. Any torpid hazel dormice will be left undisturbed and insitu and the area where found will be appropriately fenced with linking vegetation at least 1m in height retained to provide a habitat corridor to the nearest retained habitat;
- Hedgerow translocation/ stump removal will be undertaken in May, the following season after the hazel dormouse hibernation season ends and prior to their breeding season. All works will be supervised by a suitably licensed ecologist who will perform hand searches of the hedgerow/ stumps and roots to be removed prior to works commencing. All translocation/ removal will be undertaken directionally to retained habitat, in case dormice are present, to allow them to naturally disperse into the retained vegetation. See Section E2.2 for translocation methodology;
- If any hazel dormice are found that are not torpid, vegetation clearance will stop and the hazel dormouse captured by the licensed ecologist and translocated to a mitigation nest box within an area of retained vegetation that is connected to existing habitat (where possible within their existing home range - approximately 100m of where they have been found).

E.2 Dormice habitat

E.2.1 In-situ retention of habitat

All habitats not subject to site clearance (as detailed in AECOM drawings 60509148-SHT-30-0000-CT-0201 to 60509148-SHT-30-0000-CT-0208) outside the footprint of the proposed development will be retained and protected during construction. The connectivity between hedgerow habitats will be

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maintained and enhanced through the translocation of all hedgerows removed (where feasible) and new planting. Translocated hedgerows will be used where possible to maintain current habitat and connectivity in the short term with new planting utilised to enhance habitat areas and connectivity.

E.2.2 Modification of existing habitat

The only habitat modification proposed is the translocation of hedgerow habitats that are proposed to be removed (as detailed in AECOM drawings 60509148-SHT-30-0000-CT-0201 to 60509148-SHT-30-0000-CT-0208). Prior to translocation hedgerow vegetation will be cleared in line with Section E.1 with translocation methodologies summarised below:

- Immediately prior to the translocation a receptor trench will be excavated with soil from the trench placed in an area agreed with the ECoW adjacent to the receptor trench with topsoil and subsoil stored in separate piles;
- The substrate at the bottom of the trench will be loosened with an excavator bucket to a depth of at least 25cm and slow release fertiliser and water retaining gel will be spread along the trench;
- The hedgerow to be translocated will be dug out in sections (approx. 1.5m width by 1m length) across the line of the hedge to a depth of at least 1m using a tracked 360 excavator with the largest ditching bucket available. During the excavation a chainsaw will be used to free roots and branches where necessary to prevent them being torn. Sections of hedgerow with thick horizontal stems will be moved without severing the stems;
- The hedgerow sections will be replaced in the receptor trench in the order they were removed with any soil used to backfill any voids and gaps. Subsequent watering will be undertaken during dry conditions;
- Where required additional planting will be carried out of translocated hedgerows to increase connectivity and diversity.

E.2.3 New habitat creation (including dormouse boxes)

To provide additional habitat for dormice and maintain connectivity the following habitats have been included within the proposed development:

- Landscape habitats- extensive landscape planting is included with the development as detailed within the landscape plans in AECOM drawings 60509148-SHT-30-0000-CT-3001 to 60509148-SHT-30-0000-CT-3007 and Section E2.4. AECOM drawings 60509148-SHT-30-0000-CT-3008 details the species composition of all habitat types. All tree, shrub and native hedgerow habitat types include species of known value to dormice including high percentages of hazel.
- Dead hedge- the NAR will act as a significant barrier to hazel dormouse dispersal between suitable habitats to the north and south due to the severance of arboreal connectivity. A north to south crossing point will be provided through the provision of a 'dead hedge' beneath the agricultural underpass adjacent to Llanmaes Brook, this will connect to adjacent habitats (see AECOM drawing 60509148-SHT-30-0000-CT-3002 Landscape Proposals). The dead hedge will comprise a combination of brash and straw bales that provide cover and arboreal connectivity where planting cannot be sustained due to low light levels.
- Dormouse tubes- a total of 50 nest tubes will be installed on retained and translocated hedgerows adjacent to the proposed works and within the 'dead hedge' to provide additional nest habitat and monitor use of habitats post construction, see Section F.2.

New habitats will be planted as part of the advance works in the construction programme to allow early establishment with hedgerows translocated as part of the advance works to allow site access in May 2018 (see Section G for full programme details).

E.2.4 Habitat losses and gains summary table

The proposals will result in the permanent loss of 9537 m² of dense scrub, largely comprising dense bramble scrub in the east of the site and adjacent to Llanmaes Brook and the northern embankment of the B4265 comprising hawthorn, blackthorn, ash, field maple and silver birch. In addition 3393 m² of dense scrub to the southern embankment of the B4265 will be temporary impacted to allow the installation of an acoustic fence to the embankment top.

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All habitats outside the footprint of the proposed development will be retained and protected during construction.

Extensive landscape planting is included with the development as detailed within the landscape plans in AECOM drawings 60509148-SHT-30-0000-CT-3001 to 60509148-SHT-30-0000-CT-3008 and summarised the table below. The development will result in the planting of 4843 m of new native hedgerow and 15, 272 m² of new shrub & tree planting.

Habitat type	Area/ length of potential hazel dormouse habitat to be impacted	Area/ length of potential hazel dormouse habitat types included in the landscape strategy
Dense scrub	12,930 (3,393 temporary) m ²	
Native Hedgerow	710 linear metres	
Translocated Native Hedgerow		710 linear metres (where feasible)
Linear Trees and Shrubs		7101 m ²
Linear Trees and Shrubs- Mix 2		1889 m ²
Shrubs with Intermittent Trees		5187 m ²
Shrubs		1095 m ²
Native Hedgerow		4441 linear metres
Native Hedgerow- Amenity Mixture		373 linear metres
Native Hedgerow with Trees		402 linear metres

All habitats included within the landscape strategy will be managed in line with the Landscape and Ecological Management Plan for the site.

E.2.5 Scaled maps/drawings

- AECOM drawing 60509148-SHT-30-0000-CT-0100 Location Plan (included in planning application documents)
- AECOM Drawing 60509148-SHT-30-0000-CT-3020 Planning Application Boundary (included in planning application documents)
- Figure C.4a Hazel Dormouse Survey Area (to be completed for final licence submission)
- Figure C.4b (aerial) Hazel Dormouse Survey Area (to be completed for final licence submission)
- Figure C.5a & C.5b Phase 1 Habitat Plan (see WYG Ecological Assessment included in planning application documents)
- Figure C.7 Hazel Dormouse Records (see WYG Ecological Assessment included in planning application documents)
- AECOM Drawings 60509148-SHT-30-0000-CT-0201 to 60509148-SHT-30-0000-CT-0208 Site Clearance (included in planning application documents)
- AECOM Drawings 60509148-SHT-30-0000-CT-3001 to 60509148-SHT-30-0000-CT-3008 Landscape Proposals (included in planning application documents)

E.3 Mechanisms for ensuring delivery of mitigation and compensation measures

All requirements will be included within the contractor specifications with a toolbox talk given to all contractors by the suitably licensed ecologist prior to construction works commencing, this will detail all requirements regarding hazel dormouse and the process to follow if found onsite during construction. This process will be clearly displayed at all times for contractors to see (e.g. on site notice board).

Due to the limited numbers of hazel dormouse involved and limited impacts predicted no external auditing scheme is proposed and compliance of this method statement will be monitored by the licensed ecologist.

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Work will be enforced through planning conditions and the EPSL conditions.

E.4 Mitigation contingencies

No mitigation contingency is included within the proposals as they follow agreed best practice, however all work that could directly impact hazel dormice during the site clearance will be monitored by the ECoW with post construction monitoring completed in line with Section F.3.

E.5 Biosecurity risk assessment

No non-native species or disease are known within the proposed work areas however if any are recorded during the proposed works all work will stop in that area and an appropriate method statement will be agreed with NRW.

F Post-development site safeguard

F.1 Habitat/site management and maintenance

All translocated hedgerows and planted habitats will be managed in line with a Landscape and Ecological Management Plan which will prescribe management to enhance the habitats for hazel dormice, and other species, and minimise potential disturbance during important times of the year. In addition the document will include contingency measures to ensure establishment including the replacement of all failed planting during the next suitable planting period and monitoring of habitats to inform any changes to management prescriptions.

Funding for all elements of the HMP implementation will be provided by Welsh Ministers.

F.2 Population and habitat monitoring

The dormouse tubes installed prior to the construction phase, as detailed in Section E2.3 will be monitored twice annually by a licensed dormouse ecologist in June and September for five years post construction. The monitoring visit will include an assessment of the need for any additional habitat enhancement and management work and a check of all compensatory planting establishment and requirement for replacement. A summary email will be sent to the Welsh Ministers following each annual survey to provide the results of the surveys and to identify any potential requirement for changes to management as required. A report on the methods and results of the monitoring will be sent to the Welsh Ministers prior to submission to Natural Resources Wales and the Local Planning Authority following completion of the monitoring in year 5.

Results of the monitoring surveys will inform the long-term management of the site by allowing management prescriptions to be revised. Results will also be supplied to the National Dormouse Monitoring Programme.

F.3 Post-development mitigation contingencies

Management actions and monitoring results will be reviewed annually by an ecologist in consultation with Welsh Ministers and NRW. If the population monitoring identifies unfavourable results the management and implemented mitigation will be reviewed to identify potential issues based on habitat suitability and potential external factors that may be influencing population. Once the review has been carried out the results will be discussed with NRW with appropriate management changes agreed and implemented.

F.4 Mechanism for ensuring delivery of post-development works

Post-development work will be funded by the Welsh Ministers and will likely be enforced through appropriate planning conditions and the EPSL conditions.

G Timetable of works

The Conservation of Habitats and Species Regulations 2010 as amended

All vegetation clearance, hedgerow translocation and tree and hedgerow planting will be completed as part of the advance works from December 2017 to May 2018 as detailed below:

- Tree and hedgerow planting- December 2017
- First stage cutting of vegetation in line with Section E.1- December 2017 to February 2018;
- Hedgerow translocation in line with Section E.1 & E2.2- May 2018.

Construction is proposed to commence in May 2018 and be completed in July 2019.

Monitoring will start in 2019 and continue annually until 2023.

H Land Ownership – Mitigation Site/Compensation Site

H.1 Mitigation Site/Compensation Site Ownership

The Welsh Ministers control all land that is included within the proposals and subject to mitigation.

H.2 Mitigation Site/Compensation Ownership post construction

The Welsh Ministers will retain control of the site included within the proposals and subject to mitigation, apart from the road itself, which will be offered to the Vale of Glamorgan Council for adoption.

I References

Bright P., Morris P. & Mitchell-Jones T. (2006b) *Dormouse Conservation Handbook 2nd Edition*, English Nature, Peterborough

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Capita Symonds. (2009). St Athan: Home of the Defence Technical College and Aerospace Park, West Camp Access. Ecological Surveys

Chanin, P. and Woods, M. (2003) *Surveying dormice using nest tubes*. English Nature

Eden S. (2009) *Living with Dormice*. Papadakis, Winterbourne

Forestry Commission (2010) *Woodland Management in the presence of the dormouse: Guidance for compliance with the Habitats Regulations*

Forestry Commission (2012) *Biosecurity: Good working practice for those involved in forestry*

WYG (2017) St Athan Northern Access Road, Vale of Glamorgan. Ecological Assessment.

J Annexes

J.1 Pre-existing survey reports

Capita Symonds. (2009). St Athan: Home of the Defence Technical College and Aerospace Park, West Camp Access. Ecological Surveys

WYG (2017) St Athan Northern Access Road, Vale of Glamorgan. Ecological Assessment.

J.2 Raw survey data

See Section C.7