

Havant Thicket Reservoir Project

Phase 1 - Northern Access Planning Conditions and Northern Access Route Reserved Matters Application and Planning Conditions (Hybrid Consent APP/20/00990 and 51680/001)

Ecological Mitigation, Compensation and Enhancement Measures

Portsmouth Water Ltd.

June 2022

Atkins Doc No.: HTR-ATK-XX-ZZ-RP-Z-005

Atkins Revision No.: C01

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This document has 42 pages including the cover.

Document history

PW Revision	Status	Purpose description	Originated	Checked	Reviewed	Authorised	Date
P.01.1	S0	First Issue	SG	MG	CW	JF	01/04/2022
C01	A1	Final	SG	MG	JF	JF	29/06/2022

Client signoff

Client	June 2022
Project	Havant Thicket Reservoir Project
Job number	5169117
Client signature / date	

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1. Introduction and Background to the Scheme

Purpose of this Report

- 1.1. Portsmouth Water secured hybrid planning permission in October 2021 for Havant Thicket Reservoir, a new raw water storage reservoir development located north of Havant, Hampshire (hereafter referred to as 'the Approved Scheme'). The new reservoir will have a minimum storage capacity of 8,700 million litres and an extent of approximately 1.6 km from east to west and 800 m from north to south.
- 1.2. The Approved Scheme includes full permission for a new access off the B2149 north of the reservoir location to facilitate access to the reservoir. Outline planning permission has been granted for an access route from the northern access to the location of the visitor car park in the north-west of the reservoir location, which is subject to this Reserved Matter application. As the Northern Access and Northern Access Route are inextricably linked, together they comprise the Phase 1 Scheme.
- 1.3. The purpose of this report is to provide the Local Planning Authority with full details of the ecological mitigation, compensation and enhancement measures in relation to the Phase 1 Scheme. This information is required to discharge the Phase-specific pre-commencement ecology conditions that need to be discharged before Phase 1 construction can commence. The Conditions state:

Condition 36: Ecological Mitigation, Compensation and Mitigation Measures:

No phase of the development approved under Condition 4 shall commence until full details of all ecological mitigation, compensation and enhancement measures (to be informed as necessary by up-to-date survey and assessment) and on-going monitoring of mitigation measures required for each reserved matters application (including both ecological works directly related to that Development Phase reserved matters area and any works associated with that area but lying outside of the boundary of that area) shall be submitted for approval to the Local Planning Authority. Such details shall be in accordance with the ecological mitigation, compensation and enhancement measures detailed within the Outline Biodiversity Mitigation and Compensation Strategy (ECOSA, September 2020), the Habitats Regulations Assessment (Atkins/Portsmouth Water, September 2020) and the Implementation Plan for Off Site Biodiversity Mitigation and Compensation (Atkins, April 2021). Any such approved measures shall thereafter be implemented in strict accordance with the agreed details and with all measures maintained in perpetuity, unless otherwise agreed in writing by the Local Planning Authority.

Reason: To protect and enhance biodiversity in accordance with the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, NERC Act 2006, NPPF and Policy CS 11 of the Havant Borough Core Strategy March 2011.

- 1.4. The following planning conditions are also outlined in the Reservoir Decision Notes and information to support the discharge of these conditions is provided below.

Condition 37: European Protected Species (EPS) Licences

The development shall be carried out in accordance with the European Protected Species (EPS) licences for hazel dormouse (Natural England reference- 2020-50257-EPS-AD2) and bats (Natural England reference-2020-50625-EPS-AD2) issued by Natural England. The requirements of the licences shall be adhered to, unless varied through agreement with Natural England.

Reason: To protect and enhance biodiversity in accordance with the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, NERC Act 2006 and the NPPF.

- 1.5. Natural England has been consulted on tree removal required relating to the visibility splay along the B2149 and the access area and revised licences relating to this work have been approved. Tree clearance commenced in April 2022 in accordance with the timescales set out in the licences. A

further amendment to the dormouse licence will be obtained in relation to proposed changes to the layout at the southern end of the northern access route. No vegetation clearance in this area will be undertaken until the amended licence has been obtained.

Condition 38: Ecological Clerk of Works

An Ecological Clerk of Works (ECoW) shall be appointed, to be full time onsite during site preparation and clearance and during any works in sensitive areas, and to undertake regular monitoring visits throughout the construction programme.

Reason: *To protect and enhance biodiversity in accordance with the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, NERC Act 2006, NPPF and Policy CS 11 of the Havant Borough Core Strategy March 2011.*

- 1.6. The ECoW is from Royal Haskoning DHV, part of the Reservoir Contractor team.

Condition 39: Soil management Plan

No phase of the development approved under Condition 4 shall commence until a Soil Management Plan has been submitted to and approved in writing by the Local Planning Authority. The Plan shall include separate management of ancient woodland soils for restoration. The Plan shall include a timetable for the carrying out of the works, once approved. The development shall be carried out in accordance with the approved details and timetable.

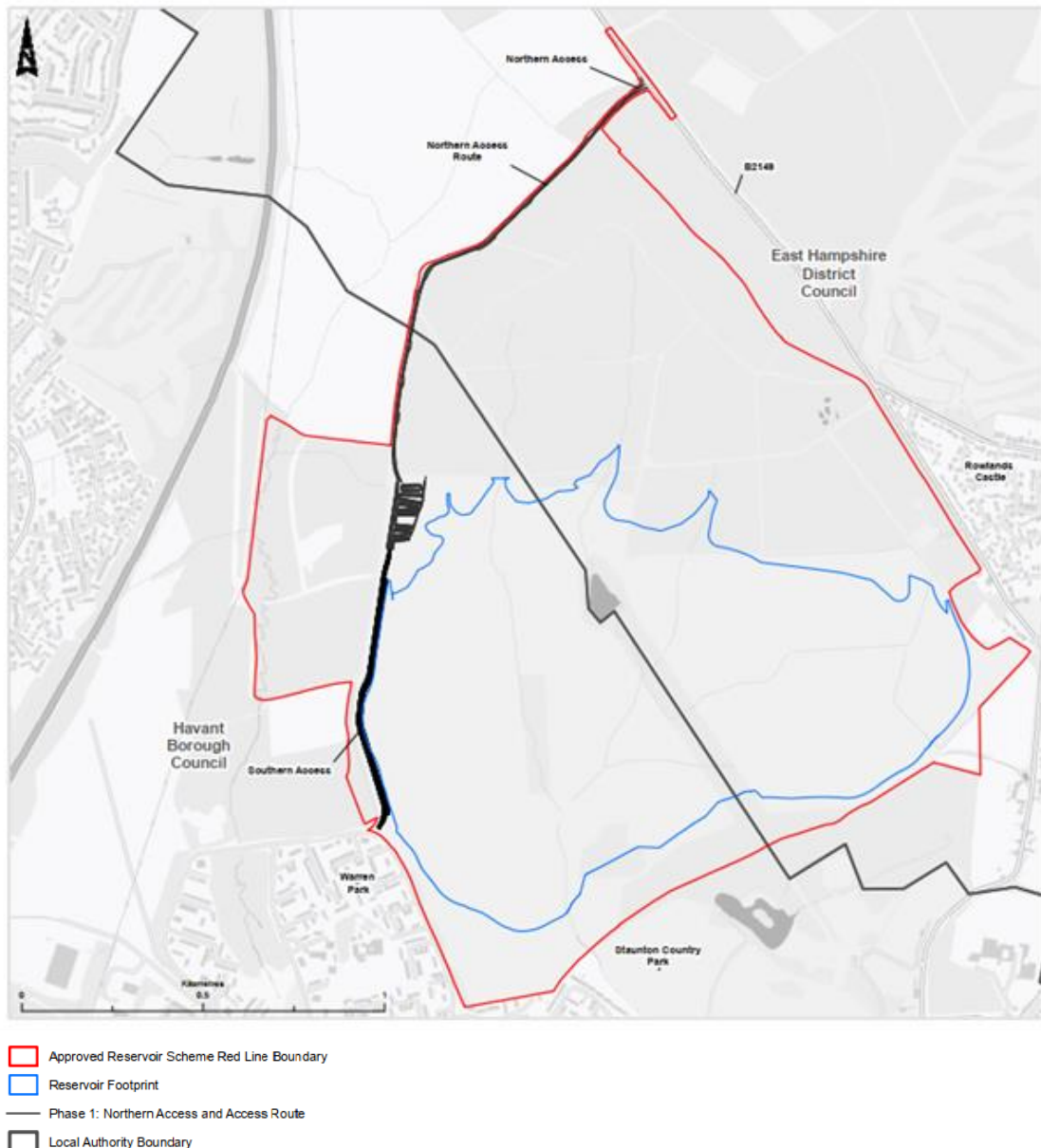
Reason: *To support reinstatement of the landscape disturbed by the construction works.*

- 1.7. A separate Soil Management Plan has been prepared to address this issue.

Ecological Context of the Northern Access Route

- 1.8. The Northern Access and Route (Phase 1 Scheme) is fully within the Approved Scheme red line boundary, which is marked by the red line boundary shown in Figure 1-1 below.
- 1.9. The Site lies within a shallow valley located between the residential settlements of Leigh Park and Rowlands Castle. It is an area of approximately 296 ha and comprises open grassland and woodlands. See Figure 1.1 for the location of the reservoir site and location of the Northern Access and Access Route.

Figure 1-1 – Approved Scheme (Reservoir)



- 1.10. Woodland that will be lost or partially lost due to the reservoir construction includes The Avenue, Middle Clearing and Round Wood are classified as Ancient Semi-Natural Woodland (ASNW). A Corsican Pine Plantation on the southern edge of Havant Thicket woodland will be partially lost, which is classified as Plantation on Ancient Woodland Sites (PAWS). The majority of Havant Thicket woodland in the north of the Site is listed as PAWS. Bell's Copse, located in the west of the Site, is also listed as partly ASNW and partly PAWS. These woodland blocks are also designated as Sites of Importance for Nature Conservation (SINC) and contain habitats for birds, insects, bats and dormice.
- 1.11. Ecological surveys undertaken between 2005 and 2009 and between 2017 and 2022 have been used to obtain the baseline conditions for this Phase 1 Scheme. The surveys have determined that at least thirteen species of bats were recorded within the reservoir site including Bechstein's bat. The reservoir site also supports a population of hazel dormouse, a range of priority bird species, reptiles and a small population of great crested newt is present within ponds on the eastern side of Havant Thicket woodland, outside the reservoir site footprint. Badgers are known to forage within the reservoir site, but there are no active setts.

- 1.12. The northern access and access route is located on the western edge of Havant Thicket woodland to the north of the reservoir footprint. It passes through ancient woodland and SINC's as illustrated in the Ecological Constraints Plan in Appendix A. Surveys undertaken relevant to the Phase 1 Scheme include:
- Vegetation – Phase 1 & NVC surveys and with an update walkover survey by Atkins Ecologists in January 2022 which confirmed habitats remained consistent with previous surveys;
 - Bats – Ground level tree assessments for bats were undertaken along the northern access between late 2021 and early 2022. Numerous bat studies have been undertaken for the reservoir scheme including transect surveys, vantage point (fixed area) surveys, radio-tracking surveys, static detector surveys over many years.
 - Badger – latest survey undertaken in January 2022 by Atkins Ecologists.
 - Hazel Dormouse – latest survey was undertaken in 2019 but data is sufficient to confirm species is present.
 - Breeding and wintering birds – latest surveys 2018 but survey data sufficient to identify the bird assemblages present.
 - Great crested newts - latest survey was undertaken in 2018. Update surveys are not required in relation to the northern access works due to the distance to potential breeding ponds.
 - Invertebrates – latest surveys were undertaken in 2018 and provide sufficient data to identify the invertebrate assemblages present.
- 1.13. Further information on the ecological receptors identified during these surveys is provided in Table 4.1 below.

2. Phase 1 Scheme Details

- 2.1. The Phase 1 Scheme (as illustrated in the Site Location Plan submitted with the Phase 1 Application and the Ecological Constraints Plan in Appendix A) will link the reservoir site with the B2149. The adoption of the Northern Access as the main route to the reservoir has been the outcome of an optioneering and consultation exercise. There is a secondary access proposed to the south. The Northern Access will take up 100% of the reservoir construction traffic and 67% of the pipeline construction traffic. This approach will ensure that the reservoir construction traffic will not pass through residential areas.
- 2.2. On completion of the construction phase, the Northern Access and Northern Access Route will remain open as a permanent access route to the visitors' car-park for the public.
- 2.3. The proposed route will be a single lane, single carriageway road with passing bays to ensure that the footprint of the works is kept to a minimum and minimises the loss of trees and ancient woodland. The Northern Access Route follows an existing track along the western edge of Havant Thicket woodland before entering the an area known as the Blendworth Fragment, which requires clearance of woodland habitat. Along the section that follows the existing track, one tree will need to be felled, some overhanging branches will need to be cut back and vegetation cleared to create the passing bays. The Northern Access Route is located within ancient woodland with the section of the existing track within Bell's Copse Site of Importance for Nature Conservation SINC, Havant Thicket (South-West Corner) SINC, and Havant Thicket SINC and the Blendworth Fragment section is within Idsworth Common SINC.
- 2.4. The Northern Access Route will partially be constructed using Cellweb Tree Root Protection (TRP). Cellweb is a 'no-dig' solution that ensures that the loads placed upon it are laterally dissipated rather than transferred to the soil and roots below. The walls of the cells are perforated and when combined with the infill of clean angular stone, enable free movement of water and oxygen, ensuring that nutrient supplies to the tree roots are maintained. Furthermore, Cellweb Tree TRP system complies with BS 5837:2012¹ and enables drainage discharge to ground at source, replicating the existing arrangement. This method of construction has been chosen to minimise impacts on the adjacent ancient woodland habitat.
- 2.5. However, in two short sections, one adjacent the B2149 junction and one at the approach to the car-park location, where the slope gradient is not compatible with use of Cellweb, a traditional 'dig-down' approach will be used for construction of a bituminous surfaced roadway. This approach will enable the footprint to be kept to a minimum. Additional drainage swales, ditches and basins will be required.

¹ British Standard (2012) BS 5837 *Trees in relation to design, demolition and construction guidance – recommendations*. BSI, London.

3. Environmentally-Led Design

- 3.1. The design of the Phase 1 Scheme has been developed by a team of environmental specialists and engineers, including landscape architects, ecologists, tree specialists and drainage and highways engineers. During the design process the impacts on environmental receptors has been prioritised as much as possible, and the following elements have been considered:
- Refinement of alignment to help reduce gradient of the route to minimise the 'dig-down' locations and impacts on trees;
 - Refinement of locations of passing bays to reduce loss of trees and dormouse habitat;
 - Drainage features that meet requirements but minimise impacts on woodland and trees;
 - Materials and finishes to retain rural character of woodland setting; and
 - Location, extent, function, type and species of new planting and habitat reinstatement to integrate and connect with existing habitat and manage access.
- 3.2. Topographic surveys have been undertaken to confirm tree locations and clarify the impacts on individual trees within the Blendworth Fragment.
- 3.3. Soil sampling has been undertaken to inform the Soil Management Plan.

4. Ecological Mitigation Measures Specific to Phase 1

4.1. Table 4-1 below details the predicted impacts and required ecological mitigation for important ecological features affected by construction of the Phase 1 Scheme. A compensation package has been designed for the Approved Scheme as a whole and therefore further information on compensation is provided in Section 5 below.

Table 4-1 - Overview of ecological baseline and mitigation for habitats and designated sites

Habitat	Baseline and Predicted Impact	Mitigation
Ancient Woodland, veteran trees and Non statutory Designated Sites	The ES predicted 0.84ha² loss of ancient woodland, which is also designated as Bells Copse, Havant Thicket (South-West Corner), Havant Thicket and Idsworth Common SINC. No trees classified as veteran specimens to be lost. Indirect impacts on woodland and SINC. adjacent to the Northern Access Route working area during the construction and operational phases through potential pollution incidents, changes to local hydrology and recreational pressure.	The design team in consultation with the environmental leads have minimised the loss of ancient woodland and non-statutory designated sites during the detailed design stage. Use of an existing forestry track for the majority of the length of the access route reduces the loss of ancient woodland vegetation. Figure B.1 in Appendix B illustrates how the detailed design has reduced the loss of ancient woodland along the northern access route from 0.84ha to 0.65 ha. Tree and vegetation clearance permitted by the hybrid consent has commenced within the footprint of the approved scheme only at the northern end of Phase 1 and along the B2149, in line with the seasonal requirements and the conditions of the European Protected Species Licences (see below). Removal of remaining stumps will be undertaken in accordance with timescales set out in the licence schedule. This was to enable works to be started on the B2149 and connected access areas this summer (following approval of the Section 278 Highways Agreement). Fencing to protect the root protection areas of retained trees will be installed in accordance with the recommendations in the Arboricultural Impact Assessment (AIA, Atkins, 2022) report. An Ecological Clerk of Works and an Arboriculturalist will ensure only vegetation agreed in the detailed design plans is demarked on site for removal. Site clearance will also be undertaken in accordance with mitigation measures outlined in the AIA including arboricultural supervision, hand operations and involvement of the local authority tree officer and mitigation required for protected species as outlined in Table 4.2 below.

² Based on Natural England advice during consultation in 2020 the work over the existing longstanding track was not considered as constituting ancient woodland loss and therefore this figure excludes 0.22ha that is the existing access track.

Habitat	Baseline and Predicted Impact	Mitigation
		There will be no access beyond the demarked working area for machinery or site contractors and these areas will not be used for storage. A combination of 'no-dig' and 'dig down' construction methods will be used to minimise the impact on the woodland and designated sites. See further information in the Scheme Details section above. Avoidance of indirect impacts through mitigation measures will be set out in the Construction Environmental Management Plan (CEMP). A Framework Soil Management Plan (FSMP) has been prepared pursuant to condition 39 of the HTR planning permission (EHDC Ref. No: 51680/001 and HBC Ref. No: APP/20/00990) and provides a strategy to inform and to support the reinstatement of the landscape disturbed by the construction works at each phase. The FSMP identifies the tasks and timings for the Phase 1 Scheme works and includes an outline for the management of ancient woodland soils for restoration during subsequent phases.
Priority Habitats	Deciduous woodland Priority habitat³ is present within the working areas for the Northern Access Route. There will be direct loss of approximately 0.37 ha of deciduous woodland priority habitat. To the west of the Northern Access Route, immediately outside the site boundary lowland dry acid grassland priority habitat is present⁴. These habitats will not be affected by habitat loss but could be impacted indirectly through potential pollution incidents.	The design team in consultation with the environmental leads have minimised the loss of priority habitats during the detailed design stage. Use of an existing forestry track for the majority of the length of the access route reduces the loss of priority habitat vegetation. The deciduous woodland priority habitat is also ancient woodland and non-statutory designated site for which mitigation measures are outlined above. Indirect impacts on priority habitats outside the site boundary will be avoided through mitigation measures set out in the Construction Environmental Management Plan (CEMP).

³ Habitats considered as priorities for conservation as defined in CIEEM (December 2017). Guidelines for Preliminary Ecological Appraisal Second Edition. Priority habitats and species include those listed as a national or local priorities for conservation, Red Listed, Near Threatened or Amber Listed, Nationally Rare or Nationally Scarce or endemic to a country or geographical area.

⁴ As identified on Magic Map Application (defra.gov.uk). Magic also records coastal and floodplain grazing marshland immediately outside the site boundary but site surveys have confirmed this habitat is not present.

Table 4-2 - Overview of ecological baseline and mitigation for species / species groups

Species / species group	Baseline and potential loss	Mitigation
Bats	At least thirteen species have been recorded within the Reservoir Site including barbastelle, Bechstein's bat, Brandt's bat, brown long-eared bat, common pipistrelle, Daubenton's bat, Nathusius' pipistrelle, Natterer's bat, noctule, serotine, soprano pipistrelle, whiskered bat and Alcaho bat. To date no bat roosts have been confirmed along the Phase 1 route. Trees with potential to support roosting bats have been identified in a Ground Level Tree Assessments undertaken between late 2021 and early 2022. The results of this survey are included in Appendix C. Eight trees with moderate potential and twenty-one trees with low potential have been identified within the working area.	Where suitable bat roost features are identified within retained trees located close to construction works any activities that could disturb roosting bats are minimised. Fencing to protect retained trees will be installed in accordance with the recommendations in the Arboricultural Impact Assessment report. Works will be undertaken in accordance with European Protected Species Licence (EPSM, licence reference 2020-50625-EPS-AD2-1. Licenced Ecologist: Mr Simon Boswell, ECOSA) for bats. This licence has been updated to include changes to the extent of vegetation clearance at the northern end of the scheme. Mitigation measures include: • All trees with potential roost features (PRFs) to be clearly marked prior to felling; • Inspection of trees with PRFs by the Named Ecologist or their Accredited Agent immediately prior to felling; • Any bats located in any roost feature that can be captured by hand or hand-held net will be placed in a cotton bag and moved to a previously erected bat box; • If bats cannot be removed or it is not possible to fully check a feature the potential roost feature will be fitted with a one-way excluder; • Felling of trees with PRFs in April 2022 to avoid times of years when bats are most sensitive (i.e. breeding or hibernating)⁵. Soft, sectional felling will be required for trees with confirmed bat roosts, or with high or medium bat roost potential. Soft or direct felling can be undertaken of trees with low bat roost potential. A number of bat boxes have already been installed on trees adjacent to the Northern Access Route as compensation for the loss of trees with bat roosts

⁵ Should any trees need to be retained due to the presence of nesting birds the Named Ecologist on the bat and dormouse EPSM licences will agree an appropriate approach to the work.

Species / species group	Baseline and potential loss	Mitigation
		elsewhere within the Site. Whilst none are located on trees that need felling, one is located on a tree that may require crown lifting and others in the areas that could be subject to disturbance during the construction of the Northern Access Route. Disturbance in the vicinity of the bat boxes will be kept to the minimum possible. A tool box talk will be given to contractors prior to the start of works to inform them of the presence of bats, the legislation relating to bats, measures that will be used to protect them, good working practices, licensable activities, and what to do should bats be found. A written record that the tool box talk has been undertaken, and that it covers the above points, will be kept by the Named Ecologist or Accredited Agent and made available to Natural England or any police officer on request. The EPSM licence will be referred to for detailed methodologies. No construction lighting will be used for construction of the Northern Access Route and the access route will not be lit during the operational phase.
Hazel Dormouse	Dormice have been recorded widely across the site and are likely to utilise suitable habitat within and alongside the Northern Access Route. Clearance of woodland and scrub for the passing bays and through the Blendworth Fragment section at the northern end of the route where an existing track is not present will result in loss of suitable dormouse habitat.	Site clearance (and compensation measures) at the northern end of the route was undertaken in accordance with the methodology agreed with Natural England in the EPSM licence (2020-50257-EPS-AD2-1; Licenced Ecologist: Mr Simon Boswell, ECOSA). A revision to the licence will be required to account for some changes to the extent of vegetation clearance at the southern end of the scheme to allow for drainage and changes to the road layout to allow for a turning circle for Forestry Commission vehicles. Vegetation clearance in this area will not be undertaken until a revised licence has been obtained. In summary the following methodologies as outlined in the EPSM will be followed: • All habitat to be cleared along the Northern Access Route will be within 100m of retained habitat allowing dissuasion of dormice rather than translocation; • Single stage habitat removal to ground level in the active season (with finger tip search) between April and 8th June 2022 and / or mid-September to October 2022 - November 2021 and 2022 only if conditions remain suitable for active dormice; • Clearance will be undertaken either using hand tools or through mechanical clearance as per the licence; and

Species / species group	Baseline and potential loss	Mitigation
		The clearance area will be rendered unsuitable for dormice through removal of all vegetative material, for the entire period following vegetation clearance up until the start of construction. Vegetation clearance was undertaken under the current version of the dormouse licence in April 2022 in a coordinated approach that minimised impacts on bats as discussed above. Removal of stumps will be undertaken in accordance with timescales set out in the licence schedule. Additional vegetation clearance required at the southern end of the route due to a change in the design will be undertaken in accordance with timescales set out in the amended EPSM licence. The EPSM licence will be referred to for detailed methodologies. Fencing to protect retained trees will be installed in accordance with the recommendations in the Arboricultural Impact Assessment report.
Great Crested Newt	The Northern Access Route contains terrestrial habitat within and adjacent to the alignment with good suitability for great crested newts. However, no ponds within 500m of the northern access route have been confirmed as supporting great crested newts. This species typically uses suitable terrestrial habitat within 500m of a breeding pond and therefore it is considered unlikely that great crested newts would be encountered during works to construct the Northern Access Route.	A tool box talk will be given to contractors prior to the start of works to inform them what action should be taken if a great crested newt is encountered during the site clearance work. Should great crested newts be found unexpectedly during construction activities all works in that immediate area will cease and an ecologist will be contacted for further advice.
Birds	A variety of breeding and wintering birds typical of grassland and woodland habitats are present at the Site. Nightjar and firecrest are Schedule 1 species protected from disturbance when breeding that have been recorded within Havant Thicket woodland.	Where possible and consistent with requirements for other protected species, such as bats, works will avoid the bird breeding season. As tree and vegetation will be undertaken within the core bird nesting season, due to the requirements for bats and hazel dormouse, an inspection of vegetation to be cleared for nesting birds will be undertaken by a suitably qualified ecologist no more than 24 hours prior to works commencing. If any nests or nesting birds are identified during the survey, they will be left undisturbed for the entire nesting period until the young birds have fledged. Alternative approaches to the work will be proposed,

Species / species group	Baseline and potential loss	Mitigation
		such as leaving an exclusion zone around the nest to avoid disturbance. All cleared vegetation will be removed from the works area.
Reptiles	Whilst the reservoir footprint supports an exceptional population of slow-worm, a good population of common lizard and a low population of adder and grass snake only extremely small numbers of reptiles were found in Havant Thicket woodland during surveys in 2018 and therefore it is considered unlikely that any reptiles would be encountered within the working area during the active season for reptiles (March to October). A pile of debris including bricks, at the southern end of the northern access route (approximate chainage 1370) has the potential to support hibernating reptiles.	Potential reptile hibernacula will be removed outside the reptile hibernating period or if this is not possible the refugia will be dismantled with care in the presence of an ecologist. A tool box talk will be given to contractors prior to the start of works to inform them what action should be taken if a reptile is encountered during the site clearance work. If a reptile is encountered during construction activities, all works that could cause harm will cease until the reptile has moved to a safe location. If the reptile does not move of its own accord, it should not be handled and an ecologist will be contacted for advice.
Badger	No active badger setts have been located within or immediately adjacent to the Northern Access Route. However, badgers do use the site for foraging.	Precautionary pre-clearance survey will be undertaken at areas of suitable habitat. It is not anticipated that construction of the Phase 1 Scheme would require any steep sided excavations. However, if any are required, they will be covered at night or have graded sides or a ramp inserted to allow any animals that may fall in to escape. A gate will be installed at the site entrance and the visitor centre will not be open at night to mitigate potential impact of night-time traffic. There will be no night-time construction traffic or operational traffic along the northern access road.
Invertebrates	Invertebrate surveys undertaken in 2005 and 2018 recorded the presence of Priority species at the Site, and the invertebrate assemblage is considered to be of local value.	The extend of vegetation clearance will be marked out on Site to ensure only agreed vegetation is removed. There will be no access beyond the demarked working area for machinery or site contractors and these areas will not be used for storage. Avoidance of indirect impacts through mitigation measures set out in the Construction Environmental Management Plan (CEMP).

Species / species group	Baseline and potential loss	Mitigation
		The ECoW will identify suitable locations for creation of ground level dead wood habitat, such as log piles.

5. Compensation Package

- 5.1. A comprehensive compensation package has been designed and agreed for the Approved Scheme as a whole and therefore details of this package can be found in the following documents:
 - Outline Biodiversity Mitigation and Compensation Strategy (Outline BMCS) (ECOSA, September 2020);
 - Implementation Plan for Off Site Biodiversity Mitigation and Compensation (Atkins, April 2021); and
- 5.2. A Detailed Biodiversity Mitigation and Compensation Strategy is being prepared by Atkins and will be submitted alongside the Reserved Matters application in line with the commitments set out in the Approved Scheme S106 Legal Agreement.
- 5.3. In summary the compensation package includes the following measures initially set out in the Outline BMCS:
 - A mosaic of new and restored high-quality habitats, including 52 ha of habitat creation and restoration within Havant Thicket woodland, Bell's Copse and Staunton Country Park, and a new wetland with a variety of habitats, water depths and vegetation types;
 - Management for biodiversity through collaboration with Forestry England and Hampshire County Council, including a long-term Landscape and Ecological Management Plan (LEMP);
 - On-site aquatic habitat mitigation, compensation and enhancements to ponds and watercourses as part of a catchment-wide approach;
 - Up to 72 ha of habitat restoration and creation will be undertaken within Southleigh Forest in partnership with Hampshire and Isle of Wight Wildlife Trust (HIWWT);
 - Creation of up to 80 ha of new wood pasture and grassland through partnerships between Portsmouth Water and local landowners; and
 - A Capital Grants Scheme will be set up to provide funding to study and enhance biodiversity locally and to improve ecological networks and corridors off-site. The Capital Grants Scheme will commence in 2029 and will run for a minimum 30 year period.
- 5.4. As part of the compensation package described above, habitats adjacent to the Northern Access Route within Havant Thicket woodland will be enhanced for dormice, bats and reptiles.
- 5.5. With regard to the Phase 1 Scheme proposals, existing habitats will be enhanced as follows:
 - A hedgerow comprising native species with trees will be planted along the southern side of the B2149, to replace the trees to be removed as part of the proposed Northern Access Junction works.
 - Infill planting with native species will be carried out along the Northern Access Route to provide a connection between the Havant Thicket woodlands for ecological enhancement.

6. Project Team Roles and Responsibilities

Roles and Organisations involved in the Delivery of the Environmental Management Plan

- 6.1. Portsmouth Water or the Project Management Consultant appointed by Portsmouth Water will be responsible for overseeing management of the project.
- 6.2. Some of the site supervision roles such as the Ecological Clerk of Works and specialist consultants to supervise, monitor or check the Principal Contractor's Method Statements including sensitive activities will be delegated where required by Portsmouth Water.
- 6.3. A Principal Contractor (PC) is the contractor with control over the construction phase of a project involving more than one contractor. The PC will be required to delegate responsibilities to experienced onsite personnel within the key areas of the site. The delegation of responsibilities will be clearly identified within relevant project documents and site files.
- 6.4. The key environmental management roles and responsibilities during construction will be identified and defined in the CEMP prior to the commencement of construction.

Environmental Management Responsibilities during Construction

- 6.5. A full Construction Environment Management Plan (referred to as the CEMP) will be prepared by the PC once appointed on the reservoir site and access routes, and pipeline contracts, and the design and construction plans are finalised.
- 6.6. The CEMP will be a 'live' document and will be maintained by the PC throughout the life of the Scheme.
- 6.7. The CEMP will be developed into the Handover Environmental Management Plan (HEMP) upon completion of the construction works to pass crucial environmental information to those bodies responsible for future maintenance and operation of the asset. The PC will be responsible for preparing the HEMP and Construction Phase Health and Safety Plan on completion of construction, for handover to the managing agent.
- 6.8. Portsmouth Water and/or its delegated Project Management Consultants, PC and subcontractors are all responsible for adhering to and complying with the Scheme objectives, Scheme environmental policy, relevant environmental legislation, bylaws and regulations. It is a requirement that all site personnel will be made aware of their duty of care to the environment, including local communities, and will be provided with adequate training, supervision or instruction in the form of tool box talks, site induction modules and specific method statements as necessary.
- 6.9. Responsibilities for site environmental management will be delegated to key personnel by the PC. These personnel will be responsible for implementation, reporting and monitoring of environmental mitigation during the contract period. Where required, environmental specialists will be consulted to provide advice on specific issues or site activities, in consultation with the PC.

Post-construction Environmental Management Responsibilities

- 6.10. Portsmouth Water will produce a Site Management Plan for the reservoir site, which will confirm roles and responsibilities for the management and maintenance of the site for as long as the Approved Scheme remains open and operational. The Site Management Plan will be administered by a Site Management Board.
- 6.11. A Landscape Ecological Management Plan (LEMP) will be provided that sets out the long-term management of habitat creation and enhancement measures undertaken within the site as compensation for the effects of the Approved Scheme and for each Phase. The LEMP includes objectives for the management of important landscape and biodiversity features and provides a schedule of works.

7. Timescales

7.1. The following timings are proposed:

- **April 2022:** Permitted vegetation clearance in accordance with the EPSM licences for bats and dormice. All trees with potential to support roosting bats will be felled in April⁶.
- **May to 8th June 2022:** Continuation of clearance of vegetation suitable for dormice.
- **July to August 2022:** Construction of B2149 highways works.
- **Mid-September to October 2022:** Vegetation clearance in accordance with amended EPSM licence for dormice at the southern end of the route.
- **November to January 2022/23:** Construction of Phase 1 Scheme.

⁶ Should any trees need to be retained due to the presence of nesting birds the Named Ecologist on the bat and dormouse EPSM licences will agree an appropriate approach to the work.

8. Record of Environmental Actions and Commitments

- 8.1. The Record of Environmental Actions and Commitments (REAC) identifies environmental actions and commitments made during the outline design to mitigate the potential environmental effects of the Scheme.
- 8.2. The REAC will be updated as the project progresses and become the CEMP. It will be finalised at the end of construction on completion of the Scheme, when it will be advanced into a Handover Management Plan (HEMP). This is the main vehicle for passing essential environmental information to Portsmouth Water and crucially to the bodies responsible for the future ongoing maintenance and operation of the Scheme. Ecological actions identified in the REAC that are directly relevant to the Northern Access Route are provided in Table 8.1 below.

Table 8-1 - Record of Environmental Actions and Commitments (REAC): Ecological Actions Directly Relevant to the Northern Access Route

Ref	ES ref	Objective	Actions/commitments (incl. specific location and any monitoring required)	Assumptions (on which the action is based)	Achievement criteria and reporting requirements	When P - Pre-construction C - Construction O - Operation A - All
B3	CH9	To assist appointed construction contractor in meeting biodiversity requirements.	Ecological Clerk of Works (ECoW) to be appointed, to be full time on site during site preparation and clearance and during any works in sensitive areas, and to undertake regular monitoring visits throughout construction programme.	ECoW to be appointed by contractor will be suitably qualified and experienced ecologist.	Quarterly ECoW progress reports to be provided to the LPA.	C
B4	CH9	To minimise disturbance of sensitive retained habitats and species.	Project design and ecological management plan will include measures to control and direct visitor access to minimise disturbance in sensitive areas.		Detailed design and LEMP to be agreed by LPA.	P
B6	CH9	To protect areas of SINCs and ancient woodland outside the working areas from accidental incursion.	Install protective fencing (high visibility or steel mesh panel) at the edge of the working area, including protecting all retained woodland, scrub and grassland areas and a 15 m buffer zone around all ancient woodlands where practicable, and with expert arboricultural advice where work is required within 15m, and maintain throughout construction.		Integrity of adjacent areas to be monitored on weekly basis by ECoW. Updates to be included in quarterly ECoW progress report to LPA.	C
B7	CH9	To minimise loss of ancient woodland.	During detailed design, continue to seek and act on any opportunities to reduce loss of ancient woodland and veteran trees further.		Detailed design to be agreed by LPA.	P
B9	CH9	To contribute to compensation for loss of ancient woodland (onsite measures) and loss of habitat used by bats and dormice.	During detailed design, identify any opportunities to use ancient woodland soils to contribute to habitat creation. Include separate management of ancient woodland soils for restoration works after passing places on northern access route have been reduced to final size, and any other retained ancient woodland soils, in the soil management plan. During construction, the methods for ancient woodland soil management and re-use will be actioned.	Stakeholder comments will be obtained from LPA, Natural England, Environment Agency and Forestry England.	Agreement of detailed Biodiversity Mitigation and Compensation Strategy and EcMP/LEMP by LPA. Quarterly ECoW progress reports to be provided to LPA during construction.	A
B11	CH9	To contribute to compensation for loss of ancient woodland (offsite measures).	During detailed design, develop a strategy for offsite woodland and wood pasture creation. Methodology is to be confirmed, but it is anticipated to include elements of native tree and shrub planting and natural regeneration using approaches such as rewilding or accelerated succession. Implement strategy during construction phase.	Stakeholder comments will be obtained from LPA and Natural England.	Agreement of detailed Biodiversity Mitigation and Compensation Strategy by LPA. Quarterly ECoW progress reports to be provided to LPA during construction.	A
B14	CH9	Compensate for habitat losses.	Design new habitats during detailed design, including detailed design of wetlands that maximises retention of ancient woodland areas for conversion to wet woodland supporting native tree species. Create new wetland in accordance with design. Create species-rich grassland on the outer embankment of the reservoir.	Stakeholder comments will be obtained from LPA, Environment Agency and Natural England.	Agreement of detailed Biodiversity Mitigation and Compensation Strategy by LPA. Quarterly ECoW progress reports to be provided to LPA during construction.	P, C

Ref	ES ref	Objective	Actions/commitments (incl. specific location and any monitoring required)	Assumptions (on which the action is based)	Achievement criteria and reporting requirements	When P - Pre-construction C - Construction O - Operation A - All
			Plant new scrub and enhance retained hedgerows.			
B15	CH9, CH15	To protect watercourses from construction related pollution risk.	The PC will adopt best practice to avoid pollution of watercourses. This is to include, but is not limited to, adherence to Guidelines for Pollution Prevention (GPP) ⁷ and Construction Industry Research and Information Associated CIRIA) guidance on the control of water pollution from construction sites ⁸ .	Contractual responsibilities between Portsmouth Water and PC. Pollution prevention measures will be detailed in a CEMP. The PC will have access to relevant guidance material.	No reportable incidents of construction related watercourse pollution above thresholds set within the water quality monitoring strategy.	P, C
B22	CH9	Protection of bats and compensation for loss of roosting opportunities.	Felling methods to minimise risks to individual bats will be followed as set out in the EPSM bat licence as described in Section 4 above. These sets out timing and methods of working.	Licence in place prior to felling of any roost trees.	Work to be undertaken in accordance with licence. Quarterly ECoW progress reports to be provided to LPA during construction.	P, C
B24	CH9	Protection of dormice and compensation for habitat loss.	Vegetation clearance and tree felling methods to minimise risks to individual dormice will be followed as set out in the EPSM dormouse licence. This sets out timing and methods of working. The licence will also be followed in terms of compensatory measures, including habitat creation, habitat enhancement and erection of dormouse nest boxes.	Licence in place prior to clearance of vegetation.	Work to be undertaken in accordance with licence. Quarterly ECoW progress reports to be provided to LPA during construction.	P, C
B27	CH9	Protection of badgers.	Precautionary pre-clearance survey will be undertaken at areas of suitable habitat.	A licence will be obtained if badgers colonise the site and a sett requires closure.	Quarterly ECoW progress reports to be provided to LPA during construction.	P, C
B28	CH9	Protection of nesting birds.	Precautionary pre-clearance survey will be undertaken at areas of suitable habitat if clearance is required in the nesting season (typically March to August). Vegetation clearance in these areas will follow Precautionary Method of Working.		Quarterly ECoW progress reports to be provided to LPA during construction.	P, C
B30	CH9	Protection of reptiles.	Retained vegetation will be protected for use as receptor sites where required.		Quarterly ECoW progress reports to be provided to LPA during construction.	
B31	CH9	Protection of great crested newts and other species.	If a great crested newt is found during clearance, works will be halted and the ECoW will advise how to proceed and whether a licence is required.		Quarterly ECoW progress reports to be provided to LPA during construction.	
B32	CH9	Conservation of terrestrial and riparian invertebrate assemblage.	Detailed design and the measures set out in the detailed Biodiversity Mitigation and Compensation Strategy will include features to benefit terrestrial and riparian invertebrates. Examples include variation in grassland height, creation and retention of edge vegetation, wetland design, woodland enhancement, inclusion of aspen in planting design and retention and placement of standing and ground level dead wood.		Agreement of detailed Biodiversity Mitigation and Compensation Strategy by LPA.	
B33	CH9	Avoid spread of invasive non-native species.	The PC's CEMP will include detailed methods to minimise risks of spreading invasive non-native species by managing risks and removing them. Target species will include non-natives in the retained woodland. Strict measures will be followed, in particular, to minimise risks of spreading parrot's feather between aquatic habitats.		Agreement of CEMP by LPA.	P, C

⁷ Pollution Prevention Guidelines (PPGs) are out of date and a review process is currently underway to replace them with Guidance for Pollution Prevention (GPPs). These documents are available at <http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/>. GPPs provide environmental good practice guidance for the whole UK, and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales only. For businesses in England, regulatory guidance is available from GOV.UK instead.

⁸ Environmental Good Practice on Site Guide, CIRIA, Jan 2015, Edition 4

Ref	ES ref	Objective	Actions/commitments (incl. specific location and any monitoring required)	Assumptions (on which the action is based)	Achievement criteria and reporting requirements	When P - Pre-construction C - Construction O - Operation A - All
B34	CH9	Monitor works to inform adaptive management.	The detailed Biodiversity Mitigation and Compensation Strategy will set out monitoring requirements, which will be transposed into the LEMP. These will include habitat monitoring to inform management decisions and may also include targeted key species monitoring.		Agreement of detailed Biodiversity Mitigation and Compensation Strategy and LEMP by LPA.	A
B35	CH9	To report as required under licences.	Monitoring requirements will be met, as set out in the bat and dormouse licences.		Reports to be provided to Natural England and copied to LPA.	A

9. Monitoring

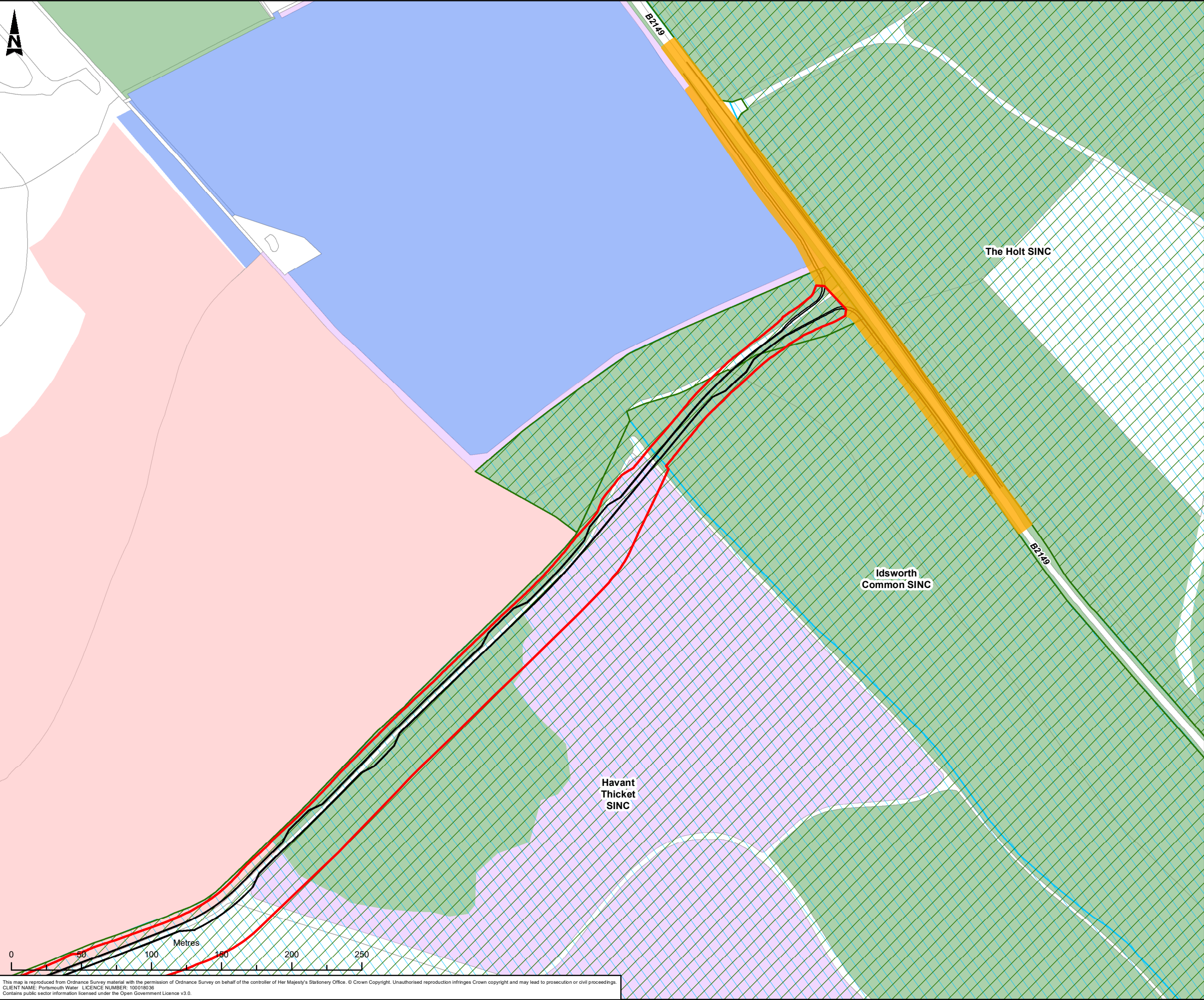
European Protected Species Mitigation Licences

- 9.1. The bat and dormouse licences provide commitments to the monitoring of the compensation habitats created for these species.
- 9.2. The bat EPSM licence outlines the static and transect surveys, bat box monitoring and trapping surveys that are required within Havant Thicket woodland, as well as the reservoir site and off-site locations. Monitoring for bats will be undertaken between 2022 and 2036.
- 9.3. Dormouse monitoring will be undertaken annually between 2022 and 2025 and then in 2027, 2029, 2032 and 2035. Nest box checks will be carried out twice a year in May/June and in September/October. Footprint tunnels will be installed and monitored twice a year in June/July and August/September. Camera traps will be used at bait stations immediately after individual dormice have been translocated.
- 9.4. Monitoring data will be provided to Natural England and the relevant Local Biological Records Centre in accordance with the requirements stated in the EPSM licences.

CEMP and LEMP

- 9.5. Records of compliance with the requirements of the CEMP, derived from audits and other inspections, will be held at the Principal Contractor's site office. These will be available for inspection by representatives of any audit team and the Environment Agency, in their statutory role. The Principal Contractor's Quality Administrator will ensure there is a central filing system in place for any checklists, reports and monitoring consistent with Quality and Safety Management Systems and Environmental management systems, meeting ISO 14001 standards.
- 9.6. During construction and following the implementation of mitigation and compensation measures for important ecological features, monitoring of habitats and species will be undertaken that will include:
 - Monitoring of potential impacts on important ecological features during construction, particularly new impacts or changes in the level of significance of effects identified in the ES;
 - Recording all actions/operations undertaken to provide biodiversity mitigation and compensation, including dates and who carried out the action/operation;
 - Monitoring of the successful establishment of newly planted trees and shrubs, and seeded grassland;
 - Monitoring of the presence of INNS; and
 - Monitoring in accordance with the EPSM licence conditions.

Appendix A. Ecological Constraints Plan



Phase 1 Application Red Line Boundary

Phase 1 Scheme

S278 Boundary

Reservoir Footprint

Ancient Woodland

Site of Importance for Nature Conservation (SINC)

Priority Habitat Inventory

Coastal and floodplain grazing marsh

Deciduous woodland

Lowland dry acid grassland

No main habitat but additional habitats present

Note: Habitat along the northern access route have the potential to support dormice, roosting bats and nesting birds. Separate plans have been produced to show the locations of trees with bat roosting potential

P01	FM	SG/MG	JF	SMcP	FOR PLANNING	30/06/2022
P00	FD	SG	XX	XX	WORK IN PROGRESS	01/04/2022
Rev.	Dm By	Cld By	Rev By	Auth By	Description	Date

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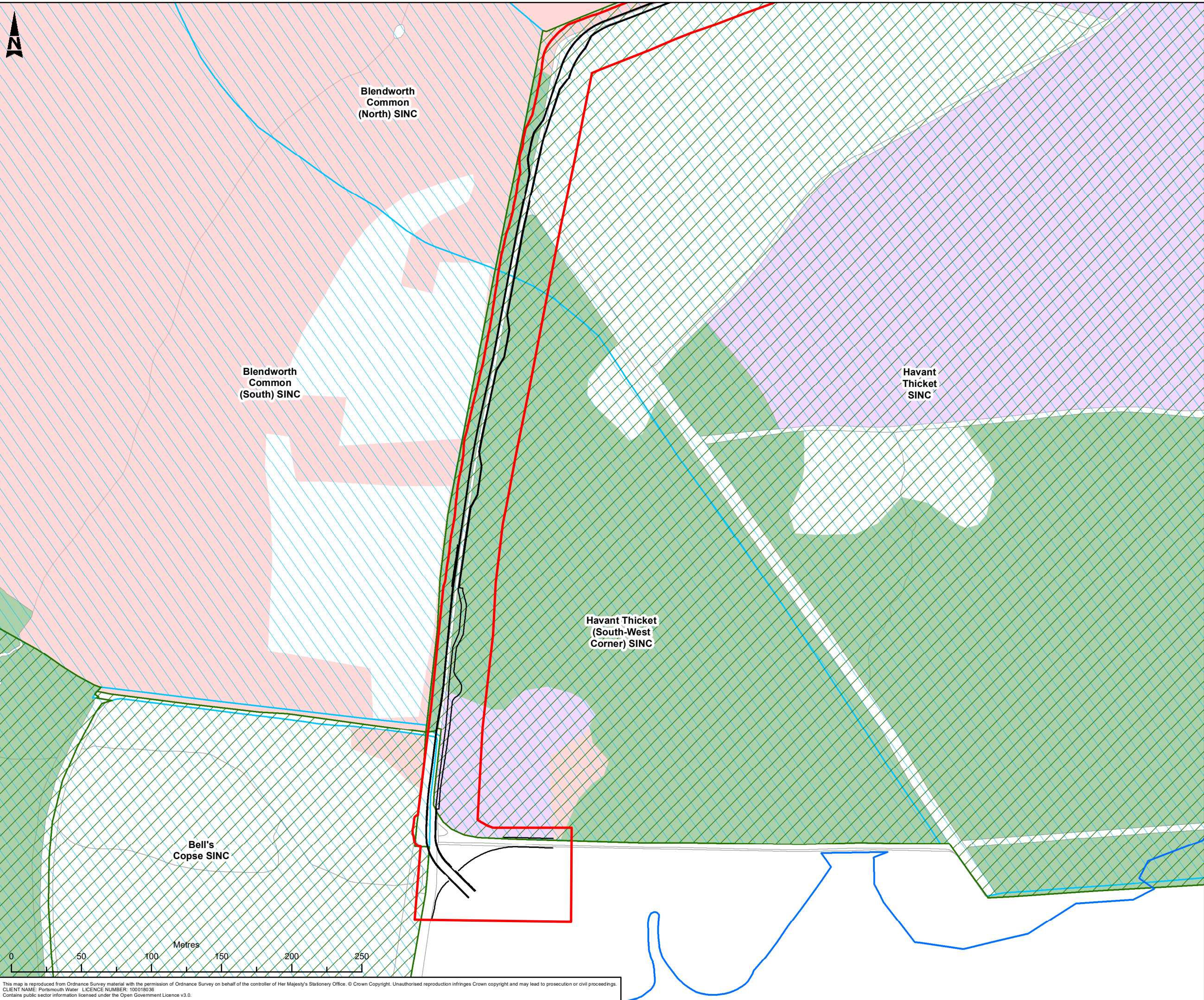
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Project Title	
HAVANT THICKET RESERVOIR	

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PHASE 1 APPLICATION ECOLOGICAL CONSTRAINTS PAGE 1 OF 2	

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Phase 1 Application Red Line Boundary

Phase 1 Scheme

S278 Boundary

Reservoir Footprint

Ancient Woodland

Site of Importance for Nature Conservation (SINC)

Priority Habitat Inventory

Deciduous woodland

Lowland dry acid grassland

No main habitat but additional habitats present

Note: Habitat along the northern access route have the potential to support dormice, roosting bats and nesting birds. Separate plans have been produced to show the locations of trees with bat roosting potential

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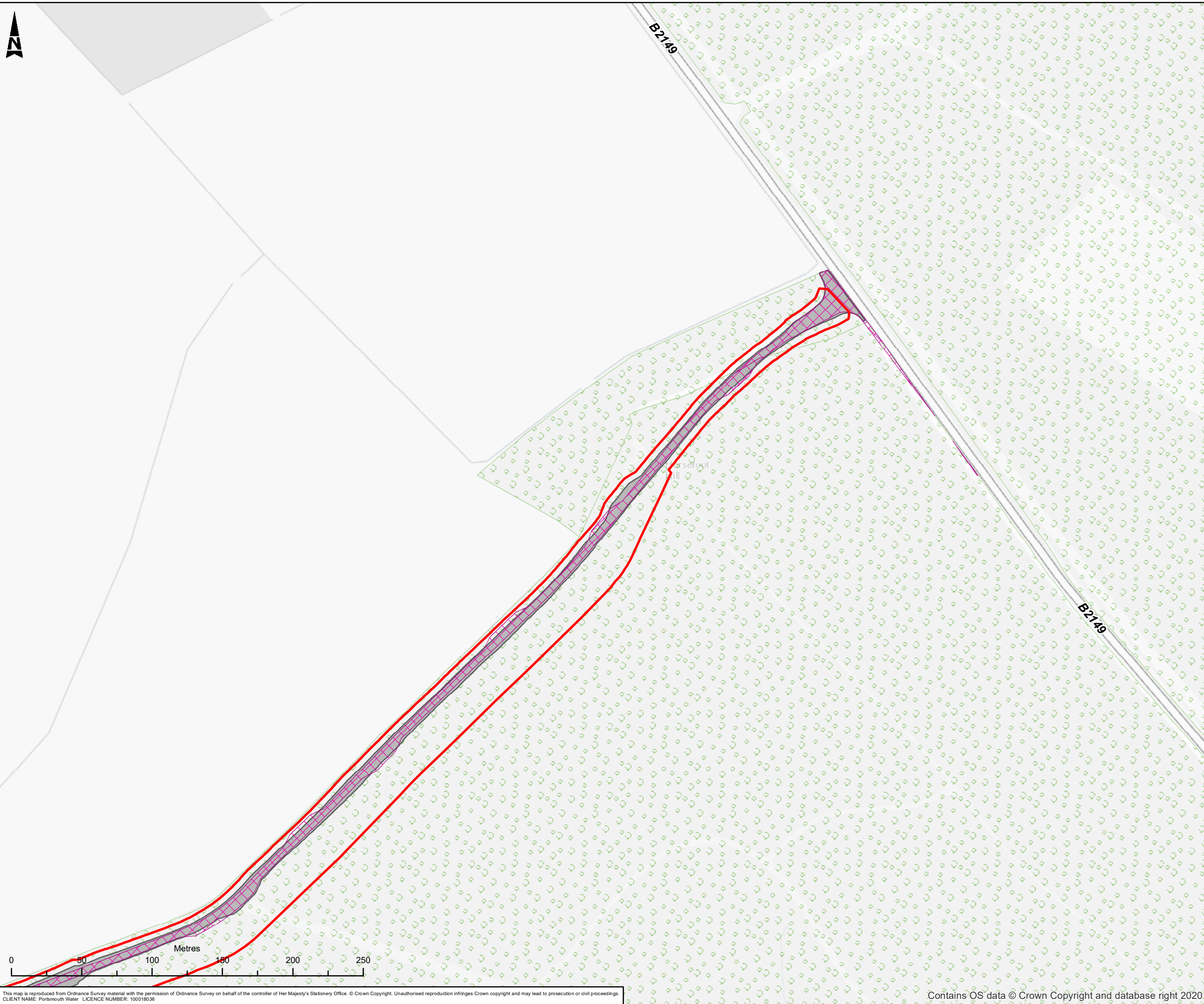
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**PHASE 1 APPLICATION
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PAGE 2 OF 2**

Portsmouth Water Drawing Number	Rev
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Appendix B. Ancient Woodland Loss Plan



-  Phase 1 Application Red Line Boundary
-  Ancient Woodland lost following detailed design
-  Ancient Woodland lost as illustrated in the ES
-  Ancient Woodland

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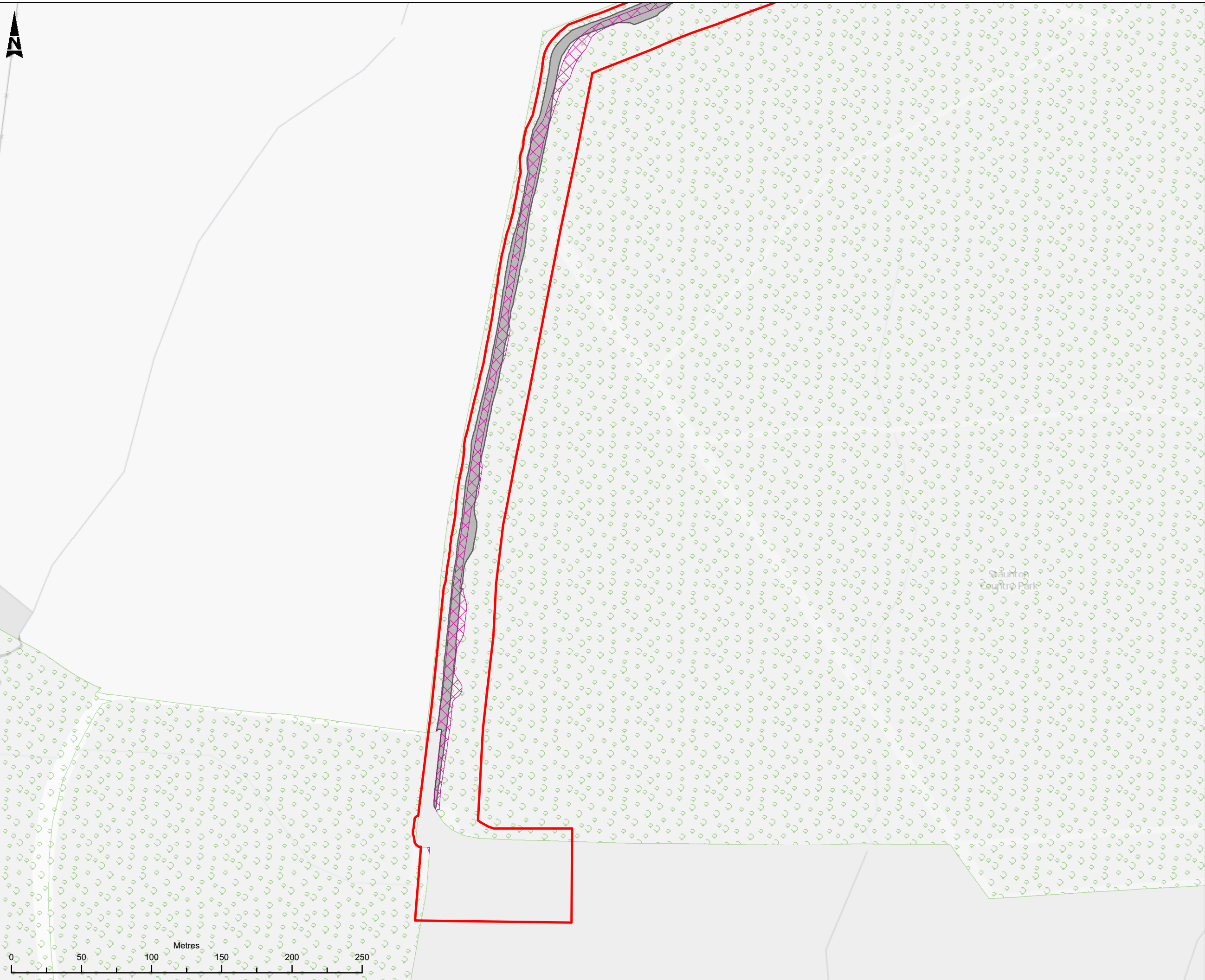


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Project Title
HAVANT THICKET RESERVOIR

Drawing Title
ANCIENT WOODLAND IMPACT PAGE 1 OF 2

Portsmouth Water Drawing Number	Rev
	P00



- Phase 1 Application Red Line Boundary
- Ancient Woodland lost following detailed design
- Ancient Woodland lost as illustrated in the ES
- Ancient Woodland

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ANCIENT WOODLAND IMPACT PAGE 2 OF 2

Portsmouth Water Drawing Number	Rev
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Appendix C. Ground Level Tree Assessment for Bat Roost Potential Results

Table C-1 - Bat Ground Level Tree Assessment schedule of trees and potential features (to be read in conjunction with the Tree Work Plans HTR-ATK-RZ-RE-DR-L-1141, 1142 and 1143)

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
T001	Pedunculate Oak	On west bank of waterlogged ditch; hollow 0-2000mm, with cavity opening to north-west, long-established columns of reaction wood growth	Cavity in trunk, hole facing north-west	High		No	
T002	Pedunculate Oak	Low crown height to west over access road. Crown suppression to east. Shallow ditch adjacent to tree. Co-dominant stems from approximately 7m. Union appears sound.	None	Negligible		No	
T003	Pedunculate Oak	Shallow ditch between tree and verge. Co-dominant stems from approximately 3m. Union appears sound. Occasional small to moderate diameter dead wood in lower and middle crown. Dense ivy encroachment in crown.	Ivy cover, some holes, overhanging branches have low potential	Moderate	Crown lift to 5.4 m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T004	Oak	On west bank of dry wood boundary ditch; occasional deadwood stubs and branches in large crown, which extends over track to east; light ivy encroachment.	Minor die back	Low	Remove larger deadwood if adjacent to proposed works. Crown lift to 5.4 m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T005	Common Beech	Growing approximately 4m from existing hard surface access road. Basal cavity to north west, revealing developing heartwood decay and desiccated white rot visible. Occasional small to moderate diameter dead wood in lower crown. Decay cavities at old branch wounds.	Dead limbs and minor ivy covering	Low	Crown lift to 5.4 m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G005-S	Oak	Pair of trees to west of track, southern tree on west bank of dry wood boundary ditch, northern tree 4m from track edge; slender branches of crown extending over track to east; southern tree growth to south suppressed by larger neighbour; slightly sparse crowns containing sub-75mm diameter deadwood branches, tears, stubs, hanging branches.	Die back	Low	Remove larger deadwood if adjacent to proposed works. Crown lift to 5.4 m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G005-N	Oak	See above		Negligible	See above	See above	See above
T006	Common Oak	Callus hole and branch die back	Callus hole and branch die back	Moderate		No	
T007	Common Oak	Moderate ivy cover and some die back. Hazard beam to south east at approximately 12m.	Moderate ivy cover and some die-back	Low	Reduction of hazard beam if its within works area.	Yes	Pre-felling inspection of branches to be removed
G008-A	Oak	Medium-sized oak trees, frequently multi-stemmed; ivy encroachment into upper crown of some trees (-A and -B); trees -C and -D to east of wood boundary ditch; infrequent small diameter deadwood.	Moderate ivy coverage	Low		No	
G008-B	Common Oak	Part of group of sporadic oak	Minor ivy cover	Low		No	
G008-C	Common Oak	Part of group of sporadic oak	None	Negligible	Crown lift to 5.4 m or as instructed on site	No	
G008-D	Common Oak	Part of group of sporadic oak – split trunk	Split trunk	Negligible	Crown lift to 5.4 m or as instructed on site	No	
G009-A	Turkey Oak	Trees growing beyond shallow ditch to east of track edge; Turkey oak crowns typically upright, slender-limbed and slightly asymmetrical	None	Negligible	Remove hanging branch if adjacent to proposed works	No	
G009-B	Turkey Oak		Ivy coverage	Low		No	
G009-C	Turkey Oak			Negligible		No	

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
G009-D	Turkey Oak	Hollow at base to at least 1500mm, cavity opening to south; adaptive growth - pronounced basal flare; large crown slightly sparse, history of branch tears.		Negligible	Remove larger deadwood if adjacent to proposed works	No	
G009-E	Turkey Oak			Negligible		No	
G009-F	Common Oak	changed tree reference to T145 (Tag 7)		Negligible		No	
G009-G (Tag 3)	Common Oak	Upright form.		Negligible	Crown lift to 5.4m or as instructed on site	No	
T010	Common Oak	Growing within shallow drainage ditch. Co-dominant stems from approximately 1m. Union appears sound. Large diameter dead wood in lower crown to north. Occasional small to moderate diameter dead wood in middle crown.	Minor die-back	Low	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T011	Common Oak	Growing on bank of shallow drainage ditch. Moderate diameter dead wood in lower and middle crown. Light ivy encroachment on main stem and into crown. Desiccated white rot visible on old stem stub at ground level to north.	Ivy	Low		No	
T012 (Tag 13)	Yew	Growing approximately 3m from existing hard surface access road. Loss of vitality visible in crown. Dieback and thinning present. Historic crown lifting to east.	Ivy coverage, crevices in trunk and limb joints	Moderate	Crown lift to 5.4m or as instructed on site	Yes	Check crevices using torch and endoscope
T013	Beech	6m to west of track, slight lean towards and crown growing over track; extensive basal decay and hollowness, with cavity opening to north-east; occasional deadwood branches in lower crown		Negligible	Crown reduction recommended due to basal decay, and proximity to, and lean towards, track	Yes	Pre-felling inspection of branches to be removed
T014	Oak	On bank to west of track, 2.5m to north-west of T013; high-crowned, occasional branch tears; low limb to north-east mostly dead Cracks in bark	Cracks in bark	Low	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G015A	Common Oak	Growing on bank of drainage ditch. Intermittent trees within G015 of similar size and age. Co-dominant stems from approximately 1.5m, union appears sound. Occasional small to moderate diameter dead wood in lower and middle crown. Callus hole on trunk on southern side and bat box, overhanging branches have low potential	Callus hole on trunk on southern side and bat box, overhanging branches have low potential	Moderate		No	
G015B	Common Oak	Habitat hole in old branch wound to south on main stem at approximately 2m. Crown suppression to west. Growing on curve to east.		Negligible	Crown lift to 5.4m or as instructed on site	No	
G015C	Common Oak	Growing on curve to north. Light ivy encroachment on main stem.		Negligible		No	
G015D	Common Oak	Co-dominant stems from ground level. Basal wound on north stem, desiccated white rot visible. Historic wound. Reaction wood on periphery. Occasional small to moderate diameter dead wood in lower and middle crown. Like all G015 on bank or top of drainage ditch		-		No	
G015E	Common Oak	Co-dominant stems from base. Crown suppressed to north.		-		No	
G015F	Common Oak	Old coppice. Multi stems from approximately 500mm. Occasional moderate diameter dead wood in central crown.		-		No	
G015G	Common Oak	Occasional small diameter dead wood in lower crown. Broad crown. Growing on face of bank Bat box	Bat box	Negligible	Crown lift to 5.4m or as instructed on site	Yes	Check bat box Pre-felling inspection of branches to be removed

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
G015H	Common Oak	Old coppice. Occasional small to moderate diameter dead wood in lower and middle crown.		-		No	
G015I	Common Oak	Old coppice stool. Multi stem from ground level. Occasional moderate diameter dead wood in lower crown		-		No	
G015J	Common Oak	Growing approximately 1m below the level of the existing access road. Co-dominant stems from ground level.		Negligible	Crown lift to 5.4m or as instructed on site	No	
G016A	Common Oak	Extensive dieback and dead wood recorded. Limited live crowns. Desiccated white rot visible. Crevices in trunk and moderate ivy cover	Crevices in trunk and moderate ivy cover	Low		No	
G016B	Common Oak	Extensive dieback and dead wood recorded. Limited live crowns. Desiccated white rot visible.	Cracked bark, crevices and minor ivy cover	Low		No	
T017	Common Oak	Old coppice, 4no. Stems from base. Tree growing on top of drainage ditch. Developing heartwood decay on east stem. Large diameter dead wood on west stem. Small to moderate diameter dead wood in lower and middle crown.		Negligible		No	
G018A	Yew	Extensive crown thinning. Dead wood and dieback throughout crown. Historic crown lifting visible.	Crevices in trunk	Low		No	
G018B	Yew	Extensive crown thinning visible. Small to moderate diameter dead wood throughout crown. Fused stems.		-		No	
T019 (Tag 12)	Common Oak	Crown suppression to north. Occasional small to moderate diameter dead wood in lower and middle crown. Growing on bank of drainage ditch.		Negligible	Crown lift to 5.4m or as instructed on site	No	
T020	Common Beech	Multi stems from approximately 3m, slight compression forks. No significant at present.		Negligible	Crown lift to 5.4m or as instructed on site	No	
T021 (Tag 8)	Yew	2m beyond dry ditch to east of track; extensive crown dieback, especially eastern side of crown Split in trunk and crevices in trunk and branches.	Split in trunk and crevices in trunk and branches	Moderate	Remove deadwood if adjacent to proposed works and crown lift to 5.4m or as instructed on site	Yes	Check crevices using torch and endoscope
T022	Yew	Twin-stemmed, possibly two trees, northern stem twisting to run horizontal, curving east towards track; branches cut back at track side.	Crevices in trunk	Low	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T023 (Tag 4)	Oak	On west bank of dry ditch; multi-stemmed from ground level; sub-75mm diameter deadwood branches	Minor ivy cover	Negligible	Remove larger deadwood if adjacent to proposed works	No	
G024-A	Yew	Yew trees above track on east side; typically multiple stems rising upright from bole, with frequent rubbing and crossing of stems; all displaying dieback at crown extents	Crevices in trunk	Moderate	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G024-B	Yew	Sprawling limbs resting on ground		-		No	
G024-C	Yew	Diameter measured below crown break; extensive dieback, branch tears, collapsed limbs; habitat features		-	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G024-D	Yew	Branches near ground level cut back to near stem	Crevices in trunk	Moderate	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
G024-E	Yew	Light dieback only; lower branches cut back to near stem		-		No	
G024-F (Tag 193)	Yew	Lower branches cut back to near stem; minimal dieback		-	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G024-G (Tag 192)	Yew	Smaller stem leaning to east; lower branches cut back to near stem; minimal dieback		-		No	
G024-H(Tag 190)	Yew	Comparatively standard form, no dieback	Crevices in trunk	Low	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
G024-I		Tree no longer a removal.		-			
G024-J (Tag 184)	Yew	Non-professional removal of lower branches; widespread light dieback	Crevices in trunk	Moderate	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T025	Yew	Slight crown thinning. Growing on ridge of drainage ditch.	Crevices in trunk	Moderate		No	
T026 (Tag 2)	Yew	Growing on ridge of drainage ditch. Large stem girth. Limited dead wood habitat. Crown cut back to south. Aerial buttress roots.	Crevices in trunk	Moderate		No	
T027	Common Oak	Old coppice stool. Multi stems from ground level. Broad open crown. Mutually suppressed crowns inducing leans on stems. Occasional small to moderate diameter dead wood in lower and middle crown.	Bat box	Negligible	Crown lift to 5.4m or as instructed on site	Yes	Check bat box
T028	Common Oak	Growing on face of ditch. Main stem trifurcates at approximately 1m. Unions appear sound. Crown dominant towards existing access road.	Split and loose bark	Low	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T029	Oak	On bank of wood boundary earthwork; neighbouring trees slightly suppressing crown growth		Negligible	Crown lift to 5.4m or as instructed on site	No	
T030	Common Oak	Growing on north bank of dry drainage ditch. Basal stem to west. Co-dominant union on east stem at 3m, union appears sound. Dense ivy encroachment on main stem and into crown		Negligible		No	
T031	Common Oak	Growing on north bank of drainage ditch. Co-dominant stems from approximately 500mm. Developing heartwood decay beneath union within basal cavity. Crown suppressed by adjacent trees.		Negligible	Crown lift to 5.4m or as instructed on site	No	
T032 (Tag 196)	Yew	Growing at foot of wood boundary earthwork, with network of roots extending along bank; widespread epicormic growth		-		No	
T033	Common Oak	Growing on top of drainage ditch bank. Pronounced buttress roots and surface root activity to south and on bank face. Light ivy encroachment on main stem. Open crown form.		-	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T034	Yew		Crevices in trunk	Moderate		No	
G034A	Common Oak	Growing on top of drainage ditch bank. Occasional moderate diameter dead wood in lower crown.	Bat box	Negligible	Crown lift to 5.4m or as instructed on site	No	

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
G034B	Common Oak	Growing on top of drainage ditch bank. Occasional moderate diameter dead wood in lower crown.		Negligible	Crown lift to 5.4m or as instructed on site	No	
G034C	Common Oak	Face of bank. Crown suppression to north east.		Negligible	Crown lift to 5.4m or as instructed on site	No	
T036	Yew	Crown historically lifted. Growing on south bank of drainage ditch. Occasional small diameter dead wood in lower crown.	Crevices in trunk	Moderate	Crown lift to 5.4m or as instructed on site	Yes	
T037	Yew	Atop wood boundary earthwork; extensive exposed root system along top of mound, with hollow beneath tree;		-		No	
T038	Common Oak	Growing on raised earth bank. Slight lean to south. Co-dominant stems from 4m, slight included bark at junction. Pronounced basal swelling. Frayed branch wound at approximately 5m to south east. Potential habitat value.		-		No	
T039(0150)	Yew	Relatively uniform crown. Occasional small diameter dead wood in lower and middle crown. Hung-up dead stem in crown to south east. Lower crown in contact with ground.		-		No	
T041(0772)	Yew	Growing north of earth bank. Occasional small to moderate diameter dead wood throughout crown. Dominant to north. Mutually suppressed crown		-		No	
T042(0149)	Yew	Growing north of earth bank. Broad crown. Basal stems established. Occasional frayed branch wounds. Small to moderate diameter dead wood within lower and middle crown.	Crevices in trunk	Moderate		No	
T043 (0148)	Yew	Small to moderate diameter dead wood within lower crown. Lower branches in contact with ground in places. Slight crown thinning.		-	Crown lift to 5.4m or as instructed on site	Yes	Confirm if survey required
T044(0142)	Yew	Multi stems from ground level. Historic pruning of lower branches visible to west. Small to large diameter dead wood within lower and middle crown. Desiccated white rot present. Crown thinning.		-		No	
T045 (0144)	Yew	Crown thinning. Small to moderate diameter dead wood within lower and middle crown. Basal stems failed and resting on ground to northeast. Snapped and hanging branches.		-		No	
T046 (0143)	Yew	Small to large diameter dead wood in lower crown. Some branches resting on ground. Water pockets in main stem. Balanced crown. Desiccated white rot present. Some crown thinning.	Crevices in trunk	Moderate	To be removed	Yes	Check crevices using torch and endoscope
T047(0141)	Yew	Basal stems to south west. One in contact with ground, other growing vertically through crown. Dense epicormic growths on east side of main stems, benefitting from sunlight exposure. Small to large diameter dead wood within lower and middle crown. Hanging broken small diameter branches to west.	Crevices in trunk	Moderate	Crown lift to 5.4m or as instructed on site	Yes	
T048(0146)	Yew	Pronounced scaffold branches to south. Large diameter dead wood within lower crown, developing heartwood decay on large diameter cut branch to south east. Further small to moderate diameter dead wood within middle crown. Multi stems from approximately 4m. Broad open crown. Silver birch collapsed and hung-up in west crown extents.		-	Remove silver birch within west crown extents	No	
T049(0145)	Yew	Developing heartwood decay in large basal wound to south west. Historic. Pronounced reaction wood on periphery. Small to moderate diameter dead wood within lower crown. Relatively squat habit.		-		No	
T050	Oak	On wood boundary earthwork, with steep dry ditch 2m to west; crown growth suppressed by neighbouring trees on east side; occasional branch tears, sub-75mm diameter deadwood branches and stubs; full crown of marcescent leaves at time of survey.		-	Remove larger deadwood if adjacent to proposed works	Yes	Pre-felling inspection of branches to be removed
T051	Common Oak	Basal cavity to south east revealing developing heartwood decay. Pronounced buttress roots compensating for any loss in structural integrity. Dense ivy encroachment on main		-		No	

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
		stem and into crown. Occasional small to moderate diameter dead wood within lower and middle crown.					
T052(0154)	Yew	Crown suppressed to east. Small to large diameter dead wood within lower crown. Large diameter dead branch stubs to south and east with developing heartwood decay. Broad crown to remaining cardinal points. Horizontal split in lower branch to south west. Habitat potential. Desiccated white rot present on large wound on east basal stem. Developing heartwood decay.		-		No	
T053(0165)	Yew	Large wound on south west side of main stem. Desiccated white rot present, potential developing heartwood decay. Small to moderate diameter dead wood in lower and middle crown. Slight fire damage on lower branches to west. Dense epicormic growths on branches in sunny aspect.		-	Crown lift to 5.4m or as instructed on site	Yes	Pre-felling inspection of branches to be removed
T054	Oak	On wood boundary earthwork; stems rising from near ground level; crown growth mostly to west, suppressed by neighbouring trees to east; sub-100mm diameter deadwood branches in lower crown.		-	Remove larger deadwood if adjacent to proposed works	Yes	Pre-felling inspection of branches to be removed
T055(0151)	Yew	Multi stems from approximately 1.2m. Water pocket at centre, build of decaying leaf matter. Small to large diameter dead wood within lower and middle crown. Developing heartwood decay on north east stem at historic failure point.		-		No	
T130 (Tag 179)	Yew	Growing on top of historic ditch. Co-dominant stems from approximately 500mm. Small to moderate diameter dead wood in lower and middle crown. Crown suppression.	Crevices in trunk	Low	To be removed	Yes	Pre-felling inspection with endoscope
T131 (Tag 181)	Yew	Growing on bank face of historic ditch. Three stems from ground level. Small to moderate diameter dead wood in lower and middle crown.	Crevices in trunk	Low	Crown lift to 5.4 m or as instructed on site	No	
T132 (Tag 177)	Yew	Main stem trifurcates at approximately 1.8m. Unions appear sound. Small to moderate diameter dead wood in lower crown.	Crevices in trunk	Moderate		No	
T133	Yew	Growing on top of historic ditch. Small to moderate diameter dead wood in lower crown.		-		No	
T134 (Tag 180)	Common Oak	Three stems from approximately 200-400mm. Crown suppression to east and south. Stems growing on sweeping curve to north west.		Negligible		No	
T135 (Tag 178)	Silver Birch	Tall drawn specimen. Crown formed at height. Pronounced buttress roots.		Negligible	To be removed	No	
T136 (Tag 176)	Common Oak	Two stems from ground level. Potential for two separate trees. Drawn stems. Crowns formed at height. Light ivy encroachment on east stem.		Negligible	Crown lift to 5.4 m or as instructed on site	No	
T137 (Tag 175)	Yew	No live growth present at time of survey. Good saprophytic habitat value		Negligible	To be removed	No	
T138	Common Oak	Growing approximately 2m from existing hard surface ride. Occasional small diameter dead wood in lower crown.		Negligible		No	
T139	Yew	Slight loss of vitality. Snapped and hanging branches. Small to moderate diameter dead wood.	Crevices in trunk	Moderate		No	
T140 (Tag 186)	Yew	Loss of vitality throughout crown. Small to large diameter dead wood present.	Crevices in trunk	Moderate		No	
W141	A Woodland	Silver birch regeneration abundant. Occasional holly. Occasional Yew, Turkey Oak. Wet ditch in places. Trees set up on banks further to south. Goat willow self sown vegetation in places.		-		No	
W141A	Silver Birch	Successional growth. Silver birch regeneration.		Negligible	110 m ²	No	

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
W141B	Silver Birch, goat willow	Successional growth. Silver birch regeneration.		Negligible	215 m ²	No	
W141C	Goat willow, oak, silver birch	Mixed self sown group. Mutual crown suppression. Goat willow abundant		-	575 m ²	No	
W141D	Hazel, Goat willow	Mixed group. Intermittent. Multi-stem hazel in places.		-	120 m ²	No	
W141E	Goat willow	Mixed group, goat willow dominates		-	140 m ²	No	
W141F	Turkey oak, goat willow	Mixed group. Turkey oak present.		-	115 m ²	No	
W141G	Goat willow	Goat willow dominates		-	215 m ²	No	
T142 (Tag 187)	Yew	Tree wind blow.	Crevices in trunk	Low		No	
T143 (Tag 188)	Yew	Multi stems from approximately 1m. Occasional small diameter dead wood in lower crown.	Crevices in trunk	Moderate		No	
G144A	Silver Birch	Extensive basal decay to west. Hollowing main stem. Increased risk of structural failure.		-		No	
G144B	Common Oak	Part of G144.		-		No	
G144C	Silver Birch	Part of G144.		-		No	
G144D	Silver Birch	Part of G144.		-		No	
T145 (Tag 7)	Common Oak	Occasional large diameter dead wood in lower crown. Light ivy encroachment on main stem.		Negligible	Crown lift to 5.4 m or as instructed on site	No	
T146	Common Oak	Growing on top of historic earth mound. Large crown spread. Set approximately 1.5m above level of adjacent verge.	Bat hibernation box	Low	Crown lift to 5.4 m or as instructed on site	Yes	Check bat box Pre-felling inspection of branches to be removed
W147	A Woodland	Silver birch abundant. Occasional oak, yew, hazel. Some multi stem Hazel . Rare ash and sweet chestnut. Some collapsed stems. Young birch regeneration.		-	1730 m ² trees to be removed	No	
G148A (Tag 140)	Turkey Oak	Growing adjacent to highway verge on raised earth bank. Mutually suppressed crowns. Evidence of past branch failures. Frayed wounds remaining. High crown heights.		-	To be removed	Yes	Confirm if survey required
G148B (Tag 141)	Turkey Oak	Growing adjacent to highway verge on raised earth bank. Mutually suppressed crowns. Evidence of past branch failures. Frayed wounds remaining. High crown heights.	Potential features could not be seen	Low	To be removed	Yes	Pre-felling climbed inspection
G148C (Tag 142)	Turkey Oak	Tree wind blown and removed. Not part of project.	Callus hole in main trunk	Low	Tree wind blown and removed. Not part of project.	No	
G148D	Turkey Oak	Tree has already been felled - not related to this project		-		-	
G149	Hawthorn, ash, goat willow, common oak	Linear group of trees and shrubs. Lapsed hedgerow. Dry deep ditch at centre. Single and multi stems recorded. Suggesting past felling and regeneration.		-	To be removed – 1270m ²	No	
G150A	Turkey Oak	Tree has already been felled - not related to this project		Negligible		No	
G150B (Tag 143)	Common Oak	Growing within highway verge. Deep dry ditch to west. Co-dominant stems from approximately 1m. Union appears sound. Stems fused above union. Moderate ivy encroachment on main stem and into crown.	Minor die back	Low	To be removed	Yes	Pre-felling climbed inspection

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
G150C (Tag 144)	Common Oak	Pronounced basal swelling. Deep dry ditch to west. Decay entry points at old branch failures on main stem.		Negligible	To be removed	No	
G150D (Tag 145)	Turkey Oak	Deep dry ditch to west. Moderate ivy encroachment on main stem.		Negligible	To be removed	No	
G188	Hornbeam	High crown lifted, 6no stems at 2m spacings forming dense canopy,		-		No	
G189	Norway maple	Pair of trees on broad mown grass area between roads; foliage of large-crowned northern tree mostly at crown extents,		-		No	
G190	A group	Small trees with mostly shrubby form 'dotted' around grassland in reservoir area; principally hawthorn and goat willow; some compaction of ground at base by animals seeking shade		-	To be partially removed - 21 no. trees to be removed	No	
G195 G195A	A group	Mixed trees and shrubs growing along narrow strip between vehicle track and edge of wood - more prominent trees recorded separately; wood boundary earthwork running along length of group; oak and yew dominant species; occasional birch, beech, rowan; branches cut back from track, G195A - area of Goat Willow scrub.	Bat box	Negligible	To be partially removed - 25 m ² trees to be removed	Yes	Check bat box
Tag 126	Common Oak	2m from road edge. Crown lifted		Negligible	To be removed	No	
Tag 127	Common Oak	2m from road edge. Main stem trifurcates at approximately 2.5m.		Negligible	To be removed	No	
Tag 128	Common Oak	4m from road edge. Crown break at approximately 4m. Unoccluded wounds on main stem		Low	To be removed	Yes	Pre-felling climbed inspection
Tag 129	Turkey Oak	1.5m from road edge. Yew and holly in root zone.		Negligible	To be removed	No	
Tag 130	Common Oak	DBH @800mm. Lowest lateral branch failed to west. Occasional moderate diameter dead wood in middle crown. Onset of decay visible at old branch wounds.		Moderate	To be removed	Yes	Pre-felling climbed inspection
Tag 131	Yew	2m from road edge. Bark scuff on main stem.		Negligible	To be removed	No	
Tag 132	Ash	6m from road edge. Pronounced buttress roots. High crown height.		Negligible	To be removed	No	
Tag 133	Common Oak	3m from road edge. Co-dominant stems from approximately 3m. Union appears sound. Curved main stem. Crown previously lifted.		Negligible	To be removed	No	
Tag 134	Common Oak	3m from road edge. Co-dominant stems in upper crown. Union appears sound.		Negligible	To be removed	No	
Tag 135	Common Oak	2m from road edge. Growing on raised mound. Crown lifted.		Negligible	To be removed	No	
Tag 136	Turkey Oak	3.2m from road edge. Upright habit. Drawn form.		Negligible	To be removed	No	
Tag 137	Common Oak	1.3m from road edge. Growing on raised mound. Slight curved main stem. Young yew and Turkey oak to west. Main stem trifurcates at approximately 7m. Unions appear sound		Negligible	To be removed	No	
Tag 138	Common Oak	1m from manhole cover. Dead ivy on main stem. Growing on raised mound.		Negligible	To be removed	No	
Tag 139	Common Oak	1.5m from road edge. Loss of vitality in upper crown. Small to moderate diameter dead wood present. Crown previously lifted. Curved stems in middle crown.		Negligible	To be removed	No	
Tag 146	Common Oak	2m from road edge. Growing on east side of drainage ditch. Light ivy encroachment on main stem.		Negligible	To be removed	No	
Tag 147	Common Oak	2m from road edge. Light ivy encroachment on main stem and into crown. Crown break at approximately 4m. Growing on east side of drainage ditch.	Ivy	Low	To be removed	Yes	Pre-felling climbed inspection
Tag 148	Turkey Oak	2.7m from road edge. Growing on east side of drainage ditch. Light ivy encroachment on main stem and into crown. Small to moderate diameter dead wood in lower and middle crown.	Ivy	Negligible	To be removed	No	

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
Tag 149	Common Oak	2.5m from manhole. Growing on east side of drainage ditch. Light ivy encroachment on main stem and into crown. Pronounced scaffold branch to east. Epicormic growths at base.	Ivy	Negligible	To be removed	No	
Tag 150	Common Oak	2.5m from road edge. Growing east side of drainage ditch. Co-dominant stems from approximately 3m. Union appears sound. Light ivy encroachment on main stem and into crown. Occasional moderate diameter dead wood in middle crown.	Ivy	Low	To be removed	Yes	Pre-felling climbed inspection
Tag 151	Common Oak	2.2m from road edge. DBH @ 200mm. Growing east side of drainage ditch. Co-dominant stems from approximately 1m. Union appears sound. Moderate ivy encroachment on main stem and into crown. Occasional moderate diameter dead wood in middle crown.	Ivy	Low	To be removed	Yes	Pre-felling climbed inspection
Tag 152	Common Oak	1.6m from road edge. Growing east side of drainage ditch. Dense ivy encroachment on main stem and into crown. Co-dominant stems from approximately 2m. Union appears sound. Rubbing branches in crown.	Ivy	Low	To be removed	Yes	Pre-felling climbed inspection
Tag 153	Common Oak	2.3m from road edge. Three stems from close to ground level. Natural bracing in crown. Moderate ivy encroachment on stems.		-		No	
Tag 154	Turkey Oak	DBH @500mm. 1.2m from road edge. Moderate ivy encroachment on main stem. Co-dominant stems from approximately 1.5m. Union appears sound. Drawn stems.		-		No	
Tag 155	Common Oak	DBH @500mm. 1.8m from road edge. Co-dominant stems from approximately 2.5m. Union appears sound. Basal stems established to east. Curved stems. Moderate diameter dead wood in middle and upper crown.		-		No	
Tag 156	Turkey Oak	1.7m from road edge. Drawn stem. High crown height.		-		No	
Tag 157	Turkey Oak	1.7m from road edge. Drawn stem. Light ivy encroachment on main stem.		-		No	
Tag 158	Turkey Oak	1.7m from road edge. Co-dominant stems from approximately 1.5m. Compression fork with included bark union. Not significant at present. Drawn stems.		-		No	
Tag 159	Silver Birch	Co-dominant stems in upper crown. Union appears sound. Light ivy encroachment on main stem.		Negligible	To be removed	No	
Tag 160	Silver Birch	Three stems from ground level. Mutual crown suppression. Light ivy encroachment on north stem.		-		No	
Tag 161	Common Oak	Sound buttressing. Light ivy encroachment on main stem. Epicormic growths on main stem.	Potential roost features could not be seen	Low	To be removed	No	
Tag 162	Silver Birch	Pronounced buttress root development. Curved main stem. High crown height		-		No	
Tag 163	Silver Birch	Dense ivy encroachment on main stem. High crown height. Pronounced buttress roots.		-		No	
Tag 164	Silver Birch	Dense ivy on main stem. Pronounced buttress roots. High crown height.		-		No	
Tag 165	Silver Birch	Pronounced buttress roots. High crown height. Light ivy encroachment on main stem.		-		No	
Tag 166	Silver Birch	Light ivy encroachment on main stem. High crown height. Pronounced buttress roots.		-		No	
Tag 167	Yew	Low crown height. Ribs of reaction wood on main stem. 1.6m multi stem form.		-		No	
Tag 168	Silver Birch	Basal cavity to north. Aerial buttress roots. High crown height.		-		No	
Tag 169	Silver Birch	Localised depression to south. High crown height.		-		No	
Tag 170	Silver Birch	Light ivy encroachment. High crown height.		-		No	
Tag 171	Silver Birch	Curved main stem. Potential past root heave. No recent root movement noted.		-		No	

Tree ID	Species	General observations (from Arboricultural Survey)	Potential roost feature	Potential for roosting bats	Potential impacts (none anticipated if blank)	Further survey*	Further survey method
Tag 172	Silver Birch	Curved main stem. Pronounced buttress roots. Moderate ivy encroachment on main stem.		-		No	
Tag 173	Silver Birch	Co-dominant stems from approximately 4m. Union appears sound. Pronounced buttress roots. Moderate ivy encroachment on main stem and into crown.		-		No	
Tag 174	Common Oak	Curved main stem. Fallen tree in root zone to east		-		No	
Tag 182	Silver Birch	Growing on raised mound. Co-dominant stems at approximately 6m. Union appears sound.		-	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 183	Silver Birch	High crown height. Further trees in root zone.		Negligible	To be removed	No	
Tag 185	Yew	DBH @1.2m. Loss of vitality. Crown suppressed by adjacent trees.		-	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 189	Common Oak	Crown suppressed to west. Low crown height over existing access track.		-	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 191	Yew	Low crown height. DBH @ 100mm. Multi stem from 400mm. Crown dominated towards access track.		-		No	
Tag 194	Yew	DBH 600mm @ base. Loss of vitality, moderate diameter dead wood in lower crown. Sunlight suppression.		-	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 195	Turkey Oak	Basal wound at old stem failure. Raised buttress roots.		Negligible	Crown lift to 5.4 m or as instructed on site	No	
Tag 197	Turkey Oak	Growing atop of earth mound. Co-dominant stems from base.		-	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 198	Common Oak	Mutual crown suppression. Tree growing atop of earth mound.	Loose bark	Low	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 1	Beech	Growing at toe of existing earth mound. Low crown height over existing access track.		-	Crown lift to 5.4 m or as instructed on site	Yes	Confirm if survey required
Tag 5	Silver Birch	Mutual crown suppression. Growing 600mm below base of existing access track.		-		No	
Tag 6	Silver Birch	Part of group of 3no. Trees. Drainage ditch to west.		-		No	
Tag 9	Yew	Growing at toe of earth mound.	Crevices in trunk	Low		No	
Tag 10	Turkey Oak	Co-dominant stems from base.		-	Crown lift to 5.4 m or as instructed on site	Yes	
Tag 11	Turkey Oak	Co-dominant stems from approximately 1m. Compression fork with included bark union		-	Crown lift to 5.4 m or as instructed on site	Yes	
Tag 14	Turkey Oak	Three stems from approximately 600mm. Compression forks with included bark		-		No	
Tag 15	Turkey Oak	Growing on edge of wood. Light ivy encroachment		-		No	
G198	Mixed	Mixed boundary group. Growing offset from existing forestry track. Existing earth mounds in situ. Likely to have impacted root development.		-	Crown lift to 5.4 m or as instructed on site	Yes	
G199	Mixed	Part of linear group growing along B2149. Tree positions plotting along road edge. No obvious direct damage recorded to road surface from surface root activity.		-		No	
G200	Silver birch	Successional growth, dense stand of young birch.		-	To be partially removed - 400 m ² trees to be removed	No	

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