

CEMP (Biodiversity)
TASE (Trinity Academy St Edwards), Keresforth
Close, Barnsley, S70 6RS
Bowmer and Kirkland



Construction Environment Management Plan: Biodiversity

TASE (Trinity Academy St Edwards), Keresforth
Close, Barnsley, S70 6RS

Bowmer and Kirkland

Author	Louise Ryan BSc MBiolSci - Senior Ecologist	Date	11/11/2022
Approver	Gabrielle Graham BSc (Hons) MSc MCIEEM CEcol – Managing Director	Date	17/11/2022
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1 Introduction

- 1.1.1 Surrey Wildlife Trust (SWT) Ecology Services was commissioned on 11 November 2022 by Bowmer and Kirkland to prepare a Construction Environment Management Plan: Biodiversity (CEMP (Biodiversity)) to discharge condition 15 of planning application 21/1631. The proposed development is:

“Erection of a new secondary school with associated sports block, sports pitches, hard and soft landscaping, access, parking and drainage.”

2 Background

2.1 Site Location

- 2.1.1 The site is located at Keresforth Close, Barnsley S70 6RS (central grid reference SE33480561). The site is approximately 7.17 ha and comprises a large recreational field which is bordered by a hedgerow, tree line and scrub in the south-west. In the north-east of the site is the former NHS facility, comprising eight buildings, access roads and parking areas. The former NHS facility area also supports introduced shrubs, grassland, scrub, ruderal/ephemeral, trees and a remnant dry pond. There is a small area of woodland in the north and along the south-eastern boundary is an overgrown hedgerow with trees.
- 2.1.2 The site is bounded by roads to the south-west, residential properties and fields to the north, the Joseph Locke school to the east and a residential development with allotments to the south-east. It is located in Barnsley Metropolitan area.

2.2 Regulatory framework and planning conditions

- 2.2.1 The relevant planning permission condition is detailed below.

- Condition 15:

“Prior to commencement, a Construction Environmental Management Plan (CEMP (Biodiversity)) detailing precautionary measures to be adopted on site during construction works to protect retained habitats and to avoid harm/disturbance to protected and priority species such as nesting birds, amphibians, reptiles, foraging and commuting bats and hedgehogs shall be submitted to, and approved in writing by the Local Planning Authority. Thereafter the development shall be carried out in C28 accordance with the approved measures.

2.3 Ecological background

- 2.3.1 Previous ecological surveys of the site have been undertaken in 2020 and 2021 by Waterman Infrastructure & Environment Limited and ECUS (Waterman Infrastructure and Environment Limited, 2020a) (Waterman Infrastructure and Environment Limited, 2020b) (ECUS, 2022). The results of these surveys are detailed in Table 1.
- 2.3.2 In 2022, SWT Ecology Services completed bat hibernation surveys, summer bat presence/likely absence surveys, summer bat activity surveys, an update ecological walkover survey and a biodiversity net gain (BNG) assessment (SWT Ecology Services, 2022a) (SWT Ecology Services, 2022b) (SWT Ecology Services, 2022c). The results of these surveys are detailed below and in Table 1.

- 2.3.3 Bat roosts were identified in the buildings B1, B3, B4, B5 and B6 in the former NHS land during the bat surveys undertaken by SWT Ecology Services. The development proposals associated with planning permission reference 2021/1160 will result in the permanent loss of these roosts, including six bat day roosts (common pipistrelle and soprano pipistrelle) and five bat hibernation roosts (common pipistrelle, soprano pipistrelle, brown long-eared and whiskered), which are present in the buildings. The impacts of the development on these roosts and associated mitigation strategy and roost compensation have been provided the bat survey report (SWT Ecology Services, 2022b) . A mitigation licence from Natural England has been granted in relation to the proposals to demolish these buildings (licence ref no: 2022-61536-EPS-MIT), active between 25/07/2022 and 22/07/2027. The mitigation strategy proposed in this licence, and the report, has therefore been approved by Natural England and as such, has been implemented.
- 2.3.4 Only two species of bat were recorded during the bat activity survey completed in August 2022 and bat activity was low. The results of this survey and recommendations for a sensitive lighting strategy to minimise any impacts on foraging and commuting bats, as well as further biodiversity enhancement features for bats, were provided in the Update Ecology Report and have been detailed further in this CEMP (Biodiversity) report (SWT Ecology Services, 2022c).
- 2.3.5 The Update Ecology Report also details mitigation strategies for both reptiles and amphibians, including great crested newt (GCN), and these have been detailed below. Lastly, the BNG assessment for this development identified that a net gain for biodiversity will be achieved (29.31% habitat units and 26.03% hedgerow units) (SWT Ecology Services, 2022c).
- 2.3.6 The Update Ecology Report was submitted to support this granted planning permission ref: 21/1631. As such, this CEMP (Biodiversity) is based on the BNG assessment and other recommendations/mitigation strategies detailed in the Update Ecology Report (SWT Ecology Services, 2022c).

Table 1: Summary of surveys undertaken

Receptor number	Ecological Receptor	Report reference	Summary results	Recommendations
1	Designated Sites	(SWT Ecology Services, 2022c) (ECUS, 2022) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Instructure and Environment Limited, 2020a)	No statutory or non-statutory designated sites within 1 km of development site	No further recommendations.
2	Terrestrial habitats	(SWT Ecology Services, 2022c) (ECUS, 2022) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Instructure and Environment Limited, 2020a)	Woodland adjacent to the northern boundary of the north-eastern field (woodland; mixed) and priority hedgerows that bound the fields. Remnant dry pond.	Majority of woodland and hedgerows to be retained, protected and enhanced through the development. Best practice to be followed during the development works, including retaining a buffer zone between the woodland, hedgerows and development area (including use of vehicles, site cabins and stored materials). Protection measures and buffer required during construction activities including: • Appropriate buffer between development and woodland/hedgerows to allow protection of root protection zones in-line with BS 5837:2012. • Developing a pollution incidence response plan. • Appropriate fencing. • Appropriate storage of fuel, material, and chemicals. • Appropriate dust control. • Habitat Protection Zones Regarding the remanent and dry pond, this will be retained and enhanced through the development. Protection measures outlined above will be followed when working near to the pond.
3	Invertebrates	(SWT Ecology Services, 2022c) (ECUS, 2022) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Instructure and Environment Limited, 2020a)	No specific surveys undertaken.	Habitats will be retained by habitat protection zones
4	Amphibians	(SWT Ecology Services, 2022c) (ECUS, 2022) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Instructure and Environment Limited, 2020a)	One dry remanent pond on-site and one pond within 250 m radius (18 m to the north). The off-site pond has been assessed to have poor suitability for breeding GCN. Suitable terrestrial habitat within the development site for amphibians.	GCN Mitigation strategy recommended, including registering the site under the South Yorkshire District Level Licencing Scheme (DLL). Other Precautionary Method of Works (PMoW) within the Mitigation Strategy include: • Site induction to all contractors to brief on PMoW required for GCN and other amphibians • Retention and creation of habitat protection zones • Habitat manipulation (two-step mowing process) of grassland during amphibian active period, March – October. • Supervised destructive search of any habitat with suitability to be used for refuge by amphibians. • Appropriate storage of any stored materials/waste piles and other site materials. Any trenches should be covered over-night.
5	Breeding birds	(SWT Ecology Services, 2022c) (ECUS, 2022) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Instructure and Environment Limited, 2020a)	No specific surveys undertaken.	Appropriate scheduling of works, or supervision by an appropriately qualified ecologist. Enhancements for breeding birds post development.

Receptor number	Ecological Receptor	Report reference	Summary results	Recommendations
6	Bats – foraging and commuting habitat	(SWT Ecology Services, 2022a) (SWT Ecology Services, 2022b) (SWT Ecology Services, 2022c)	Species using the site include common pipistrelle, soprano pipistrelle, <i>Myotis</i> sp. (whiskered) and brown long-eared. Extremely low activity by bats in main development area. The highest level of bat activity was concentrated along the eastern, southern and western boundaries of the recreation field.	Appropriate lighting around development (limited increase in any artificial lighting on retained hedgerows, woodland, other neutral grassland and mixed scrub) Area of highest level of bat activity along the boundaries of the recreation field in the south-west; these boundary features will be retained and protected through the creation of the habitat protection zones in these locations. The majority of the hedgerows and woodland will be protected through the creation of the habitat protection zone.
7	Bats – roosting habitat	(SWT Ecology Services, 2022a) (SWT Ecology Services, 2022b) (SWT Ecology Services, 2022c)	Six bat day roosts (common pipistrelle and soprano pipistrelle) and five bat hibernation roosts (common pipistrelle, soprano pipistrelle, brown long-eared and whiskered) present in six buildings in former NHS land	A mitigation licence from Natural England required to legally destroy the roosts. This licence has been granted (licence ref no: 2022-61536-EPS-MIT), active between 25/07/2022 and 22/07/2027. The mitigation strategy proposed in this licence, and the report, has therefore been approved by Natural England and as such, has been implemented.
8	Badger	(SWT Ecology Services, 2022c)	No badgers recorded.	Walkover survey within 24 hours of works commencing to check for new holes and assess these for badger usage. If a hole is identified, a 30 m exclusion will be instated until badger confirmed likely absent. If badger is present, appropriate monitoring and licencing will be required.
9	Hedgehog	(SWT Ecology Services, 2022c)	No hedgehogs recorded.	Ecological enhancements for hedgehog through development
10	Invasive non-native species, including Schedule 9 invasive species under the Wildlife and Countryside Act 1981	(SWT Ecology Services, 2022c) (ECUS, 2022) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Infrastructure and Environment Limited, 2020a)	Invasive species recorded in development site including Swedish whitebeam, Norway maple, small leaved cotoneaster (Schedule 9) and late cotoneaster (Schedule 9) (see Figure 1).	Systematic removal of non-native invasive species. Species included on list of Schedule 9 should be treated and removed by a suitability trained specialist and measures to limit any spread and/or introduction of invasive species during construction period.
11	Other mammals	(SWT Ecology Services, 2022c)	Evidence of rabbit within the site.	Appropriate site management.
12	Reptile	(SWT Ecology Services, 2022c) (Waterman Infrastructure and Environment Limited, 2020b) (Waterman Infrastructure and Environment Limited, 2020a)	No presence/likely absence surveys undertaken.	PMoW to site clearance; similar to the that detailed above for amphibians.

2.4 CEMP aims

2.4.1 The aim of the CEMP (Biodiversity) is to provide details of measures to protect the ecological receptors on site. The CEMP (Biodiversity) details the approach that will be implemented by contractors throughout the construction phase to ensure the ecological receptors identified are adequately protected and impacts are minimised, See Figure 1 for retained and protected areas. This is achieved by:

- Detailing the mitigation measures required to minimise environmental impacts during the construction phase.
- Presenting any monitoring required or auditing processes to ensure corrective action or mitigation measures are implemented.

3 Construction specifics

3.1 Construction programme

3.1.1 The detailed Construction Programme will be made available for review at the site office. This has been prepared by Bowmer and Kirkland. This CEMP (Biodiversity) relates specifically to measures to protect biodiversity and does not cover general construction activities.

3.2 Roles and responsibilities

Site manager

3.2.1 Bowmer and Kirkland will appoint a site manager that is responsible for the implementation of the protection measures set out within this document.

3.2.2 Should there be any queries regarding the programme or efficiency of work, the site manager should be contacted.

3.2.3 The site manager is responsible for:

- Ensuring the CEMP (Biodiversity) is held on site and that it is implemented throughout all the phases of the project.
- Ensuring the CEMP (Biodiversity) details are updated where relevant and is provided to the relevant stakeholders.
- Ensuring that all contractors and visitors comply with the CEMP (Biodiversity).
- Ensuring that the environmental issues identified in the pre-construction information, site surveys and relevant information gathered from agencies, local councils etc are addressed.
- Producing environmental project specific controls for all significant risks identified and implementing these to minimise the risk of damage to the environment.
- Communicating the CEMP (Biodiversity) and other documents to employees, contractors and client representatives.
- Liaising with the relevant stakeholders on environmental issues and making sure that all environmental matters relating to the project are discussed, documented and managed.

3.2.4 The Ecological Clerk of Works (ECoW) is responsible for:

- Ensuring compliance with the relevant environmental legislation and consents, objectives, targets and the CEMP (Biodiversity).
- Undertaking ecological supervision, where this is required.

Contractors and visitors

3.2.5 All contractors and visitors will be made aware of the relevant environmental requirements and the controls applicable to their presence and activities. This will include, but not be limited to:

- Method statements
- Risk assessments
- Site inductions
- Toolbox talks

3.3 Communication and coordination

3.3.1 The site manager will regularly communicate with the project manager.

3.3.2 Given the impact that construction activities can have with members of the public, the project manager will ensure:

- Public needs are considered.
- Noise is minimised during the construction process.
- The site remains clean and in good order at all times.
- The channel of communication with neighbours is maintained using letter drops and signage.
- On site behaviour is respectful and derogatory behaviour and language is not tolerated on site.
- Safety of site personnel and the general public are considered at all times.

4 Risk assessment of project activities

4.1.1 Condition 15 requires a risk assessment of potentially damaging activities on biodiversity and details of how these impacts would be avoided and or mitigated for. The risk assessment is presented in Table 2.

Table 2: Risk assessment of construction activities

Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Risk	Avoidance measures	Mitigation measures	Residual risk
2	Terrestrial habitats	Woodland adjacent to the northern boundary of the north-eastern field (woodland; mixed) and priority hedgerows that bound the fields. Remnant dry pond.	Habitat loss and degradation	Low at site level	Avoid works within habitat protection zone	Protected areas will be retained with a buffer zone (includes use of vehicles, site cabins and stored materials).	With the implementation of mitigation measures, residual risk is negligible.
3	Invertebrates	All habitats within habitat protection zone and construction zone.	Loss of foraging habitat	Low at site level	Avoid works within habitat protection zone	All retained habitats will be protected by a habitat protection zone. High quality invertebrate habitat to be created through development including wildflower meadows, a new pond, species-rich shrub and tree planting, new hedgerow planting and enhancement of the retained hedgerows and woodland. In addition, four habitat/log piles will be provided in the development (SWT Ecology Services, 2022c)	With the implementation of mitigation measures, residual risk is negligible.
4	Amphibians	Most suitable habitat include all habitats within habitat protection zone. Low quality commuting habitat in development area in south-east (recreation field). Small amount of spoil/rubble/piles in the north-east.	Loss of commuting and foraging habitat. Loss of a small amount of resting habitat. Direct killing or injury	Low at site level	Avoid works within habitat protection zone. Avoid site clearance works to any suitable habitat during amphibian hibernation season, November – February.	Implementation of GCN Mitigation Strategy, as detailed in the Update Ecology Report. This includes registering the site under the South Yorkshire District Level Licencing Scheme (DLL) and PMoW. All retained habitats will be protected by a habitat protection zone. Creation of high-quality terrestrial and aquatic habitat through development (SWT Ecology Services, 2022c)	With the implementation of mitigation measures and GCN Mitigation Strategy, including registration of DLL, residual risk is negligible.
5	Birds – Vegetation/Buildings	All habitats within habitat protection zone and small number of trees/shrubs and eight buildings in construction zone	Loss/disturbance of nesting and foraging habitat	Moderate at site level	Avoid works within habitat protection zone Avoid works to any suitable nesting habitat (vegetation and buildings) during breeding bird season (March to August).	All retained habitats will be protected by within habitat protection zone and creation of nesting habitat (species-rich shrub/tree planting, new hedgerows, enhancement of woodland and hedgerows and bird boxes) through development (SWT Ecology Services, 2022c) If vegetation removal required between March and August, supervision by an ecologist is required for any vegetation clearance/building demolition. Where active nests are identified, these will be retained, and an appropriately sized buffer established by the ECoW. Nests within buffer zones will be monitored periodically until chicks have fledged. Vegetation clearance/building demolition can then resume.	Where building demolition/vegetation clearances occurs outside the breeding bird season, the residual risk is negligible. Where building demolition/vegetation clearance occurs within the breeding bird season, and an appropriate buffer is established and maintained until the chicks have fledged, the residual risk is negligible.

Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Risk	Avoidance measures	Mitigation measures	Residual risk
6	Bats – Vegetation (foraging and commuting)	Most suitable foraging and commuting habitat include all habitats within habitat protection zone. Low quality foraging and commuting habitat in development area	Loss of foraging and commuting habitat Reduction in suitability of foraging and commuting habitat and disturbance to bats	Low at site level	Avoid works within the habitat protection zone	All retained habitats will be protected by a habitat protection zone. Appropriate lighting around development (limited increase in any artificial lighting on any retained habitats) New, high quality foraging and commuting habitat to be provided through the development through creation of pond, wildflower meadows, species-rich hedgerow/shrub/tree planting and enhancement of retained hedgerows and woodland (SWT Ecology Services, 2022c)	With the implementation of mitigation measures, residual risk is negligible.
7	Bats - Building (B1, B3, B4, B5 and B6) - (roosting)	Bat roosts present in buildings (B1, B3, B4, B5 and B6) - (SWT Ecology Services, 2022a) (SWT Ecology Services, 2022b) (SWT Ecology Services, 2022c).	Destruction of bat roosts in B1, B3, B4, B5 and B6	High at site level for day roosts, high at local level for hibernation roosts	Complete demolition works to areas of building that support roosts at suitable time of year in accordance to status' of roosts present in building, meaning March – October. Bat Mitigation Licence from Natural England obtained and Implemented.	Bat Mitigation Licence from Natural England obtained and Implemented. Appropriate lighting around development (limited increase in any artificial lighting on any newly created roosts in buildings/trees) Additional enhancement features for roosting bats to be provided included four bat boxes to be installed on the two new buildings (SWT Ecology Services, 2022b) (SWT Ecology Services, 2022c).	With the implementation of mitigation measures, residual risk is negligible.
8	Badger	All habitats within and out of habitat protection zone. Area of highest quality is in habitat protection zone (woodland)	Badger was not recorded during the surveys	Negligible	Not applicable	In line with best practice, walkover by ECoW to check for mammal holes within 24 hours of site works commencing. .If a hole is identified, a 30 m exclusion will be instated until badger confirmed likely absent. If badger is present, appropriate monitoring and licencing will be required.	Negligible
9	Hedgehog	All habitats within and out of habitat protection zone	No hedgehogs recorded.	Negligible	Not applicable	Measures detailed for other mammals and reptiles/amphibians will also protect hedgehogs should they be present	Negligible.
10	Invasive non-native species, including Schedule 9 invasive species under the Wildlife and Countryside Act 1981: small leaved cotoneaster and late cotoneaster (see Figure 1)	Small leaved cotoneaster and late cotoneaster throughout development area (introduced shrub and scrub) and within habitat protection zone (woodland, hedgerows, scrub) (see Figure 1)	Spread/introduction of invasive non-native species	High at site level	All non-native species, to be identified prior to construction works commencing and measures to limit any spread and/or introduction of additional invasive species during construction period implemented. Where invasive species located in suitable breeding bird habitat (woodland, hedgerows and shrubs) works to avoid breeding bird season (March – August).	Systematic removal of non-native invasive species. Species included on list of Schedule 9 should be treated and removed by a suitability trained specialist and measures to limit any spread and/or introduction of invasive species during construction period. Note mitigation under receptor 5 for impacts to breeding birds during vegetation removal.	With the implementation of mitigation measures, residual risk is negligible.

Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Risk	Avoidance measures	Mitigation measures	Residual risk
11	Other mammals (including rabbits)	All habitats within and out of habitat protection zone	Loss of habitat Direct killing or injury	Moderate at site level	Avoid works within the habitat protection zone and regarding rabbits, appropriate site management	Regarding rabbits, as all wildlife is prevented from killing, injury and harm under the Wildlife and Countryside Act 1981 (as amended), removal of rabbits through appropriate site management. If any new mammal holes are identified, then an appropriate buffer will be established around the hole. The hole will then be assessed by an ecologist; this ecologist will then recommend an appropriate course of action. No trenches to be left open over night All retained habitats will be protected by a habitat protection zone and enhancement measures for hedgehog provided through development (SWT Ecology Services, 2022c).	With the implementation of mitigation measures, residual risk is negligible.
12	Reptiles	Most suitable habitat include all habitats within habitat protection zone. Low quality habitat in majority of development area, small amount of refuge habitat within development area	Loss of habitat Direct killing or injury	Low at site level	Avoid works within the habitat protection zone Avoid site clearance works to any suitable habitat during reptile hibernation season, November – February.	PMoW pre and during development, including ecological supervision to site clearance (where required) All retained habitats will be protected by a habitat protection zone. Creation of high-quality habitat through development (SWT Ecology Services, 2022c).	With the implementation of mitigation measures, residual risk is negligible.

5 Mitigation measures

5.1 Training, awareness, and competence

- 5.1.1 The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of the CEMP (Biodiversity). As part of the site induction, biodiversity will be covered.
- 5.1.2 Where supervision is required, a toolbox talk will be provided by the ECoW. Attendees will sign the attendance form to record the receipt of the toolbox talk.

5.2 Supervision of construction activities

- 5.2.1 Ecological supervision will be required in some instances, as detailed in Table 3. The site manager will be responsible for notifying the ECoW of activities where their presence will be required.

6 Environmental protection measures

6.1 Noise and vibration

- 6.1.1 Monitoring will be undertaken to ensure that noise and vibration levels at nearby properties or other sensitive locations are kept to a minimum.
- 6.1.2 Construction activities will be assessed individually to ensure local residents, visitors and business owners are affected as little as possible by the development.
- 6.1.3 Strict controls on the sequencing of works and providing noise protection will be developed on an activity-by-activity basis. This will include:
- Mobile plant will be turned off when not in use.
 - Mortar silos to reduce operating noise.
 - The quietest possible plant that can be reasonably obtained will be used for each construction task.
 - Percussive plant will be avoided where alternative non-percussive plant is available for a given task.

6.2 Water quality, drainage and hydrology

- 6.2.1 Construction phase operations will be carried out in accordance with guidance contained within the Health and Safety Plan, Method Statements and Waste Management Plan and will consider the following:
- General Guide to the Prevention of Pollution.
 - Above Ground Oil Storage Tanks.
 - Works in, near or liable to affect the watercourse.
 - Working at Construction and Demolition Sites.
 - High Pressure Water Cleaners.
 - Control of Spillages.
 - Pollution Incident Response Planning to comprise:
 - No pumping to controlled waters without a Discharge Consent obtained from the Environment Agency.
 - No pumping into surface water drains without the permission of the Environment Agency.

- No pumping into the foul sewer without the permission of the Water Company.
 - To prevent water pollution resulting from worker-generated sewage effluents, portable toilets (for initial site set up works only) and good quality temporary toilet facilities will be provided for construction worker use.
- 6.2.2 The potential for impacts to occur resulting from storage of materials will be minimised by the following measures:
- Storage compounds (for the storage of construction materials or temporary stockpiling of excavated soils) will be located away from the surface watercourses and drains in a designated area
 - Drums and barrels will be stored in a designated bunded safe area within the compound.
 - All drums and barrels will be fitted with flow control taps.
 - All drums and barrels will be properly labelled.
 - All fuel containers will be double bunded and positioned away for watercourses.
- 6.2.3 The potential for impacts to occur resulting from works adjacent to watercourses will be minimised by the following measures:
- The placing of any wet concrete in or close to any watercourse will be controlled to minimise the risk of leakage of wet cement into the watercourse.
 - The washing of any concrete mixing plant or ready-mix lorries will be carried out to prevent effluent from cleaning being allowed to flow into any watercourse or drain.
 - Haul roads on the site and approaches to the watercourse (or drains leading to a watercourse) will be regularly cleaned to prevent the build-up of mud.
- 6.2.4 The potential for impacts to occur resulting from disturbance of silt will be minimised by the following measures:
- All pumped drainage from the construction works, including areas for temporary storage of construction materials or excavated soils, will be passed through silt settlement treatment prior to discharge to drains. Silt settlement treatments may, for example, include straw bales, grassland soakaways or silt settlement lagoons.
 - All roads and hardstanding will be cleaned regularly to prevent the build-up of oil and dirt that may be washed into a watercourse or drain during heavy rainfall (including regular sweeps with mechanical sweeper).
 - The use of water sprays to reduce dust or wash down construction areas will be carefully regulated to avoid washing substantial quantities of silt etc, into surface water drains. Where large quantities of gravel, mud or other such material require cleaning, the area will be swept prior to any subsequent hosing down.
- 6.2.5 The potential for impacts occurs resulting from contamination of water by wet cement or concrete will be minimised by the following measures:
- Manholes and catch pits will be covered to prevent concrete/cement ingress.
 - Concreting at watercourse culvert sites will be closely supervised to prevent concrete contamination of the watercourses.
 - The washing of any concrete mixing plant or ready-mix Lorries will be carried out to prevent effluent from cleaning from being allowed to flow into any watercourse or drain.

6.2.6 The potential for impacts to occur resulting from contamination of water by oil or other liquids will be minimised by the following measures:

- Storage compounds for fuels, oils or other liquid chemicals will be sited away from surface water drains. They will have an impermeable base and bund with a capacity of 110% and will not drain directly into the surface water drains.
- Small plant such as pumps will be equipped with drip trays.
- Drums and barrels will be stored in a designated bunded safe area within the site compound.
- All drums and barrels will be fitted with flow control taps.
- All drums and barrels will be properly labelled.

6.2.7 The potential for impacts to occur resulting from contamination from accidental spillages will be minimised by the following measures:

- Emergency response procedures will be established to deal with instances of leakages or spillages of potentially contaminating substances.
- Spill kit will be located on sites near to stored chemicals and within the works compounds.
- Staff will be trained in the use of spill kits.

6.2.8 The following measures will be implemented to minimise potential impacts on ground water during earthworks:

- Prior to pumping from excavations, permits to operate pumps will be issued to the pump operator, indicating the point of discharge and all other necessary control procedures.
- Sub-soil will be exposed for a minimum length of time after topsoil strip. Cut-off trenches, where necessary, will be excavated to prevent excessive surface water run-off into watercourses. Cut-off trenches will discharge into sediment lagoons, with discharge to watercourses subject to the prior consent of the Environment Agency.
- Topsoil/vegetation along watercourses will be retained to aid attenuation and sediment infiltration.

6.2.9 Any risk of contamination of groundwater resulting from piling will be controlled through adequate casing of the piles, selection of suitable concrete mixes with short curing periods and localised control of the groundwater level should this prove necessary.

6.2.10 Consents will be required from the Environment Agency under the Water Resources Act 1991 for temporary discharges or construction works affecting controlled watercourses. Applications for consents will be made to the Environment Agency in accordance with these requirements and works will be undertaken in accordance with any conditions imposed.

6.3 Air quality and emissions

6.3.1 Care will be required to maintain dust emissions at a practicable minimum when working in the vicinity of residential properties and environmentally sensitive areas. Best practice mitigation will be required during dry conditions.

6.3.2 A Construction Generated Noise and Dust Receptor Identification Plan will be distributed to all contractors at the Tender stage and all onsite operatives to ensure

consideration is given to dust generating activities in areas close to local residents and businesses.

6.3.3 Dust reduction measures will include:

- Careful management of earth stockpiles.
- Sheeting of vehicles transporting materials to and from the site.
- Limiting the speed of general vehicles within the site to 10mph.
- Surfacing of the haul roads as soon as possible in the construction programme.
- Haul roads to be regularly cleaned.
- Provision of wheel cleaning point at access points into local roads (to prevent mud from getting on the public highways).
- Visual monitoring will be carried out at sensitive locations on a daily basis.

6.3.4 By using effective dust mitigation techniques, including good site planning, the potential for dust emissions to arise at a construction site and impact on surrounding receptors can be minimised. The site manager will be the elected as the responsible person regarding any dust-related disputes raised by operatives, local residents and local business owners.

6.3.5 The Head Office and site manager contact information will be displayed on the site hoarding and will be viewable for members of the community and site visitors. As mentioned previously the site manager's contact information will be shown on the regular letter drop.

6.3.6 The potential for dust to arise during the ground-breaking, earth moving, and excavation stage of the construction activities is highly weather dependent. If the works are carried out in dry weather, increased water spraying may be required to ensure that the surface material remains damp. In wet weather greater attention will be paid to vehicle cleaning to ensure significant quantities of mud are not trafficked onto local roads, which once dry can become a significant source of dust.

6.3.7 Throughout the construction period, care will be taken to ensure the adequate control of dust from vehicles delivering and removing materials to and from the site. Drop heights, when loading and unloading materials, will be minimised. All dusty loads will be sheeted appropriately. The site manager will ensure that the hard surfacing of heavily used areas and adjacent public roadways are regularly cleaned.

6.3.8 Once the construction of superstructures commences there will be less potential for significant emissions of dust from the site, although emissions may still arise from the storage of dusty materials. Generally, the storage compounds will be screened both for security and to prevent wind whipping. In addition, there are certain construction activities that are inherently dusty and will require additional controls e.g., stone or brick cutting, in these particular circumstances, a pressure water bottle attachment can be used to dampen dust. Such activities may require local screening, or the activities may be limited to certain areas within the site or restricted to certain time periods in order to limit impacts.

6.3.9 Specific measures to prevent dust and air pollution will include the following practices:

- The provision of easily cleaned hard standings for vehicles (to include the areas close to the site access).
 - The regular cleaning by brushing and water spraying of heavily used hard surfaced areas.
 - The provision of wheel washing facilities with high pressure hoses to ensure all vehicles leaving site are in a satisfactory state of cleanliness.
 - Dusty materials stockpiles and dusty activities such as stone cutting and grinding to be sited away from the site boundary and/or effectively screened where practicable.
 - The application of a 'No Burning' policy on site throughout the construction phases.
- 6.3.10 The site manager will be responsible for: recording all dust and air quality related complaints, identify causes, proposing resolutions and ensuring resolutions are implemented. The site will be walked over daily to ensure area of dust generation are checked such as roads or cutting activities.

6.4 Waste management

- 6.4.1 Proposals will be drawn up for dealing with waste arising from the construction of the project within a Waste Management Plan for the site.
- 6.4.2 These will include:
- Storing and reusing earthwork materials, including topsoil, and general arisings to negate the export or import of inert materials.
 - Reduction of site generated waste through waste minimisation, segregation, and recycling initiatives.
 - Identification, storage, and management of potentially contaminated materials.
 - Appropriate methods of waste disposal linked to a robust waste disposal audit trail.
 - All topsoil and subsoil will be handled and stored carefully to minimise the potential for damage to the soil structure.
 - Where possible, construction risings will be reused within the site as structural or non-structural fill.
 - Where practicable, all concrete and redundant road pavements will be transported to a dedicated crushing and recycling facility for re-use on the project or within the local area.
 - Detailed procedures and guidance will be developed and implemented through the construction process to minimise the import of non-sustainable raw materials and for identifying opportunities for re-using or recycling waste.
 - Site office wastes will be collected in separate containers to maximise the opportunities for recycling, this will include can, bottle and paper banks.

6.5 Light pollution

- 6.5.1 Works will occur during daylight hours only, therefore no floodlighting is considered necessary.
- 6.5.2 If any lighting is required during the development then this will take into account the ecologically sensitive zones and best practice guidance (BCT and Institute of Lighting Professionals, 2018).

6.6 Ecology

6.6.1 The ecological features requiring protection, mitigation or ongoing monitoring are detailed in Table 2 and 3 and include:

- **Terrestrial habitats:** All retained terrestrial habitats will be protected during construction and will be clearly identified, fenced off and signed with 'habitat protection zone'. Enhancements and long-term management has also been detailed in a Biodiversity Enhancement Management Plan (BEMP) report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
- **Invertebrates:** Retention of habitats and creation of high-quality habitats (wildflower meadow, species-rich hedgerow and shrub planting) post development. Provision of four habitat/log piles as enhancement have been detailed in the Update Ecology Report (SWT Ecology Services, 2022c) and also detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
- **Amphibians (GCN):** Retention of highest quality terrestrial habitat, and implementation of GCN Mitigation Strategy, as detailed in the Update Ecology Report. This includes registering the site under the South Yorkshire DLL. PMoW and where required, a suitably experienced ECoW will provide supervision. Creation/enhancement of high-quality habitats (pond and high quality terrestrial habitat, including foraging, commuting refuge in the form of wildflower meadows, new hedgerows/shrub planting, enhancement of woodland and creation of and log/habitat piles) post development (SWT Ecology Services, 2022c). Enhancements have also been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
- **Breeding birds:** Retention of habitats, pre-commencement checks and/or completing works outside the breeding bird period and provision of nest boxes as compensation (SWT Ecology Services, 2022c). Enhancements have also been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
- **Foraging and commuting bats:** Retention and protection of areas of highest quality bat habitat, which has been found to be used by a low number of foraging bats and sensitive lighting design. High quality commuting and foraging habitat created through development (SWT Ecology Services, 2022c). Enhancements have also been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
- **Roosting bats in buildings:** Bat Mitigation Licence from Natural England obtained and Implemented (licence ref no: 2022-61536-EPS-MIT active between 25/07/2022 and 22/07/2027). Appropriate lighting around development (limited increase in any artificial lighting on any newly created roosts in buildings/trees) (SWT Ecology Services, 2022b). Additional enhancement features for roosting bats to be provided include four bat boxes to be installed on the two new buildings (SWT Ecology Services, 2022b) (SWT Ecology Services, 2022c). Enhancements have also been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Badger: Retention and protection of areas of highest quality habitat through habitat protection zone. In line with best practice, walkover of check for mammal holes by an ECoW within 24 hours of site works commencing. If a hole is identified, a 30 m exclusion will be instated until badger confirmed likely absent. If badger is present, appropriate monitoring and licencing will be required. Enhancements post-development, these have been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

- Hedgehog: Measures detailed for other mammals, amphibians and reptiles will protect hedgehog should they be present. Enhancements post-development, these have been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
 - Invasive non-native species: All non-native species, to be identified prior to construction works commencing and measures to limit any spread and/or introduction of invasive species during construction period implemented. Systematic removal of non-native invasive species. Species included on list of Schedule 9 should be treated and removed by a suitability trained specialist and measures to limit any spread and/or introduction of invasive species during construction period.
 - Other mammals (including rabbit): As all wildlife is prevented from killing, injury and harm under the Wildlife and Countryside Act 1981 (as amended), removal of rabbits will be completed through appropriate site management. If any new mammal holes are identified during the construction period, then an appropriate buffer will be established around the hole. The hole will then be assessed by an ecologist; this ecologist will then recommend an appropriate course of action. Other measures include construction safeguards.
 - Reptiles: Retention and protection of highest quality habitat. PMoW for site clearance and where required, a suitably experienced ECoW will provide supervision. Creation of high quality foraging, commuting and refuge habitat through the development (SWT Ecology Services, 2022c). Enhancements have also been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).
 - On-site habitat: protection and pollution prevention measures during construction, various habitat enhancements with additional benefits for fauna species.
- 6.6.2 Table 2 and Table 3 provides details of the ecological receptors, mitigation measures, where supervision is required, and persons responsible.
- 6.6.3 Figure 1 presents the location of the habitat protection zones and location of Schedule 9 plant species.

Table 3: Mitigation Plan

Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Avoidance measures	Mitigation measures	Timing of works												Supervision required (Y/N)	Responsible persons
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
2	Terrestrial habitats	Woodland adjacent to the northern boundary of the north-eastern field (woodland; mixed) and priority hedgerows that bound the fields. Remnant dry pond.	Habitat loss and degradation	Avoid works within habitat protection zone	Protected areas will be retained with a buffer zone (includes use of vehicles, site cabins and stored materials).													N	Site Manager is to ensure habitat protection zone in place throughout the works
3	Invertebrates	All habitats within habitat protection zone and construction zone.	Loss of foraging habitat	Avoid works within habitat protection zone	All retained habitats will be protected by a habitat protection zone. High quality invertebrate habitat to be created through development including wildflower meadows, a new pond, species-rich shrub and tree planting, new hedgerow planting and enhancement of the retained hedgerows and woodland. In addition, four habitat/log piles will be provided in the development													No	Site Manager is to ensure habitat protection zone in place throughout the works
4	Amphibians	Most suitable habitat include all habitats within habitat protection zone. Low quality commuting habitat in development area in south-east (recreation field). Small amount of spoil/rubble/piles in the north-east.	Loss of commuting and foraging habitat. Loss of a small amount of resting habitat. Direct killing or injury	Avoid works within habitat protection zone. Avoid site clearance works to any suitable habitat during amphibian hibernation season, November – February.	Implementation of GCN Mitigation Strategy, as detailed in the Update Ecology Report. This includes registering the site under the South Yorkshire District Level Licencing Scheme (DLL) and Precautionary Method of Works (PMoW) All retained habitats will be protected by a habitat protection zone.													Yes (where required)	ECoW (suitability licenced ecologist/accredited agent, where required)

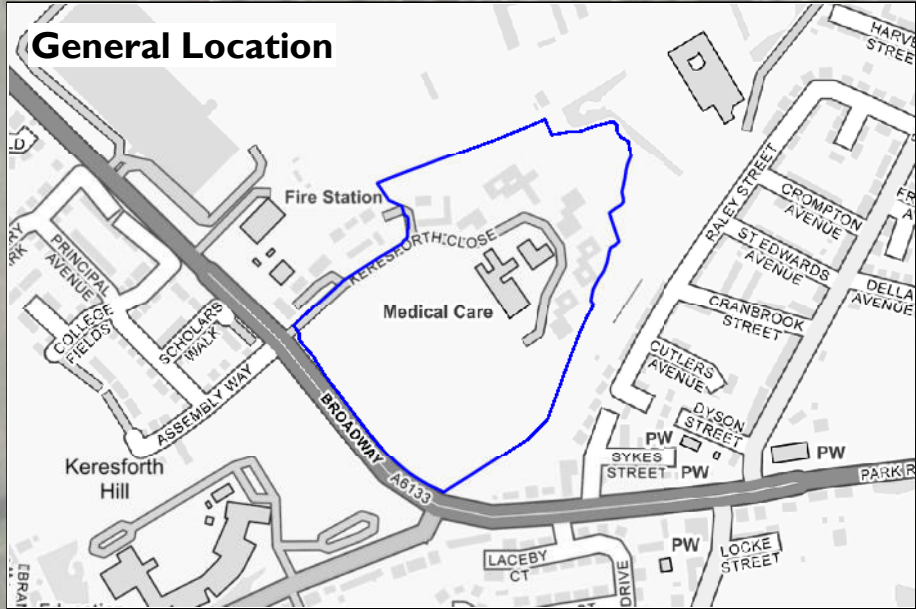
Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Avoidance measures	Mitigation measures	Timing of works												Supervision required (Y/N)	Responsible persons
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
					Enhancement of dry remnant pond to create wildlife pond. Creation off high quality terrestrial during and post-development.													No	Site Manager Is to ensure habitat protection zone in place throughout the works
5	Birds - Vegetation/Buildings	All habitats within habitat protection zone, small number of trees/shrubs and eight buildings in construction zone	Loss/disturbance of nesting and foraging habitat	Avoid works within habitat protection zone. Avoid works to any suitable nesting habitat (vegetation and buildings) during breeding bird season (March to August).	If works are required during the breeding bird season supervision by an ecologist is required for any vegetation clearance/building demolition. Where active nests are identified, these will be retained and an appropriately sized buffer established by the Ecological Clerk of Works. Nests within buffer zones will be monitored periodically until chicks have fledged. Vegetation clearance/building demolition can then resume.													Yes (if works between March and August)	ECoW (if works between March and August) Site Manager Is to ensure habitat protection zone in place throughout the works
6	Bats - Vegetation (foraging and commuting)	Most suitable foraging, commuting and roosting habitat include all habitats within habitat protection zone. Low quality foraging and commuting habitat in development area	Loss and/or reduction in suitability of foraging and commuting habitat	Avoid works within habitat protection zone.	All retained habitats will be protected by a habitat protection zone. Appropriate lighting around development (limited increase in any artificial lighting on any retained habitats) New, high quality foraging and commuting habitat to be provided through the development through creation of pond, wildflower meadows, species-rich hedgerow/shrub/tree planting and													No	Site manager to ensure habitat protection zone is in place throughout duration of works

Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Avoidance measures	Mitigation measures	Timing of works												Supervision required (Y/N)	Responsible persons
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
					enhancement of retained hedgerows and woodland														
7	Bats - Buildings (B1, B3, B4, B5 and B6) - (roosting)	Bat roosts present in buildings (B1, B3, B4, B5 and B6)	Destruction of bat roosts	Complete demolition works to areas of building that supports roost at suitable time of year in accordance to status' of roosts present in building, meaning March - October. Bat Mitigation Licence from Natural England obtained and Implemented.	Bat Mitigation Licence from Natural England obtained and Implemented. Appropriate lighting around development (limited increase in any artificial lighting on any newly created roosts in buildings/trees). Additional enhancement features for roosting bats to be provided included four bat boxes to be installed on the two new buildings													Yes	ECoW (suitability licenced bat ecologist)
8	Badger	All habitats within and out of habitat protection zone. Area of highest quality is in habitat protection zone (woodland)	No badger recorded during survey therefore risk negligible.	Not applicable	In line with best practice, walkover by ECoW to check for mammal holes within 24 hours of site works commencing. If a hole is identified, a 30 m exclusion will be instated until badger confirmed likely absent. If badger is present, appropriate monitoring and licencing will be required.													Y	ECoW
9	Hedgehog	All habitats within and out of habitat protection zone	No hedgehog recorded during survey therefore risk negligible.	Not applicable	Measures detailed for other mammals and reptiles/amphibians will also protect hedgehogs should they be present													N	Site manager
10	Invasive non-native species, including Schedule 9 invasive species under the Wildlife and Countryside Act 19	Small leaved cotoneaster & late cotoneaster throughout development area (introduced shrub and	Spread of invasive non-native species	All non-native species, to be identified prior to construction works commencing and measures to limit any spread and/or	Systematic removal of non-native invasive species. Species included on list of Schedule 9 should be treated and removed by a suitability trained													Yes (if works between March and August)	ECoW (if works between March and August)

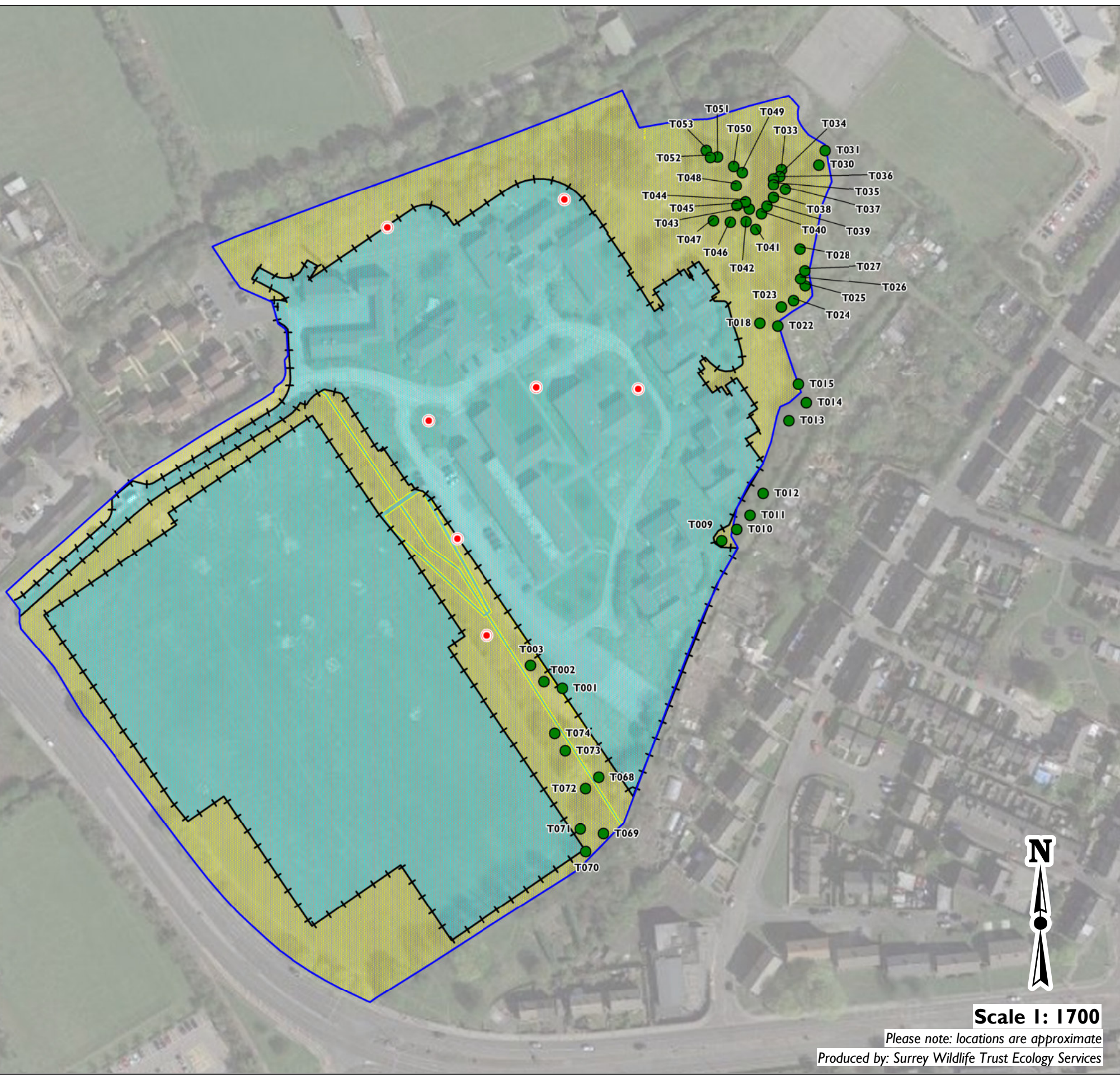
Receptor number	Ecological receptor	Habitats	Impacts from construction activities	Avoidance measures	Mitigation measures	Timing of works												Supervision required (Y/N)	Responsible persons
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
		scrub) and within habitat protection zone (woodland, hedgerows, scrub).		introduction of invasive species during construction period implemented. Vegetation clearance/building demolition can then resume. Where invasive species located in suitable breeding bird habitat (works to avoid breeding bird season.	specialist and measures to limit any spread and/or introduction of invasive species during construction period. Note mitigation under receptor 5 for impacts to breeding birds during vegetation removal.														
11	Other mammals (including rabbits)	All habitats within and out of habitat protection zone	Other mammals include loss of habitat. Direct killing or injury	Avoid works within the habitat protection zone and regarding rabbits, appropriate site management	As all wildlife is prevented from killing, injury and harm under the Wildlife and Countryside Act 1981 (as amended), removal of rabbits through appropriate site management. If any new mammal holes are identified, then an appropriate buffer will be established around the hole. The hole will then be assessed by an ecologist; this ecologist will then recommend an appropriate course of action. No trenches to be left open over night.													No	Site manager
12	Reptiles	Most suitable habitat include all habitats within habitat protection zone. Low quality habitat in majority of development area, small amount of refuge habitat within development area	Loss of habitat Direct killing or injury	Avoid works within the habitat protection zone Avoid site clearance works to any suitable habitat during reptile hibernation season, November – February.	PMoW pre and during development, including ecological supervision to site clearance (where required).													Yes (where required)	ECoW (where required)

Key

- Site Boundary
- Construction Zone
- Habitat Protection Zone
- Habitat Protection Zone Fenceline
- Retained Tree
- Target Note: Non-native, invasive plant species included on Schedule 9



Google Earth



Scale 1: 1700

Please note: locations are approximate
Produced by: Surrey Wildlife Trust Ecology Services

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5373-5, November 2022

**Figure 1: TASE Barnsley, Land at Keresforth Close, Barnsley, S70 6RS
CEMP Map**



Protection of terrestrial habitats

- All retained terrestrial habitats will be protected during construction and will be clearly identified, fenced off and signed with 'habitat protection zone', see Figure 1. Enhancements and long-term management has also been detailed in a Biodiversity Enhancement Management Plan (BEMP) that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d)

Invertebrates

- 6.6.4 All retained habitats will be protected by a habitat protection zone. Provision of four habitat/log piles as enhancement have been detailed in the Update Ecology Report (SWT Ecology Services, 2022c) and also detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Amphibians

- 6.6.5 The highest quality amphibian habitat will be retained and protected by a habitat protection zone. Small amount of resting habitat will be lost.
- 6.6.6 Implementation of GCN Mitigation Strategy, as detailed in the Update Ecology Report. This includes registering the site under the South Yorkshire DLL and PMoW. The mitigation strategy has been detailed in a separate report (SWT Ecology Services, 2022c)
- 6.6.7 All the works for site clearance will be supervised, where considered necessary, by a suitably licenced ecologist or an accredited agent. The works to be supervised will be agreed at a later date, following discussions between the project ecologist and site manager.
- 6.6.8 The site clearance works of any suitable habitat will take place between March and October, to avoid the amphibian hibernation period.
- 6.6.9 Creation of high quality terrestrial and aquatic habitat and other enhancements will be provided post-development; these have been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Breeding birds

- 6.6.10 Vegetation removal and building demolition will be scheduled outside the breeding bird season (March to August inclusive). Where this cannot be achieved, the vegetation or building to be removed (including ground vegetation) must be checked by a suitably qualified ecologist a maximum of 24 hours prior to vegetation clearance. Any active nests will be cornered off with an appropriate buffer (usually 5m) and protected until the birds have successfully fledged. High quality nesting habitat and other enhancements will be provided post-development; these have been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Bats – roosting, foraging and commuting

- 6.6.11 Bat roosts were identified in the buildings in the former NHS land during the bat surveys undertaken by SWT Ecology Services (SWT Ecology Services, 2022a) (SWT Ecology Services, 2022b). The development proposals associated with planning permission reference 2021/1160 will result in the permanent loss of these roosts. The impacts of the development on these roosts and associated mitigation strategy and roost compensation have been provided the bat survey report (SWT Ecology Services, 2022b). A mitigation licence from Natural England has been granted in relation to the proposals to demolish these buildings (licence ref no: 2022-61536-EPS-MIT), active between 25/07/2022 and 22/07/2027. The mitigation strategy proposed in this licence, and the report, has therefore been approved by Natural England and as such, has been implemented.
- 6.6.12 Recommendations for a sensitive lighting strategy to minimise any impacts on roosting, foraging and commuting bats, as well as further biodiversity enhancement features for bats, were provided in the Update Ecology Report and have been detailed further in this report (SWT Ecology Services, 2022c). Other enhancements for foraging, commuting and roosting bats also detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Badger

- 6.6.13 No evidence of badger recorded within the site. There will be retention and protection of areas of highest habitat quality through habitat protection zone. In line with best practice, walkover of check for mammal holes by ECoW within 24 hours of site works commencing. If a hole is identified, a 30 m exclusion will be instated until badger confirmed likely absent. If badger is present, appropriate monitoring and licencing will be required. Enhancements post-development, these have been detailed in a BEMP that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Hedgehog

- 6.6.14 Measures detailed for other mammals, amphibians and reptiles will protect hedgehog should they be present. Enhancements post-development, these have been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

Invasive non-native species

- 6.6.15 Invasive non-native species, including Schedule 9 invasive species under the Wildlife and Countryside Act 1981, present in retained habitats and construction zone. Measures to suitable remove these species, and minimise the introduction and spread of any additional non-native species will be implemented. These will need to be incorporated into an invasive species management plan.
- Obtaining advice from an approved contractor with regards to moving the soil.
 - Plant material will be appropriately disposed of.
 - Regrowth will be monitored for a period of five years.

6.6.16 Where invasive species to be removed are present in suitable breeding bird habitat (woodland, hedgerows and shrubs) vegetation removal and building demolition will be scheduled outside the breeding bird season (March to August inclusive). Where this cannot be achieved, the vegetation or building to be removed (including ground vegetation) must be checked by a suitably qualified ecologist a maximum of 24 hours prior to vegetation clearance. Any active nests will be cornered off with an appropriate buffer (usually 5m) and protected until the birds have successfully fledged.

Other mammals (including rabbits)

6.6.17 A rabbit warren is present in the development area and other mammals including protected species may use the site for commuting during the construction phase of works, the following will be implemented:

- A toolbox talk will be delivered to all site staff on other mammals and protected species that could be encountered. The talk will include actions to be taken should these species be identified during construction.
- If any new mammal holes are identified during the construction period, then an appropriate buffer will be established around the hole. The hole will then be assessed by an ecologist; this ecologist will then recommend an appropriate course of action.
- No trenches or deep pits within the site to left open overnight.
- All trenches will be inspected by the site manager each morning to ensure no animals have been trapped. Should a mammal be identified as trapped within these, works will cease until a suitably experienced ecologist is contacted.
- Any temporarily exposed open pipes exceeding 150mm diameter will be blocked overnight to prevent animals gaining access
- Storage of topsoil or other “soft” building materials will be given careful consideration as some species, including badger and rabbit. Each mound will be carefully inspected by the site manager daily and temporary covering should be considered to exclude other mammals.
- Fires will not be allowed to remain lit at night.
- Unsecured food and litter will not be left in the working area overnight.

Reptiles

6.6.18 The highest quality reptile habitat will be retained and protected by a habitat protection zone. Small amount of resting habitat will be lost.

6.6.19 Methods of works that are required for reptiles are the same as those in the GCN Mitigation Strategy due to the similarity in habitat requirements and suitable times of year and methods of work required for reptiles and amphibians.

6.6.20 All the works for site clearance will be supervised, where considered necessary, by a suitably licenced ecologist or an accredited agent. The works to be supervised will be agreed at a later date, following discussions between the project ecologist and site manager.

6.6.21 The site clearance works of any suitable habitat will take place between March and October, to avoid the reptile hibernation period.

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6.6.22 Creation of high quality terrestrial habitat and other enhancements will be provided post-development; these have been detailed in a BEMP report that has been produced by SWT Ecology Services in response to Condition 14 (SWT Ecology Services, 2022d).

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Appendix 1: Toolbox talk

AMPHIBIANS

Seven native amphibian species are found in the UK.

These are generally found near water and on land including in grass, scrub, woodland and under logs or rocks. Great crested newts, natterjack toads and their habitats are protected by law.

IF YOU SEE A GREAT CRESTED NEWT OR NATTERJACK TOAD, FOLLOW THE GOLDEN RULES

For other species, dismantle sheltering places by hand and place animals in a cool, damp, sheltered place away from danger.

Great Crested Newt, Kevin Caster



Frog, Stu Bown



Toad, Jon Hawkins



REPTILES

All native UK reptiles are protected from killing and injuring

The UK has six native species. They can be found in a variety of habitats, including railway embankments, churchyards, hedges, under logs, rocks and compost heaps, or basking in the sun. They are often seen by water.

IF YOU SEE A REPTILE, DO NOT HANDLE THEM as it can damage the animal if not handled properly, and adders are venomous.

FOLLOW THE GOLDEN RULES

Grass snake, David Chamberlain



Adder, Jon



Smooth Snake, Steve Davis



Slow Worm, Amy Lewis



Common Lizard, Jon Hawkins



Sand Lizard, Steve Davis



Appendix 2: Signage

