

*ecological support, management &
solutions*



Manor Nursery

Hayling Island

Ecological Construction Environmental Management Plan

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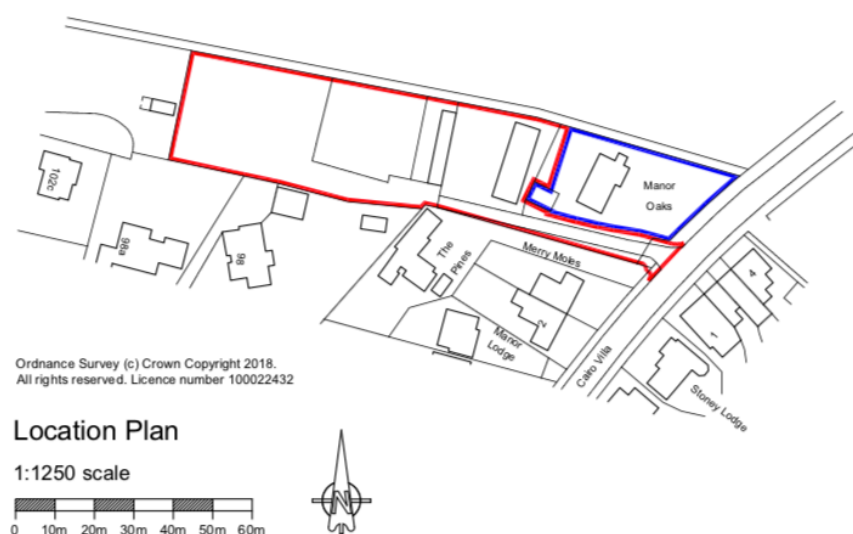
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1.0 INTRODUCTION

1.1 Site Description

The site comprises of a former nursery and caravan storage area to the west of the manor Oaks dwelling located off Manor Road, Hayling Island, PO11 0QU (centred on OS grid reference SU 717 004) (**Fig 1**). The immediate surrounding environ is a mixture of urban and rural with the southern, western and eastern boundaries marked by residential housing and the northern boundary an arable field.

Figure 1. Redline boundary location plan of the site.



1.2 Proposals

It is understood that the proposals will involve the demolition of the existing structures on site and construction of 9 new dwellings with access via Manor Road.

1.3 Aim

The aim of the ECEMP is to protect the ecological interests on the site and in particular ensure disturbances to the adjacent land (listed as being a Primary Support Area' for waders and Brent Geese are mitigated against. This report details the approach which construction workers will adopt in dealing with the potential ecological impacts associated with various construction activities. The approved ECEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the Local Planning Authority.

1.4 Activities

The main construction activities will involve:

- Site establishment
- Excavations
- Movement of materials
- Sub-structure foundations
- Drainage

- Construction of houses and access roads
- Landscaping including establishing gardens and boundary fencing.

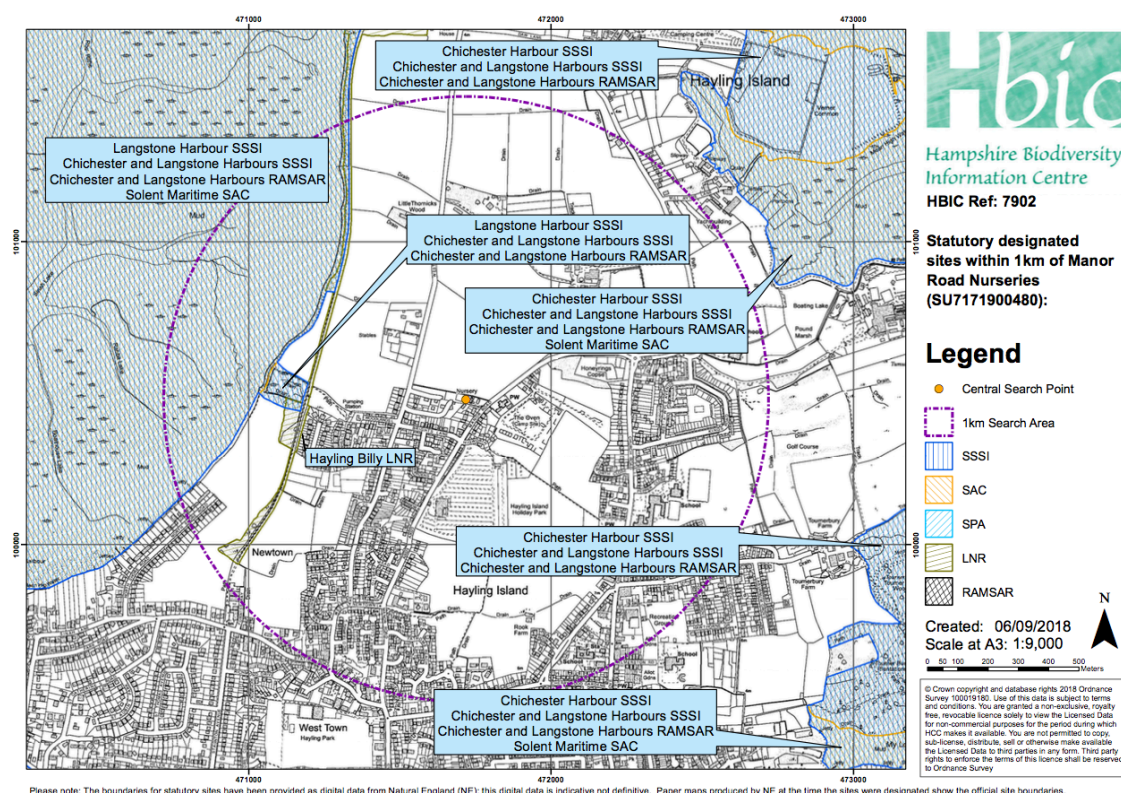
2.0 SITE SPECIFIC ECOLOGY ISSUES

2.1 Proximity of Designated Sites

The development site is located within close proximity to a number of statutory designated sites (**Figure 1**) including:

- Hayling Billy LNR (0.5km W)
- Langstone Harbour SSSI, Chichester and Langstone Harbours SSSI, Chichester and Langstone Harbours SPA and Ramsar, and Solent Maritime SAC (0.5km W).

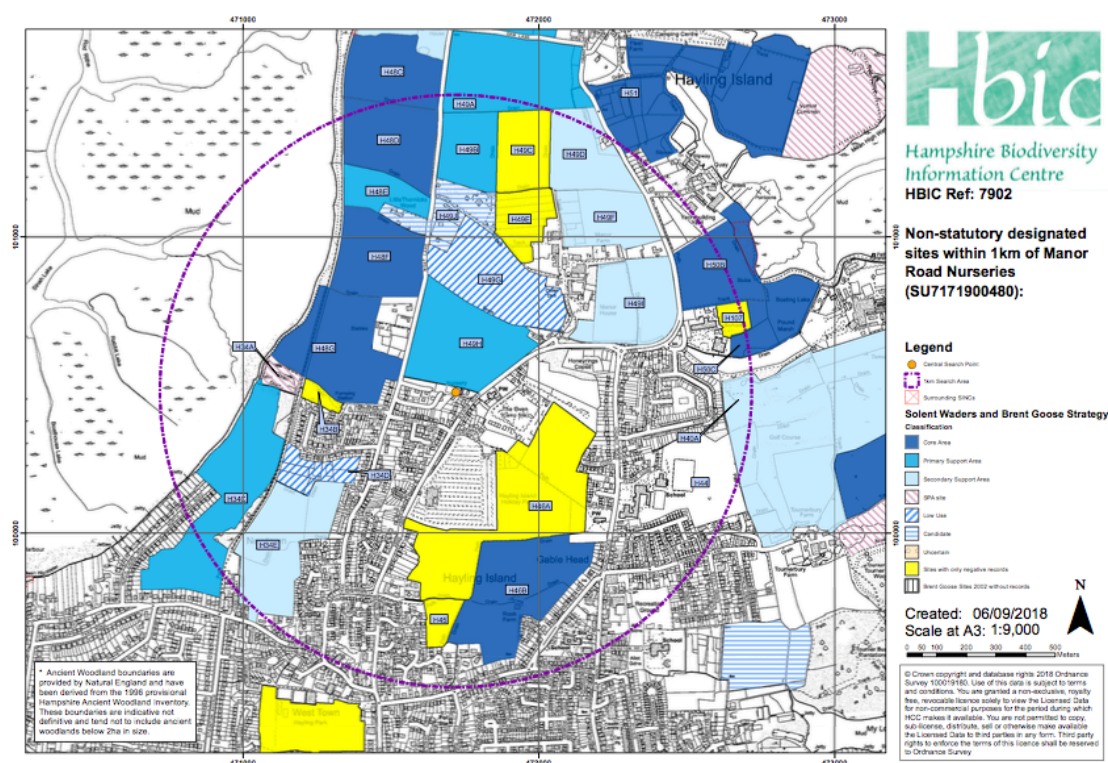
Figure 1. Statutory designated sites located within 2km of the site as provided by Hampshire Biological Information Center (HBIC).



Despite the close proximity of these designated sites, it is considered they are outside of the Zone of Influence (Zoi) of the impact pathways associated with the construction phase of the development. However, any areas considered to be supporting qualifying features of a SPA/SAC are to be considered when assessing the impact of the development.

2.2 Primary Support Habitat (Brent Geese & Waders)

A 'primary support habitat' for Brent Geese and waders is present along the northern boundary of the site (land parcel H49H) (**Fig 2**), separated from the site by a defunct, mature hedgerow / ditch. The land parcel has a total of 17 records of SPA associated species and is therefore considered a 'supporting habitat' for the SPA qualifying features (Annex I birds). Being adjacent to this land parcel, the development is considered to be within the Zoi for impact pathways (i.e. noise and air pollution) that are likely to significantly impact waders using the site without the adoption of suitable mitigation techniques.

Figure 2. Listed sites within the 2010 and 2017 Solent Brent Goose and wader sites as provided by HBIC.

2.3 Water Quality

The likely effects from chemical/fuel run-off on groundwater and local watercourses during the construction phase of the development is considered to be beyond the scope of this report, however there are no obvious watercourses running through or adjacent to the site that could be directly impacted by surface and groundwater drainage.

The closest known watercourse connecting to the SPA is approximately 290m north of the site. Although there is no mention in regards to impacts from surface water run-off on local watercourses within the Havant Borough Council Habitats Regulations Assessment Draft Screening Statement (December 2017), the Habitats Regulations Assessment for the Fareham Borough Local Plan 2036 (September 2017) does include a distance-based screening criterion, of which 50m away from an EU site is accepted as the ZOI for aquatic pollution during the construction phase for a site not directly connected to a watercourse.

2.4 Air Quality

Construction activities have the potential to impact on air quality. Construction activities are associated with the generation of nuisance dust (larger particles) and PM₁₀ emissions. The larger particles tend to fall out quickly and therefore the impacts are generally most likely to be felt within 200m of the development. As a result, the adjacent 'primary support habitat' is likely to be significantly affected. **Table 1** provides a selection of techniques in order to prevent/minimise this.

Table 1. Practical measures and sensitive working practices involving water air pollution control.

Issue(s) to Control	Best Practices to be Adopted
Emission of dark smoke from plant and equipment	• Conduct routine and major maintenance in accordance to manufacturer's instructions, and maintain records of all inspections and maintenance works. • Use fuel of quality specified by manufacturer/supplier. • Shut down all vehicles and plant in intermittent use between work periods or throttle down to a minimum idling speed (if the former is not possible).
Open burning on site	• Forbid open burning of wastes
Dust emission from construction / demolition activities	General requirements: • Operate air pollution control equipment properly and effectively, in accordance to manufacturer's instructions. • In the event of a malfunctioning or breakdown of any air pollution control equipment, suspend the plant, process(s) or activity(s) concerned as soon as practicable until the equipment is restored to its proper function.
	Site boundary and entrance: • Provide vehicle washing facilities at every vehicle exit point. • Where a site boundary adjoins a road, street, service lane or other area accessible to the public, provide hoarding of not less than 2.4 m high from ground level along the entire length of that portion of the site boundary except for a site entrance or exit.
	Access road (main haul road): • Pave with concrete, bituminous materials, hard core or metal plates, and kept clear of dusty materials; or • Spray with water; • Keep the portion of any road leading only to a construction site that is within 30 m of a discernible or designated vehicle entrance or exit clear of dusty materials.

Issue(s) to Control	Best Practices to be Adopted
	Exposed earth: • Treat properly by applying water spray, surface compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or temporary covers. • Schedule construction programme to complete works on open areas as quickly as possible.
	Dusty materials: • Dispose of cement, pulverized fuel ash or any other dusty materials collected by fabric filters or other air pollution control system or equipment in totally enclosed containers.
	Stockpile of dusty materials: • Cover stockpile over 50m³ entirely by impervious sheeting with enclosure extending at least 1 m above and beyond the stored materials. • Place in an area sheltered on the top and the 3 sides. • Spray with water.
	Loading, unloading or transfer of dusty materials: • Spray all dusty materials (except cement and PFA) with water immediately prior to any loading, unloading or transfer operation. • Control height from which excavated materials are dropped to a practical minimum.
	Pneumatic or power-driven drilling, cutting, polishing, breaking or crushing: • Spray water continuously on the surface during operation.
	Use of vehicles: • Wash every vehicle to remove any dusty materials from its body and wheels immediately before leaving the site. • Restrict vehicles to minimum practicable speed limits (< 10 km/h). • Where a vehicle leaving a construction, site is carrying a load of dusty materials, cover the load entirely by clean impervious sheeting, which extends over the edges of properly fitting side and tail boards and dampen materials before transportation. • Make sure dusty materials are not loaded to a level higher than the side and tail boards.
	Debris handling: • Cover debris entirely by impervious sheeting or store in a debris collection area, sheltered on top and 3 sides. • Enclose every debris chute by impervious sheeting or similar materials. • Before debris is dumped into a debris chute, spray with water.

Issue(s) to Control	Best Practices to be Adopted
	Excavation or earth moving: • Spray working area of any excavation or earth moving operation with water immediately before, during and immediately after the operation.
	Cement: • For every stock of more than 20 bags of cement cover entirely by impervious sheeting or place in an area sheltered on top and three sides. • For cement delivered in bulk, store in a closed silo fitted with an audible high-level alarm which is interlocked with the material filling line such that an audible alarm is triggered and the material filling stops within one minute. • Do not overfill silos used for the storage of cement • Carry out loading, unloading, transfer, handling or storage of bulk cement in a enclosed system or facility, and install effective fabric filter or equivalent air pollution control system on vent or exhaust systems.

2.5 Noise

One of the key issues highlighted during consultation from HBC ecology and Natural England relates to the potential for noise mediated disturbances to SPA birds using the adjacent primary support area. To avoid disturbing birds using the area, it is recommended for works to be carried out outside the overwintering period (October-March). If works are carried out during this time, construction noise is likely to significantly disturb the SPA species using the site therefore it is recommended to keep construction noise to below 68dbAmax (as measured at the sensitive receptor). Following the precautions in **Table 2** should result in a reduction in construction noise levels to below this threshold.

Table 2. Practical measures and sensitive working practices to reduce noise during construction.

Issues(s) to Control	Best Practices to be Adopted
General noise control measures	• Avoid simultaneous operation of noisy equipment. • Shut down all plant and equipment in intermittent use between work periods or throttled down to minimum idling speed. • Erect as early as possible noise source screening structures such as stores to shield the noise sensitive receivers (NSR). • Perform excavation works to the south, which is furthest away from the 'primary support habitat', to allow earth materials to shield the area from noise sources. • Located plant known to emit noise strongly in more than one direction oriented to direct noise away from the 'primary support area'. • Locate noisy equipment and plant as far away from the 'primary support habitat' as practically possible. • Maintenance and servicing of equipment and vehicles in accordance to manufacturers recommendations especially for noise mitigation components e.g. retaining silencers and mufflers supplied with construction equipment. • Erect temporary noise barriers constructed from readily available building materials or commercially available sound absorbing panels along the eastern boundary of the site (surface mass of barrier material must be greater than 7kg/m², with the length at least 5 times its height). This can achieve noise reduction of 5 - 10 dB(A).
Powered mechanical equipment from general construction works	Select quiet equipment whenever possible: • Silenced/super silenced compressors or electric compressor (when mains power available); • Hydraulic concrete cutters and crushers, and rock drills (up to 20 dB noise reduction). • Pneumatic breakers fitted with mufflers and damping collars (up to 21dB noise reduction)

2.6 Hazardous Substances

A number of hazardous materials are associated with construction projects. Not only can this lead to contaminated soil, but as was established in **Section 2.3**, surface water run-off and groundwater pollution can be an issue (although this goes beyond the scope of this report).

Table 3 contains a variety of procedures to prevent ecological implications from hazardous substances.

Table 3. Practical measures and sensitive working practices involving hazardous substances.

Issue(s) to Control	Best Practices to be adopted
Containers	• Use containers designed to minimise spills. • Ensure that containers used are appropriate to the substances contained (e.g. do not react with the substance, resistant to corrosions). • Ensure that containers are maintained in good conditions and securely closed. • Locate secondary containment store as far away from environmentally sensitive areas such as watercourses and water discharge points as possible. • Store goods away from heavily trafficked areas to avoid container damage. • In each storage area: • Ensure that only the substance(s) specified are stored. • Provide secondary containment or drip trays, and impermeable floor and bunding. • Prevent unauthorised access by providing locks to the storage areas.
Cleaning up minor spills	• Use sand, saw dust, or spill kit to absorb the spill and prevent it from spreading. • Dispose of the contaminated absorbent material as chemical waste. • Ensure that saw dust, spill kits, etc are readily accessible and of enough quantity.
Inspection and Maintenance	• Periodically inspect, and where necessary test, the condition of storage drums, tanks and pipelines (especially flanges and gaskets) • Inspect and maintain all plant and equipment to prevent leakage of chemicals/fuel.
Major Spills	• Contain the spill to minimise reduce land contamination and pollution. • Inform the Project Manager immediately. • The Project Manager shall arrange for appropriate removal and disposal of the chemicals by authorised organisations, and determine if other parties (e.g. Environment Agency) need to be informed.

2.7 Construction Activities

Where construction is proposed within 300m of 'important' BG / wader sites, disturbance impacts could occur as a result of construction noise, with the threshold of 100m being used for construction activity (Urban Edge, 2017). To mitigate against visual disturbance from construction activity, a visual screen made up of species-rich hedging and boundary fencing will be created along the northern boundary of the construction site (Ecosupport, 2019). This screen will be erected prior to works commencing.

2.8 General on site Ecology

Throughout this report the focus has been on specific ecological issues. **Table 4** considers more general factors associated with ecology during construction.

Table 4. Practical measures and sensitive working practices involving general ecological issues.

Issue(s) to Control	Best Practices to be Adopted
Terrestrial Flora	• Limit Loss /Disturbance Inside Work Areas • Retain trees via the use of protective fencing • All ecology Areas will be fenced off to restrict construction equipment and personnel to specified works area to minimise disturbance.
Terrestrial Fauna	• Prior to works getting underway the ECoW will give a talk to all site personnel ensuring they are aware of all ecological features on site and the potential of the site to support additional protected species (e.g. a Badger survey has been carried out but evidence of Badgers will be described so that in the if a sett establishes on site during works they are aware of the signs). • Report sightings to the Project Manager who will consult an SQE. • Minimise disturbance to the area concerned until approval is obtained from the Project Manager. • There is a small area of potentially suitable reptile habitat found along access track. This will be strimmed over two stages under the supervision of an ecologist to passively disperse any reptiles into neighboring gardens. Works to be carried out between April – September when temperatures exceed 12 °C.
Birds	• If works are unable to take place outside of the bird nesting season, any bird nests found will be reported to the Project Manager and a 5 m buffer / cordon placed around nest. • Minimise disturbance to the area concerned until approval is obtained from the Project Manager.

3.0 RESPONSIBILITY

This ECEMP will be distributed to the project team, including sub-contractors, to ensure that the environmental requirements are communicated effectively. **Table 5** below describes the different roles and associated responsibilities throughout the construction period.

Table 5. Key roles and responsibility.

Role	Appointment by	Responsibilities
Project Manager	Developer	- Responsible for ensuring all developers comply with environmental legislation - Overall responsibility for the implementation of this ECEMP
Site Manager	Developer	- Prepare CMS taking into account compliance of this ECEMP - Review implementation of ECEMP - Carry out weekly site audits and prepare monthly reports - Ensure corrective actions are dealt with in a timely manner
Site Management Team	Developer – Site Specific Management Team	- Responsible for delivering the site inductions of environmental aspects - Tool box talks to all contractors to ensure implementation of good practice - Assist Site Manager in weekly site audits - Monitor sub-contractors work for compliance - Manage Considerate Constructors Scheme compliance
Principal Contractor	Developer	- Assist Site Manager in preparation of the CMS - Prepare site specific Risk Assessments and Method Statements considering all environmental issues
Contractor/Sub-Contractors	Developer, Principal Contractor or Contractor	- Ensure workforce is fully aware of the environment issues and are implemented - Take appropriate action to rectify any non-conformance

Community Liaison Officer	Developer	Responsible for public liaison and handling complaints
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3.1 Training Awareness and Competence

Site staff shall be competent to perform tasks that have the potential to cause a significant ecological impact. Competence is defined in terms of appropriate education, training and experience. Ecological awareness and training shall be achieved by:

- Site induction, including a talk given by the ECoW, during which information on best practice guidance for reducing the impacts of noise, air pollution and appropriate storage of hazardous substances.
- The locality of Designated Sites and the adjacent 'primary support habitat', their associated protection and importance will be highlighted.
- Information on protected species will be given including field signs to look out for during construction work.
- Environmental posters and site notices will be erected around the site.

Training will be recorded in the Project records by each Developer.

3.2 Communication

During the construction phase, internal communication will include regular progress meetings, which should cover training undertaken, progress reports, inspections, audits and non-conformance and objective / target achievement, including reporting on environmental performance along with other forms of communication (**Table 6**).

External communication, including site visits by the ECoW, and liaison with statutory authorities will be overseen by the Project Manager.

Table 6. Communication throughout construction.

Means	Frequency	Purpose/Action	Responsible Party
Site environmental log book	Continually	Written record of what has been observed and done related to environmental issues, including implementation status of mitigation measures.	Project environmental officer
Site meeting	Monthly	Face-to-face communications between construction and client.	Project environmental officer
Environmental briefing / training session	Quarterly	Briefing or Training on environmental issues to key site staff and staff of subcontractors.	Project environmental officer
Environmental complaint log	When necessary	To handle and respond environmental complaints.	Project environmental officer

3.3 Line of Communication Regarding Ecological Issues

Prior to works getting underway, all staff will be aware of the ecological features and associated issues on site. They will be conscious of the impacts of their actions not only on site, but also the locality of nationally designated site and associated habitats. They will also be mindful during works of field signs of protected species and finally of the steps to take in the eventuality that an ecological situation arises. Therefore, as soon as an issue is uncovered/advise is needed, the Project Manager will be consulted. They will then contact the ECoW who will visit the site and advise accordingly.

4.0 BARRIERS OF PROTECTION

4.1 Boundary Fencing

The site boundary will be fenced as necessary for security, to prevent windblown litter or waste from polluting the wider environment and to exclude species such as Badgers that may be trapped or harmed in excavations or around plant or materials.

4.2 Protective Fences

Trees will be protected in accordance with BS5837 2012 - 'Trees in relation to design, demolition and construction - Recommendations'. The fencing will be established prior to the start of the construction works. The fencing will be of sufficient durability to be in place for the duration of the works.

4.3 Information Signs

Information signs will be attached along the fences so that workers are reminded of the importance of the adjacent 'primary support habitat'.

5.0 LOCATION AND TIMING OF SENSITIVE WORKS

The first action to take place will be the supplementary planting of the northern hedgerow to act as a visual barrier between the construction site and the 'primary support habitat', mitigating against the potential impacts of visual disturbance during this stage on waders using the habitat. The hedgerow will be planted prior to the commencement of works and will have protective fencing to prevent damage to the hedgerow during the construction phase of the development. It is recommended planting should take place during April to both make the most of growing season over the summer and ensure the whips have grown enough to act as an effective barrier for wintering birds using the adjacent site later in the year. A fence is already present on site that can be incorporated as part of the barrier.

At this point, construction activities can commence, however, to conform to recommendations for reducing noise impacts on nearby SPA supporting habitats, it is recommended that excavation and construction works take place between late March and early September, when wintering waders are generally absent from the area. If this cannot be complied with, the noise reduction guidance detailed in section 2.5 should be followed to reduce the level of construction noise to below the recommended 69dbAmax (Natural England, 2019).

During the construction stage of the development, once the site induction by the ECoW has been completed, it is not considered necessary for the ECoW to be on site continuously. All workers will be aware of their responsibility to protect ecological features on site and in the surrounding area and the Project Manager will have the contact details of the ECoW so that in the eventuality that additional advice is needed, they can contact them swiftly (as described in section 3.3). Whilst on site the ECoW can advise with positioning of bat bricks as described in the IEA (Ecosupport, 2018).

6.0 REFERENCES

BSI Standards Publication (2012) Trees in Relation to Design, Demolition and Construction - Recommendations

Ecosupport Ltd (2018) Manor Nursery Initial Ecological Appraisal

Ecosupport (2019) Biodiversity Mitigation and Enhancement Plan

Havant Borough Council (2017) Habitats Regulations Assessment Draft Screening Statement

Natural England (2018) Further Information Required to Determine Impact on SPA Functional Land- Comment on planning application

Urban Edge (2017) Habitats Regulations Assessment for the Fareham Borough Local Plan 2036