CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Bordesley Hall, Rowney Green, Alvechurch

DECEMBER 1, 2024

WAIN HOMES SEVERN VALLEY

Version 1

Contents:

Appendices:

1. Introduction

Document Objectives

1.1 This document aims to highlight specific environmental issues associated with the Bordesley Hall development that needs to be considered during the management of the construction phase. It outlines a series of strategies, standards, best practice techniques and procedures that should be observed throughout the construction process, in order to ensure minimal disruption and nuisance from the construction activities, to both local communities and the environment.

1.2 This document considers the environmental impacts that could arise during the construction of the proposed development and outlines the principals to manage site operations that have the potential to impact on environmental related issues (i.e. traffic, noise, dust, etc).

1.3 This document does not set out specific requirements for licences, permits/consents and monitoring regimes, and it is expected that the Contractor will be aware of and fulfil their obligations in this respect under the various environmental legislation and regulations.

1.4 This document has been produced to satisfy hybrid planning permission (21/00684/HYB) condition 18 which seeks the following detail:

I. The parking of vehicles of site operatives and visitors **(Section 5/ Appendix B)**

II. Loading and unloading of plant and materials (including times) **(Sections 5 & 6)**

III. Storage of plant and materials used in constructing the development **(Sections 5 & 6)**

IV. Measures to control the deposition of mud onto the local road network. **(Section 5)**

V. Measures to control the emission of dust and dirt during construction **(Section 7)**

VI. Measures to control noise and vibration during construction **(Section 7)**

VII. Details of any temporary construction accesses and their reinstatement. **(N/A – see Section 5)**

VIII. Details of any changes to construction vehicle routing and site management following the Weights Lane connection to the site being made. **(N/A – see Section 5)**

IX. A highway condition survey, timescale for re-inspections, and details of any reinstatement. **(Section 5)**

X. Locations and measures to control the emissions where in situ bioremediation or soil washing takes place. **(Section 7)**

XI. Hours of operation and working **(Sections 5 & 6)**

XII. The timing of the works **(Sections 5 & 6 and Appendix B)**

XIII. The measures to be used during the development in order to minimise environmental impact of the works, considering both potential disturbance and pollution **(Section 7)**

XIV. Any necessary pollution protection methods **(Section 7)**

XV. Information on the persons/bodies responsible for particular activities associated with the method statement that demonstrates they are qualified for the activity they are undertaking **(throughout as applicable to topic).**

1.5 It has been approved that the development will be accessed via the existing access on to 'The Holloway'.

Construction Activities

1.6 The residential units at the site will be constructed from concrete / masonry / timber and normal construction materials. Other construction activities comprise the provision of utilities and services, hard landscaping, car parking and the formation of streets.

1.7 Site compound, material storage, car parking and welfare facilities will be erected on the site for its duration of the construction phase.

Sustainability

1.8 It is proposed that sustainable principles of construction are followed during the work on site. This would involve;

- Encouraging the sustainable use of material in construction;
- Promoting the use of renewable resources; and
- Reducing emission of greenhouse gases.

1.9 Measures that could be adopted to encourage sustainable construction would include;

- Giving preference to the use of locally sourced materials;
- Use of recycled materials and aggregates, particularly in the construction of roads, footpaths, cycleways and hard landscaping;
- Sources timber used in construction from sustainable sources, which included verifiably sustainably managed forests (sources registered with the Forest Stewardship Council, Pan European Forest Certification or the UK Woodland Assurance Scheme); and
- Providing environmental awareness training for staff involved in construction.

2. Existing Conditions

Site and Surrounds

2.1 The site is located at Bordesley Hall, a former manor and more recently employment site to the south of Rowney Green. The site forms previously developed land with the former modern employment buildings demolished with the original residential building remaining in the centre of the site.

Ecology

2.2 An Ecology Update has been undertaken by FPCR to support the planning application. The Site currently retains the identified habitats of ecological value. With the exception of badger, no additional mitigation works are recommended over and above those identified previously.

2.3 Measures to prevent harm to protected and notable species, including badger, are detailed within the CEcMP produced for the Site. The CEcMP by FPCR (submitted with the planning application and to discharge condition13) should be read for further details regarding the findings of the reports, recommendations and conclusions having been approved through the planning process.

Trees

2.4 Tree cover is found around all boundaries of the site in the form of established woodland and linear tree belts. A number of individual trees have been retained within the garden area of the former hall building. There are four veteran trees located across the site. Protection measures during construction will be carried out in accordance with condition 12 which refers to the recommendations of the Arboricultural Impact Assessment originally provided by Ruskins Tree Consultancy with the Hyrbrid application. An updated assessment has been provided by FPCR in 2024 which takes account of a more recent assessment of trees on site.

Surface Water

2.5 Wainhomes have commissioned CLFA to produce a Surface Water Drainage Strategy for the site, this includes calculations to ensure the application site is compliant with the established standards.

2.6 Surface water will free discharge and connect via gravity into existing natural waterways. An attenuation pond will be constructed in the south east corner of the site and will discharge to an existing ditch.

Access and Traffic

2.7 The development will be accessed via the existing access off the Holloway. Pedestrian and cycle connectivity will also be via this access but managed with safety gates during construction.

Geotechnical Investigation Report

2.8 A Ground Investigation/ Remediation Report was provided by T&P Regeneration LTD in December 2024. Previous reports were carried out by M-EC and G&J in 2021 and 2023 respectively. The reports find that the ground is made up of reworked natural soils with occasional man made inclusions such as brick. A remediation strategy to deal with potential contaminants is to be agreed in accordance with condition 19.

3. Management Strategy

Roles and Responsibilities

3.1 The key member of personnel with respect to the implementation of the CEMP is the Site Manager. The Site Manager's activities with respect to the CEMP and its objectives will be overlooked by the Contracts Manager who will in turn be overseen by the Developer's Construction Director. Similarly, if construction contracts for various elements of the works are to be let to other sub-contractors, then the obligations would be included in each respective agreement with the Developer.

Contracts Manager

3.2 It is anticipated that the Contracts Manager will monitor the Site Manager's compliance with the CEMP and advise the Construction Director on any environmental issues that arise during the overall construction period.

3.3 The Contracts Manager's role with respect to the CEMP would be likely to include the following tasks:

- Review and comment on the Site Manager's delivery of the CEMP and the associated environmental management strategies.
- Oversee the agreed programme of environmental monitoring relevant to each construction activity;
- Participate in site review meetings as required;
- Contribute to communication on environmental matters between the project stakeholders and any relevant statutory bodies;
- Carry out site environmental inspections and audits, as necessary, to review compliance with the CEMP;
- Monitor implementation of any corrective action required by the Site Manager and communicate issues to the wider project team as necessary;
- Monitor the management of environmental complaints;
- Monitor the appointed Site Manager's site activities to ensure that all relevant environmental legal consents, licences and exemptions are in place in advance of relevant works commencing, and that the requirements are adhered to; and
- Co-ordinate the Environmental Management Plan review process.

Site Manager

3.4 The Site Manager will be responsible for ensuring the construction activities comply with the requirements of the CEMP and for coordinating and managing the environmental obligations

on a day to day basis. The Site Manager will ensure that appropriate resources are available, and any necessary environmental controls or mitigation measures are implemented as required.

3.5 With respect to the CEMP, the Site Manager's role would be likely to include the following tasks:

- Manage the requirements of the CEMP and the associated environmental management strategies during work on site;
- Periodically review and as necessary update arrangements for delivering the CEMP;
- Act as main point of contact in relation to environmental issues and liaison officer with the Environment Agency and other relevant statutory bodies;
- Provide environmental awareness training, including an induction for all site workers to support the CEMP implementation;
- Monitor the environmental performance of sub-contractors and provide direction as necessary;
- Ensure full co-operation with the site environmental inspection and audit programme;
- Ensure that all environmental incidents and complaints are investigated, recorded and reported to the Contracts manager;
- Ensure that any required corrective and preventative actions are taken in line with the relevant procedures; and
- Keep records to demonstrate implementation of the CEMP.

Staff and Sub Contractors

3.6 Although the Developer will lead on the implementation of the CEMP, all persons working on site should take a proactive approach to environmental matters. This positive behaviour would be encouraged through the site induction process which should aim to ensure that all staff:

- Work to agreed plans, methods and procedures to limit environmental impacts;
- Understand the importance of avoiding pollution on-site, including noise and dust, and how to respond in the event of an incident to avoid or limit environmental impact;
- Report all incidents immediately to their line manager to escalate to the Site Manager where appropriate;
- Be aware of any specific ecology and archaeology activities which need to be undertaken;
- Monitor the work place for potential environmental risks and alert the immediate line manager if any are observed; and
- Co-operate, as required, with site inspections and audits.

Monitoring, Continual Improvement and Review

3.7 The Site Manager would hold the responsibility of maintaining a register of all environmental monitoring associated with the project, which should be made available for auditing and inspection by the Contracts Manager and any relevant statutory bodies as required. It is proposed that monthly reports are submitted by the Site Manager to provide evidence of the monitoring undertaken.

3.8 The Site Manager would also be responsible for providing feedback to the Contracts Manager on the environmental performance of the project.

3.9 The CEMP should be reviewed jointly by the Contracts Manager and Site Manager during the life of the project to ensure that it remains suitable to facilitate efficient and effective delivery of the project environmental commitments. Any proposed changes to the CEMP would be submitted to the Local Authority for approval in enough time to allow review, comment and revision prior to the relevant construction activity commencing.

3.10 The environmental review would consider past performance from inspections, audit reports and monitoring data to plan actions required to mitigate forthcoming risks and disseminate best practice.

Environmental Complaints and Incidents

3.11 All complaints and incidents relating to environmental matters should be recorded and responded to in a timely manner. These would be reported to the Site Manager in the first instance, who would manage this process and notify the Contracts Manager and any relevant statutory bodies as necessary.

3.12 As described above, the Site Manager would then ensure that any required corrective and preventative actions are taken in line with the relevant procedures.

Public and Community Relations

3.13 There should be regular and proactive liaison with the Local Authority and other relevant third parties on environmental issues throughout the project implementation. This would serve to ensure that the relevant bodies are aware of when any sensitive construction activities are to take place, as well as demonstrating that the environmental management of the works is effective.

Customer / Local Resident Communications

3.14 Local residents and/or customers should contact the customer care team on customercaresv@wainhomes.net with any site related queries or concerns they have. The customer care team will endeavour to respond within 3-5 working days but this will be dependent on the gravity of the concern.

3.15 The site manager will also be available to handle any immediate concerns and to liaise with the public when necessary.

3.16 Local residents and customers will be formally notified in writing for any site operations that may impact their day to day activities.

4. Development Activities

Introduction

4.1 The project involves the construction of 43 new dwellings. This is to be done on previously developed land surrounding Bordesley Hall. The works will include installation of services as well as a street network, drainage infrastructure and landscaping. The landscaping will include an tree lined streets and woodland planting to integrate with the existing woodland around the periphery of the site.

Site Activities

4.2 It is anticipated that there will be a peak in construction activity at the beginning of the development, whilst infrastructure works are being carried out, and materials for the start of the build arrive on site. It is at this time, therefore, that the peak generation of associated vehicle movements is expected to be experienced. This will comprise construction plant, construction of temporary haulage road, delivery of construction materials, collection of construction waste and journey to work movements for site staff.

4.3 All site deliveries will be made to the site compound. The existing access road will be utilised providing a stable route for construction traffic to the compound. All traffic will be diverted away from nearby settlements.

4.4 Plant and materials will be stored in the site compound before being transferred to the relevant development parcels as required. During muck shift operations wheel washing facilities be provided on. Contractor's parking area will be provided within the site adjacent to the site compound.

5. Construction Traffic Management

Types of Construction Traffic

5.1 During the construction phase of the development, traffic will be generated by delivery/collection vehicles and journey to work trips associated with the workforce.

5.2 Transportation of large construction plant will take place by HGV low loader type vehicles and would only be required on an infrequent basis, most notably at the beginning and end of the construction phase as site operations are wound up/down.

5.3 Delivery vehicles will transport various materials to/from the site depending on the progress of the project. During the early construction stages, most materials will be ordered in bulk and will be delivered to site as and when required by rigid class vehicles. This would include concrete wagons that will complete regular deliveries of materials to site from batching plants in the local area on days when large concrete pours are taking place. Bricks/blocks for internal and external walls and roofing materials will also generate delivery trips during the early construction phase.

5.4 During the latter stages of construction it is expected that the supply of most of the materials required for the fit-out of the units, such as M&E, sanitary ware, decoration etc, could be sourced from local businesses and merchants which will assist in mitigating the volumes of new trips on the wider road network, as well as contributing to the local economy. It is expected that the majority of these deliveries would be made by van or LGV which are not considered to present an impact of greater significance on the road network than a typical private car.

5.5 It is not considered that the proposals for the development present the potential for any unusual construction activities, and the quantity and frequency of associated trips are not expected to be significantly different from those associated with construction sites of a similar size.

5.6 It is proposed that the construction access is from the existing access off "The Holloway" then directly to/ from the A441 via Redditch Road (see Appendix A), therefore avoiding any construction traffic through nearby settlements of Rowney Green and Alvechurch.

Routes to Site

5.7 Construction access to site will be via the A441/ Redditch Road roundabout as indicated at Appendix A. This route was agreed during the demolition works of the site. The proposed development will include additional Wain Homes signage applicable to the subject site and deliveries and construction vehicles will be ordered to follow the construction route in Appendix A, avoiding unsuitable roads and also avoiding peak times.

5.8 During the early stages of construction, the majority of materials required, such as bricks/blocks for the main structures, are normally fabricated off-site and delivered in large sections. It is expected that such materials would be sourced from factories both within and outside of the region, and therefore this stage of construction would generate several trips on the wider road network by rigid vehicles.

5.9 An off-site signing strategy will be implemented to guide construction traffic and staff to the development site. Signs will be placed at appropriate locations and directions given to drivers prior to deliveries, to promote the described routes with the cooperation of the Highways Authority.

5.10 Deliveries will be restricted so that they normally take place between the hours:

- Monday to Friday 09:00 – 15:00 & 16:00 - 18:00 (to avoid school drop off / pick up)
- Saturday 08:00 – 13:00

5.11 Deliveries will be coordinated to avoid peak traffic times where possible to minimise disruption to the local area.

5.12 In the unlikely event that any deliveries arrive earlier than their allotted times or prior to works commencing at 07:30, vehicles will be brought on site and engines turned off until site operations begin.

5.13 The main access routes to and from the site will be signed (as noted earlier in this chapter) with all contractors and suppliers to the site being advised of the routes and appropriated times.

Pedestrian and Road Safety

5.14 There will be designated pedestrian walkways which will be physically segregated from the road using traffic barriers and clearly signposted.

5.15 Pedestrians will cross the roads at designated pedestrian crossing points. The walkways will be regularly checked and maintained as necessary, to ensure they provide safe access and egress at all times.

5.16 The safety of the public and the contractor's work force is paramount, therefore temporary road closures will be sought if there is a health and safety risk to either the public or the work force on the public highway.

5.17 The Site Manager will be responsible for ensuring all construction and delivery vehicles to and from the site are managed efficiently and reduce nuisance or unnecessary disruption to the operation of the existing highway network.

5.18 Parking for contractors' vehicles deemed essential will be provided within the site boundary.

5.19 Any member of the contractor's work force not requiring a vehicle on site will be encouraged to arrive by sustainable modes (see details below).

5.20 The Site Manager will ensure that the public highway in the locality of site is kept clear of mud and debris throughout the construction process.

5.21 During muck shifts loads are to be suitably sheeted and secured before leaving site. The use of a proprietary drive over dry ramp wheel wash system (ecoramp or similar) will also be utilised to ensure mud and debris is removed from vehicles before they leave site. Secondary to this, when required a mechanical road sweeper will be used to remove any mud and debris that does find its way onto surrounding highways during muck shifts and all construction works.

5.22 The site manager is to monitor closely the condition of adjacent highways and footways and adjust the above methodology to suit site conditions and weather, ensuring surrounding highways are kept clean at all times. There will be daily inspections of roads and footways and where mud and debris is present it will be cleared immediately.

Construction Staff Trips

5.23 It is assumed that trips between 07:00-08:00 and 16:00-17:00 are construction staff travelling to and from the site. It is also assumed that the rest of the construction staff would travel to the site by a number of different modes, as well as some staff sharing lifts or being dropped off and picked up.

5.24 This strategy will include a transport briefing for construction employees during the site induction at the beginning of work on site.

5.25 One travel pattern characteristic associated with the construction industry is the practice of journeys to work being made as a "gang" with pickups made by minibus or van through the local area where the workforce is resident. This is a common occurrence for teams of manual workers such as bricklayers, carpenters, or parties of casual labourers that are transported to/from the site.

6. Site Operations

Working Hours

6.1 The normal working hours at the development site for all construction activities will be restricted to the following:

• Monday to Friday 07:30 – 18:00
• Saturday 08:00 – 13:00

Noise generating activities shall not occur outside of the following hours:

- Mon - Fri 08:00-18:00
- Sat 08:00 -13:00

6.2 The site will be closed on Sundays and Bank Holidays.

6.3 Additionally, HGV deliveries/movements will be restricted so that they do not take place between the hours of 08:00 to 09:00 and 15:00 to 16:00 to avoid school traffic peaks during term-times.

Security

6.4 The responsibility for devising, implementing and managing security arrangements at the site will rest with the Site Manager. However, it is envisaged that the regime is likely to include the following:

• Fencing to be provided around site compound; with lockable access gate.
• Fencing to be provided around active build areas; with lockable access gate.
• Fencing to be checked at the beginning and end of the working day to ensure it remains intact;
• Faulty/damaged areas of fencing to be replaced as soon as possible;
• Public information board to be attached to security fence providing out of hours contact details so that any breaches of security can be reported; and
• “Construction Site” and “Keep Out” signing to be provided in prominent locations.

Storage and Transit of Plant and Materials

6.5 Materials used in the construction process such as oil, chemicals, cement, lime, cleaning materials and paint have the potential to cause serious pollution, the impact of which would be exacerbated if a pollutant is discharged into a watercourse. The Environment Agency Pollution Prevention Guidance that covers the storage and use of such materials should be followed at all times.

6.6 A bunded storage area would be located on the site for the duration of the construction period for the storage of oils, fuels, chemical and other hazardous construction materials. The base and bund walls should be impermeable to the material stored and be of adequate capacity. For those materials stored outside the bunded area, spill palettes should be used.

6.7 Spill kits should be located in storage areas along with clear written procedures on how to address a spillage if it occurs.

6.8 Information on pollution control measures will be included in the site induction talks for all works on site.

6.9 Leaking or empty oil drums should be removed from the site immediately and disposed of via a licensed waste disposal contractor.

6.10 It is proposed that the main construction compound would have a gravel/hardcore surface for its parking, vehicle maintenance and fuel storage areas.

6.11 Plant and equipment would be stored in areas that are less susceptible to a potential pollution incident, or on dedicated hard standings.

6.12 Plant should be refuelled in the construction compound on an impermeable surface and away from any drains or watercourses. A spill kit should be available in the event of an accident and would be kept in the refuelling area.

6.13 Storage containers should be clearly marked on tanks and a notice displayed requiring that valves and trigger guns are locked when not in use.

6.14 Reasonable measures should be taken to ensure storage areas and containers are protected against vandalism and unauthorised interference, and all containers should be turned off and security locked when not in use.

6.15 All topsoil and subsoil should be handled and stored carefully in accordance with the relevant standards to minimise the potential for damage to the soil structure. The Site Manager should produce appropriate method statements clearly identifying correct stripping, soil handling, storage, placement and programming requirements to avoid compaction and moving the material in unsuitable weather conditions. This would be reviewed by the Contracts Manager.

6.16 Open top vehicles would also be sheeted when travelling on the public highway. The use of road sweepers would be implemented if required.

6.17 All deliveries to site should be supervised by a responsible person. Storage tank levels would be checked before delivery to prevent overfilling and ensure that the produce is delivered to the correct tank.

7. Other Environmental Control Measures

Ecology

7.1 The Construction Ecological Management Plan provides details of all mitigation required at the site in terms of habitats and species. This includes consideration of habitats, mammals, invertebrates, birds and reptiles.

7.2 Specific mitigation measures at the site to be considered during the construction phase include *inter alia*:

- Implementation of biodiversity protection zones with protective fencing with no artificial lighting directed towards the protection zones.
- Ecological clerk of works providing tool box talks.
- Any trenches left overnight, covered or provided with ramps.
- Any vegetation clearance of potential bird nesting habitat to occur outside of bird nesting period (March to August inclusive).

Trees

7.3 Tree Protection Measures are included in the Arboricultural Impact Assessment by FPCR. Tree removal is to be carried out in accordance with the recommendations made by FPCR and outside of bird nesting season.

7.4 Retained trees are to be protected during construction. Tree Protection Fencing will be installed as detailed in the Tree Protection Plans. Fencing should be installed using the specified dimensions in the Tree Protection Plan. The positioning of the Tree Protective Fencing shall be measured out with assistance from the Arboricultural Clerk of Works and, where deemed necessary, with the Site Manager present.

7.5 Veteran trees are to be afforded a greater protection buffer zone calculated in accordance with the guidelines detailed within Ancient and other Veteran Trees: Further Guidance on Management (Lonsdale, D (ed.) (2013) as summarised in the AIA, this buffer zone is defined as a distance equal to 15 times the trees stem diameter, or five metres beyond the canopy, whichever is the greater.

Invasive Plant Species

7.6 Guidance on the prevention of invasive plants spreading is published online jointly by Natural England, the Department for Environment, Food & Rural Affairs and the Environment Agency.

7.7 Schedule 9 of the Wildlife and Countryside Act (1981) identifies those species of invasive plants for which there is a recognised need to control. This includes but is not limited to:

- Japanese knotweed
- Giant hogweed
- Himalayan balsam
- Rhododendron ponticum
- New Zealand pigmyweed

7.8 It is a criminal offence to plant or cause to grow a non-native invasive species that is listed on Schedule 9. This can include moving contaminated soil or plant cuttings.

7.9 It is anticipated that any potential infestation of an invasive species will be identified through the Phase1/2 ecology surveys at the planning stage. However, if a suspected infestation is identified during the construction phase the developer will obtain specialist advice from a suitably qualified ecologist to provide on-site investigations and an appropriate mitigation/management strategy. This may include chemical treatment or disposal off-site. Burning and burying of affected plants will not be undertaken.

7.10 Spraying with approved chemicals (known as 'herbicides') is suggested by the EA as an effective treatment to stop invasive plants from spreading. If such an approach is recommended by a qualified ecologist, the developer shall:
• make sure anyone spraying holds a certificate of competence for herbicide use or works under direct supervision of a certificate holder
• carry out a Control of Substances Hazardous to Health (COSHH) assessment
• obtain permission from Natural England if the area is protected, e.g. sites of special scientific interest
• obtain permission from the EA if the plants are near water

7.11 For large scale infestations the services of a contractor with the appropriate Certificate of Competence in the application of herbicides shall be appointed for situations where professional pesticides are permitted to be used under regulations made under the Food and Environment Act 1985. Certain chemicals may require an environmental permit, registered waste exemption or trade effluent consent prior to disposal. All chemicals shall be disposed of using a registered waste carrier to a permitted waste disposal facility.

7.12 Soil or plant material contaminated with invasive plants can cause ecological damage and may be classified as controlled waste. Japanese knotweed is regarded as 'controlled waste' under the Environmental Protection Act (Duty of Care) Regulations and will only be disposed of in registered land-fill sites. Any cases of infestation of Japanese Knotweed will be reported to the forum. A registered waste carrier and an authorised landfill site or suitable disposal site will be used for the disposal of any affected material off-site.

7.13 Reference should be made to the online national guidance on invasive plant species for further information, and specialist advice should be sought from a suitably qualified ecologist to identify any suspected infestations and confirm appropriate mitigation strategies.

Construction Stage Drainage

7.14 The surface water drainage strategy for the residential development will comprise a network of Adoptable and private underground pipework.

7.15 During construction and prior to the completion of the drainage systems and surfacing the rainfall will naturally percolate or run off the site as it does at the moment. To prevent silt laden run-off from leaving the site during the construction stage all gullies will have silt protection.

Lighting

7.16 During winter months when the hours of daylight are shorter, special care should be taken to ensure that light pollution produced by the works do not impact on local residents or ecological habitat.

7.17 Flood lighting large areas of the construction site should be avoided wherever possible and construction activities should be programmed around daylight hours. Although a degree of artificial lighting will be required in order to ensure the safety and security of those working on site, this should be switched off at the end of the working day when no longer required.

7.18 Other best practice measures that could be employed to reduce the impact of site lighting include:

- Minimise glare caused by poorly directed security and flood lighting by positioning lights to <70 degrees and directed away from the boundary of any operational construction area. The installation of ballasts or shields on these lights could be used where appropriate;
- Minimise light spill by avoiding poorly sighted lights on the boundary of the development;
- Minimise sky glow by use of modern flood lights with appropriate shields to avoid light spilling upwards; and
- All temporary lighting should be installed and operated in accordance with the "Institution of Lighting Engineers" guidance where applicable.

Noise

7.19 Practices to minimise site noise should be adopted to eliminate the potential for nuisance to local residents and wildlife. The Site Manager would be responsible for ensuring the construction activities comply with the agreed noise levels and review the method statements for each activity to ensure that best practice is employed. This could include the following measures:

- Completion of deliveries and operations within the hours of site operation as outlined in the Delivery Management Procedure.
- Training of all scaffolding personnel on the importance of handling the scaffolding to maintain minimum noise levels;
- Prohibition of delivery or removal lorries from waiting within the site with their engines running;
- Introduction of controls on the sequencing of works and noise protection on an activity by activity basis. Examples could include the positioning of static plant away from properties and the turning off of mobile plant, when not in use;
- Early completion of any site hoardings as early as practical in the construction programme;
- Avoidance of the use of percussive plant where alternative non-percussive plant is available for a given task. Compressors used should be sound reduced models fitted with proprietary acoustic enclosures. All pneumatic tools should be fitted with silences or mufflers. All plant should be properly and regularly maintained and sited as far from sensitive receptors as possible to help to minimise noise;
- Restriction of the use of radios, other sound systems or tannoys on site; and
- Minimisation of cutting operations or other noisy tasks through off-site fabrication wherever practicable. Localised shielding of noisy operations could be required where there may be a risk of exceeding sound levels at the agreed monitoring points.

Smoke Dust and Particles

7.20 During the construction phase of the development, there will be various site clearance and construction activities undertaken that have the potential to generate dust and particulate matter, for example:

- Haulage routes, vehicles and construction traffic;
- Materials handling, storage, stockpiling, spillage and disposal;
- Site preparation and restoration after completion;
- Construction and fabrication processes; and
- Internal and external finishing and refurbishment.

7.21 In addition to potential health implications for any residents living close to the site, excessive dust levels could also impact on local wildlife.

7.22 Best practice would be employed for each construction process at the site to minimise nuisance and potential health implications. A number of mitigation methods could be implemented during construction as follows:

- Prohibition of burning of any materials anywhere on site;
- Use of dust-suppressed tools for all activities wherever possible;
- Covering of completed earthworks as soon as is practicable;
- Dampening of exposed soil and material stockpiles, if necessary using sprinklers and hoses, or planting if longer term exposure is envisaged;
- Locating of stockpiles of soils and materials as far as possible from sensitive receptors (i.e. residential properties), taking account of prevailing wind directions and seasonal variations in the prevailing wind;
- Minimise surface areas of stockpiles (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up;
- Storage of dusty materials away from site boundaries to minimise any wind dispersion;
- Positioning of wind-break netting around materials, stockpiles and vehicle loading/unloading areas, as well as exposed excavation and materials handling operations;
- Observation of wind speed and direction prior to conducting particle generating activities to determine the potential for dust nuisance to occur;
- Avoidance of particle generating activities during periods when wind direction and/or high wind speeds may carry particles into sensitive areas (i.e. residential properties);
- Any on-site cement and concrete batching to be undertaken in enclosed plant, with suitable water dowsing and wind shielding measures applied as appropriate;
- Enforcement of speed limits for vehicles on unmade surfaces to minimise dust entrainment and dispersion;
- Ensuring that all construction plant and equipment is maintained in good working order and not left running when not in use;
- Use of a wheel wash for vehicles leaving the site where appropriate to minimise the amount of mud and debris deposited on the roads.
- Regular inspection, and if necessary cleaning, of local highways and site boundaries to check for dust/mud deposits (and removal if necessary);
- Regular water spraying and sweeping of unpaved and paved roads to minimise dust and remove mud and debris; and
- Preparation of permanently surfaced site roads as early as possible during the development period.

8. Summary

8.1 This Construction Management Plan considers the environmental impacts that could arise during construction of the proposed development and outlines the principles to manage site operations with the view to minimising the risk posed to the environment through construction related activities at the Bordesley Hall site.

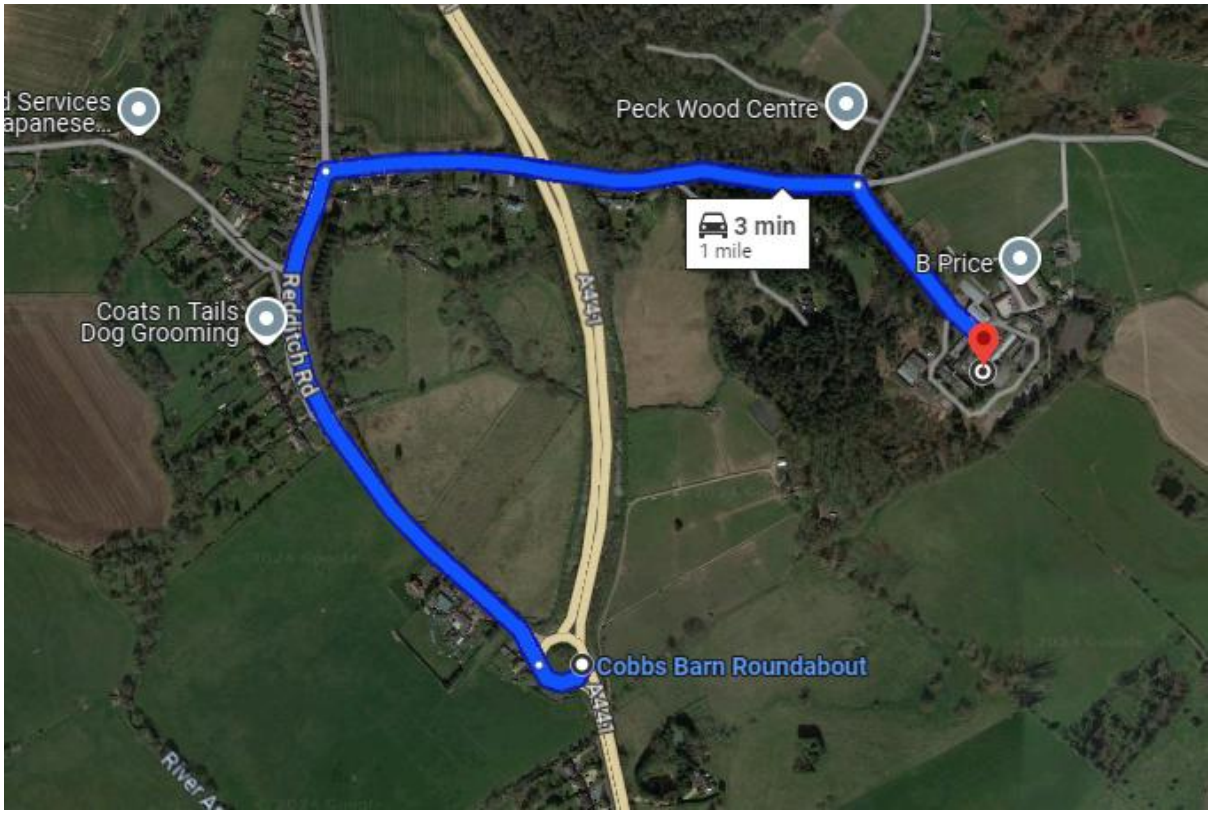
8.2 The document also sets out the roles and responsibilities of the Site Manager, Contracts Manager and Construction Director in order to implement the CEMP, as well as a strategy liaison with the Local Authority and other statutory bodies during the project.

8.3 Consideration of the types of construction related traffic likely to be generated by the proposed development and the routes available to/from site has been undertaken in detail. The Developer proposes that the main construction site access will be provided off The Holloway (the existing access), which will provide access to the development and the site compound for construction staff and deliveries.

8.4 Specific mitigation measures during construction to minimise the environmental impact are also proposed, including best practice construction techniques.

8.5 In order for the CEMP to be most effective, it is proposed that it is implemented on a site wide basis by all employees and subcontractors coordinated by the Site Manager.

Appendix A – Construction Route



Appendix B – Site Execution Plan