4. Development Specification

Introduction

4.1 This Chapter provides a description of the Proposed Scheme, including a description of how the Proposed Scheme would be constructed and its timescales. This description, together with the supporting spatial plans within the ES, form the basis for the technical assessments presented in **Technical Chapters 6 and 7**.

4.2 The Proposed Scheme is described as:

'Outline application for up to 170 dwellings (Use Class C3) with associated open space and vehicular access off Warwick Road, Banbury. All matters reserved except for access.'

4.3 All temporary and permanent works will take place within the Site boundary, as shown on **Figure 1.1: Site Location Plan**.

The Completed Project

Overview of the Proposed Scheme

4.4 The description of the completed project should be read in conjunction with **Figure 4.1: Parameter Plan**, and for illustrative purposes only, **Figure 4.2: Illustrative Landscape Strategy**.

Land Use and Quantum

4.5 The Proposed Scheme will apply for up to 170 residential dwellings (Use Class C3), developed at a net density of approximately 35 dwellings per hectare (dph).

4.6 A foul water pumping station, comprising a below-ground pump and above ground control cabinet, will also be located within Parcel A at its southern boundary. The pumping station will be set off from the proposed dwellings by a distance of 20m.

Layout

4.7 As defined on **Figure 4.1: Parameter Plan**, the proposed dwellings will be located entirely in Parcel A, within two Development Zones totalling an area of approximately 4.91ha. The two Development Zones will be split by the retained PRoW Footpath 191/6/30 and linked by approximately 0.04ha of Street Infrastructure, crossing the PRoW.

4.8 A total of approximately 7.1ha of Public Open Space will be spread across both Parcels A and B, inclusive of PRoW Footpath 191/6/30 and Gullicote Lane retained in their current alignments.

Building Heights

4.9 Dwellings will be up to 11.5m in height (above finished floor level (FFL)) (equivalent to a maximum of 2.5 storeys), as defined on **Figure 4.1: Parameter Plan**.

Operational Access and Circulation

Vehicular

4.10 Vehicular access to the Site will be via a new access point from Warwick Road (B4100) at the western Site boundary. The Proposed Scheme includes approximately 0.58ha of Highways Access Land to facilitate the construction of the new access, whilst the 0.04ha of Street Infrastructure mentioned above will link the two Development Zones.

Pedestrians and Cyclists

4.11 As above, Gullicote Lane and Footpath 191/6/30 in addition to Footpath 239/7/20 at the eastern Site boundary will be retained in their current alignments to provide pedestrian and cycle access.

Public Realm, Landscape and Biodiversity Strategy

4.12 The landscape and biodiversity strategy is underpinned by the retention and enhancement of a number of existing features and the creation of new features of landscape and biodiversity value, as defined on **Figure 4.1: Parameter Plan**, and displayed for illustrative purposes only on **Figure 4.2: Illustrative Landscape Strategy**:

- **Wildflower Meadow and Parkland** – Approximately 4.94ha of the Site will form a mix of wildflower meadow areas and parkland, spread across both Parcels. In Parcel A this habitat will wrap closely around the Development Zones/PRoW 191/6/30 and form the centre and southeast of Parcel B;

- **Woodland Planting** – The existing tree belt at the northern Site boundary will be enhanced across both Parcels, with the densest area of woodland created at the north-eastern corner of Parcel A. Approximately 1.33ha of woodland will also be created along the majority of the western Site boundary, with narrow gaps in planting located in line with the northern extent of the northern Development Zone and to allow for the proposed vehicular access point;

- **Informal Sports Provision** – Approximately 0.45ha of Parcel A to the northwest of the northern Development Zone will be converted to grassland for informal recreational use;

- **Attenuation Basins** – Approximately 0.23ha of the Site in the northeast of Parcel B will include the Sustainable Drainage System (SuDS) attenuation feature(s) for the Proposed Scheme (described further in the Surface Water Drainage Strategy below); and

- **Children and Youth Combined Natural Play Space** – Approximately 0.15ha of the Site will include two areas of play space. A larger area in the southwest of Parcel B will include either a Neighbourhood or Local Equipped Area for Play (NEAP or LEAP), whilst a small area between the two Development Zones and adjacent to Footpath 191/6/30 in Parcel A will include a Local Area for Play (LAP).

4.13 The 4.91ha area allocated for the two Development Zones will also include the Proposed Scheme's internal access roads, pavements and driveways.

4.14 To enhance the availability of bat roosting features, a range of new bat roosting features will be incorporated into new dwellings or installed on retained mature trees.

Lighting Strategy

4.15 Lighting will be installed at the Site access and along internal circulation routes.

4.16 All lighting installations will meet Institute of Lighting Professionals (ILP) Guidance Note for the Reduction of Obtrusive Light 2021[1] requirements and comply with the mitigation measures given in Guidance Note 08/18 Bats and Artificial lighting in the UK ILP 2018.

4.17 Obtrusive light will be avoided through appropriate lighting design in line with best practice, guidance and standards, including British Standard 5489-1:2020[2]. Measures to mitigate effects from obtrusive light include the selection of the correct type of luminaire, the use of shields, hoods, as well as the design and positioning of lights (e.g. power, orientation, and height of the luminaire).

4.18 Compliance with ILP's Guidance Note for the Reduction of Obtrusive Light 2021 will ensure that no more than 4 luminaries will undertake an Upward Flux Ratio, thereby minimising sky glow which may otherwise affect the Hanwell Community Observatory.

Community Safety

4.19 The Proposed Scheme will be informed by 'Secured by Design' principles and appropriate measures to enhance community safety.

Noise Mitigation

4.20 Suitable internal and external sound levels across the Proposed Scheme will be achieved with the adoption of primary mitigation measures. The highest glazing specification required to meet BS 8233:2014[3] guideline values within habitable rooms is 30dB $R_W + C_{tr}$; generally achieved with the installation of standard thermal double glazing.

4.21 No primary mitigation is required to achieve external amenity area limits required to remain within the BS 8233:2014 guideline value of $L_{Aeq,16hr}$ 55dB.

Surface Water Drainage Strategy

4.22 The surface water drainage strategy for the Proposed Scheme will be based on the drainage hierarchy set out in Paragraph 080 of the National Planning Policy Framework (NPPF) Planning practice guidance on Flood Risk and Coastal Change.

4.23 The surface water drainage strategy will aim to attenuate surface water runoff within the Site, followed by a discharge of attenuated runoff flows at pre-development greenfield runoff rates. The drainage strategy will seek to meet the surface water runoff peak flow and volume control criteria set out in the Non-statutory technical standards for Sustainable Drainage Systems.

4.24 To address paragraph 051 of the NPPF Planning Practice Guidance, the surface water drainage strategy will seek to make use of open SuDS (e.g. open basins and swales) to reduce the impacts of flooding, remove pollutants from runoff and green spaces with benefits for amenity, recreation and wildlife. From a water quality point of view,

strategy will follow SuDS Management Train approach described in the CIRIA C753: SuDS Manual, with flows being attenuated and treated within open SuDS.

4.25 A SuDS attenuation pond fed by drainage swales from dwellings will be located in the northeast of Parcel B. Rain gardens[a] will flank the primary access road and permeable paving will be used for secondary roads and driveways/parking areas within the Development Zones.

4.26 The design of the surface water drainage system which will take into account the 1 in 100 year storm event and required climate change allowances (40%), plus a 10% allowance for urban creep.

Foul Water Strategy

4.27 A new foul water sewer network will be constructed to serve the Proposed Scheme, with flows discharging to the existing Thames Water foul sewer located beneath Warwick Road (B4100).

4.28 Due to the levels of the Site and surrounding area along with the location of the proposed point of connection, a foul water pumping station will be constructed to the southern extent of Parcel A, from which the Development Zones are proposed to be set back by approximately 20m.

4.29 The Proposed Scheme will increase foul loadings from the Site, increasing the peak discharge rate to approximately 7.9 l/s, however capacity for these flows has been confirmed by Thames Water.

Radon Protection Strategy

4.30 The Site lies within a higher probability radon area.

4.31 Current Building Control Regulations will require radon protection measures (in accordance with BRE211[4]) to be installed. These will include the use of 1200 gauge polyethylene radon resistant Damp Proof Membrane/Damp Proof Course, with suspended floors (with sub-floor ventilation) or ground bearing floor slabs with a radon 'sump', continuous membrane across cavity walls, cavity tray in external walls and fully sealed service entries/exits.

Operational Waste Strategy

4.32 BS 5906:2005 Waste Management in Building – Code of Practice[5] identifies typical weekly arising from a number of project types. Given the outline nature of the Application, full details of the housing mix are not known, but a worst case assumption of the average number of bedrooms for the residential dwellings has been made at an average of 4 bedrooms to allow the calculations.

[a] Infiltration SuDS comprising shallow depressions with absorbent, free draining soil and vegetation that can withstand occasional inundation.

Table 4.1: Estimated Operational Waste

Proposed Use	Quantum	Project Type	Equation for Weekly Waste Arisings	Estimated Weekly Waste Generation (litres)
Residential	170 dwellings	Residential	number of dwellings × {(volume arising per bedroom [70 l] × average number of bedrooms) + 30}	52,700

4.33 As shown in **Table 4.1**, the waste generated weekly from the Proposed Scheme is estimated to be 52,700l (circa 52m^3), which would be roughly 2,740,400l (circa 2,740m^3) per annum.

4.34 It should be noted that this does not take account of any waste arising reused, recycled or diverted from landfill by another means. It is assumed that an Operational Waste Management Plan will be prepared in line with the Controlled Waste (England and Wales) Regulations 2012[6] and local guidance and will include measures to reduce waste and increase recycling.

4.35 Provisions for waste storage facilities and access for refuse collection will be included within the detailed design of the Proposed Scheme as part of a future reserved matters application and delivered in accordance with the requirements of CDC.

Sustainability Strategy

4.36 The Proposed Scheme is targeting a net gain in biodiversity utilising species/habitats known to be present in the local area and will make use of climate tolerant species. This is in accordance with The England Biodiversity Strategy[7] and Natural England's Climate Change Adaptation Manual[8] which provide guidance on promoting resilience to climate change through the use of climate tolerant species and through enhancing site biodiversity.

4.37 The Government's recent Future Building Standard consultation[9] commits to implementing a new national requirement for reducing overheating risk in new homes and other residential buildings such as hospitals, care homes and schools as part of the forthcoming Building Regulations Part L 2021 update. This requires all developers to meet the same overheating standard.

4.38 Given the earliest construction works are anticipated for 2024 and likely first occupation are anticipated for 2025, after these new national overheating requirements are due to come into force, it is anticipated that summertime overheating in all proposed dwellings will be suitably mitigated. In an event the Government do not implement these new national overheating requirements in time for any of the early dwellings to be delivered as part of the Proposed Scheme, an overheating assessment for these dwellings will be undertaken using recognised methodology and implementing measures to ensure suitable internal summertime conditions for occupants.

4.39 All proposed dwellings and their foundations will be designed in accordance with relevant industry guidance, including but not limited to CIRIA Report C572: Treated ground engineering properties and performance[10]; British Research Establishment document FB75: Building on Fill - Geotechnical Aspects[11]; British Standard 6031:2009: Code of Practice for Earthworks[12]; and Building Regulations Approved Document A - Structure[13] which covers building structure, their loading, potential ground movement and the possibility of disproportionate collapse. This provides assurance that change to seasonal temperatures or rainfall patterns that could affect ground conditions are mitigating through adherence to these Regulations.

Operational Hours

4.40 The residential use will be operational 24 hours/day and 365 days/year.

Opening Year

4.41 The Proposed Scheme will first be occupied in 2025 and be fully developed and operational in 2028.

Construction of the Proposed Scheme

Construction Programme

4.42 Site preparation and construction of the Proposed Scheme is anticipated to commence in 2024. As outlined above, it is anticipated that the Proposed Scheme will be fully operational in 2028, following a 4-year build period.

4.43 Construction works are anticipated to comprise the following key stages, broadly in chronological order:

- Site securement;
- Formation of construction access(s) and temporary construction compound (within the Site);
- Site preparation works, including clearance works, utilities diversions (where required), provision for retained features, etc.;
- Construction of the new vehicular access;
- Excavation, earthworks, levels and material management within the Site;
- Construction of dwellings with associated infrastructure; and
- Implementation of open space (including enhancement of PRoWs), proposed landscaping, lighting, internal and external finishing.

4.44 Where appropriate, these activities are discussed in further details below. Where assumptions have been made these have been clearly stated.

4.45 A commitment has been made to a number of environmental mitigation measures (as set out within **Table 4.4**) to be adopted throughout the construction stage, intended to be secured and managed through a Construction Environmental Management Plan (CEMP).

Site Securement, Clearance and Enabling Works

4.46 Site securement will be achieved through a combination of secure fencing, barriers and hoarding, depending on the exact requirements and proximity to specific works. In addition, the principal contractor will be responsible for the provision of construction staff at key interfaces if appropriate. The securement will occur at the outset of the enabling works.

4.47 No demolition is required.

Construction Compound

4.48 During construction, either a central compound and/or a number of satellite compounds will be required for the contractor and appointed subcontractors. The exact location of the construction compound(s) is unknown at this time, but it will be within the Site.

Site Working Hours and Days

4.49 Construction working hours will be 08:00 to 17:00 Monday to Friday; 08:00 to 12:30 Saturday; and it is anticipated that there will be no construction on Sundays or Bank Holidays. These will be captured in the CEMP, which will be secured by condition.

Construction Access, Traffic Volumes and Management

4.50 Primary access during the enabling and construction stage will occur from Gullicote Lane at the north-eastern Site boundary. Initial construction traffic is anticipated to utilise Main Street and then disseminate onto the wider road network via Warwick Road (B4100). Once created, the new vehicular access point from Warwick Road (B4100) at the western Site boundary will then be used during construction.

4.51 The volume of construction traffic will depend on the exact phasing of the Proposed Scheme in terms of the housing trajectory, but it is anticipated that this would not require any specific highway mitigation.

4.52 Where possible, the PRoW Footpath 191/6/30 crossing the Site will remain open when possible during construction, however this section may be temporarily closed or diverted (be subject to Order approval/s) when works are located in close proximity to it.

Cranes

4.53 It is anticipated that mobile cranes will be used during the construction of the Proposed Scheme, however it is not anticipated that static cranes will need to be used on-Site.

Remediation Strategy

4.54 The Phase 1[14] prepared for the Site has found that the Site is only likely to include agricultural made ground. In an event that significant contamination is identified, a programme of mitigation or remediation work will be carried out as part of the enabling works in line with a Remediation Strategy approved by the regulators. Any potential direct exposure risk to future users will be removed through the placement of clean cover systems to areas of garden and soft landscaping. Further information is provided below.

Earthworks, Levels and Material Management/Disposal

4.55 It is assumed that there will be a cut and fill balance and that this will be subject a Material Management Plan to ensure soil resources are maintained with the Site and are managed to avoid any deterioration in soil quality. To establish finished floor levels, ground levels at the Site are estimated to vary by +/-1m against existing ground levels.

4.56 Local excavation and trenching works will be required to install services, drainage runs and shallow foundations for structures.

Foundations Solutions

4.57 Shallow foundations are likely to be suitable however, following intrusive investigations and the detailed design process, should the proposed dwellings prove to be heavy-loading or the underlying soils deemed not suitable for supporting these loads, piled foundations will be required as a worst case scenario.

4.58 All proposed dwellings and their foundations will be designed in accordance with CIRIA Report C572: Treated ground engineering properties and performance[15]; British Research Establishment document FB75: Building on Fill - Geotechnical Aspects[16]; British Standard 6031:2009: Code of Practice for Earthworks[17]; and Building Regulations Approved Document A - Structure[18] which covers building structure, their loading, potential ground movement and the possibility of disproportionate collapse.

4.59 Basements are not proposed as part of the Proposed Scheme.

Temporary Drainage

4.60 A temporary drainage strategy will be implemented to manage surface water runoff volumes and quality during the construction stage. Temporary drainage strategies often incorporate attenuation features which will remain part of the operational surface water drainage system and takes advantage from any post-development attenuation SuDS without compromising the long-term operation of the SuDS features.

4.61 The temporary drainage strategy would be defined and managed as part of the CEMP and take account of industry best practice and guidance (i.e. C753 and BS 8582:2013 – Code of practice for surface water management for development sites).

4.62 In addition to managing surface water runoff generated within the Site and runoff from off-site overland flow routes, the temporary drainage strategy will also address any groundwater flooding issues arising from excavations. This will mostly include dewatering of excavations (if required) and providing adequate trench wall support, should the stability of soils be compromised.

Waste Management

4.63 It is assumed that a cut and fill balance of material is expected to be achieved on-Site, which will be subject to a Material Management Plan, secured by planning condition. In the event that material is required to be disposed of off-site, this will be transferred to another local site where there is a requirement for surplus materials.

4.64 General construction waste can occur from a number of sources during the construction phase, including over ordering of construction materials, accidental

damage of materials during transit / movement and more general construction waste (i.e. material off-cuts, packaging, etc.).

4.65 To understand likely general construction waste construction waste benchmarks have been established using professional judgement and are based on the good practice metrics for residential dwellings developed within the Home Quality Mark[19]. These have been used to determine an estimated waste arising from the Proposed Scheme.

Table 4.2: Estimated Volume of Construction Waste

Maximum Residential Floorspace (m^2)	Project Type	Waste Benchmark (Tonnes /100m^2 GFA)	Estimated Waste Generation (tonnes)
17,000[b]	Residential	10	1,700

Note: The benchmarks are based on standard construction operations in the UK

4.66 The values identified within **Table 4.2** do not take into account any forms of mitigation or adoption of best practice, which are discussed below.

4.67 There are a number of measures that will be adopted throughout the construction phase, which would help to minimise and reduce waste arisings. The appointed contractor will be responsible for the production of a Site Waste Management Plan (SWMP) will form part of a CEMP. The SWMP will include, as a minimum:

- Show adherence to waste provisions of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1991, setting out the principles and legal requirements relating to waste (including hazardous waste);
- Show adherence to BREEAM Wst 01 Construction Waste Management;
- Outline details of material and waste storage/handling on-site and procedures for the removal of waste off-site in line with appropriate licensed handling procedures, especially with respect to hazardous waste;
- Methods for the efficient management of materials, including the ability to source sustainable construction materials (where possible);
- Identify targets for the reduction of construction waste (where possible) and monitoring procedure for targets throughout the construction phase; and
- Outline further best practice measures to be adopted in order to achieve identified targets, taking account of the waste hierarchy of reduce, reuse, recycle, recovery and disposal.

[b] This has been calculated by assuming a typical average size unit of 100m^2 and multiplied by the number of units.

Plant and Equipment

4.68 The types of plant that are likely to be used during the works are identified in **Table 4.3** below.

Table 4.3: Likely Plant and Equipment Schedule

Plant and Equipment	Enabling Works	Earthworks and Infrastructure	Foundations and Substructure	Superstructure	Cladding and Facades	Fit Out	Public Realm and Landscaping
Tracked excavator	✓	✓	✓				✓
Cutting tools	✓	✓	✓	✓	✓	✓	✓
Hand-held tools	✓	✓	✓	✓	✓	✓	✓
HGVs / lorries	✓	✓	✓	✓	✓	✓	✓
Bulldozer	✓	✓					
Compaction plant	✓	✓	✓				✓
Wheeled breakers							
Tracked grab / claw							
Dumper truck	✓	✓	✓				
Generator			✓	✓	✓		
Water pump			✓	✓			
Concrete mixers and pumps			✓	✓			
Mobile crane				✓	✓		
Loader / fork lift truck			✓	✓	✓		
Mortar mixing		✓	✓	✓	✓		
Scaffolding				✓	✓		
Asphalt paving		✓					✓

Construction Environmental Management Commitments

4.69 A commitment has been made to a number of management practices during the construction phase. These will be secured by a Construction Environmental Management Plan (CEMP). A summary of these commitments which are integral to the description of the Proposed Scheme are provided in **Table 4.4**.

Table 4.4: Construction Environmental Management Commitments

Measure
1) General a) Site securement will be achieved through a combination of secure fencing, barriers and hoarding, depending on the exact requirements and proximity to specific works. In addition, the principal contractor will be responsible for the provision of construction staff at key interfaces if appropriate. b) During construction, either a central compound and/or a number of satellite compounds will be required for the contractor and appointed subcontractors. The exact location of the construction compound(s) is unknown at this time, but it will be within the Site. It is assumed that the principal contractor will identify the proposed compound locations within a Site Layout Plan as part of the CEMP. c) Phasing of development to reduce the prominence of construction works on the local skyline. d) Site security arrangements during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015. e) The CEMP will include a suitable location for stockpiles. f) Construction working hours will be 08:00 to 17:00 Mondays to Friday; 08:00 to 12:30 on Saturday. There will be no construction on Sundays, Public and Bank Holidays. Exceptions may arise, for example, when abnormal loads are delivered / offloaded or to conduct specialist activities (e.g. service diversions) and appropriate permissions will be sought from CDC should these circumstances arise.
2) Traffic Management a) A Construction Traffic Management Plan (CTMP) will be prepared by the principal contractor (when appointed) which will set out the proposed timing and routing of construction traffic and measures to enforce such routing (i.e. signage). b) The CTMP will include best practice measures where construction traffic is expected to be within proximity to pedestrian footways. c) The CTMP will be submitted as part of the CEMP to CDC for approval prior to any commencement on Site and be secured by an appropriately worded condition on any permission. d) Each construction working area will include clearly defined vehicular and pedestrian access to the construction working area, with separate entrances for each.
3) Noise a) Any compressors brought on to the Site will be silenced or sound reduced models will be fitted with acoustic enclosures. b) All pneumatic tools will be fitted with silencers or mufflers. c) Care will be taken when erecting or striking scaffolds to avoid impact noise

Measure
from banging steel. All operatives undertaking such activities will be instructed on the importance of handling the scaffolds to reduce noise to a minimum. d) Care will be taken when unloading vehicles to minimise noise. Delivery vehicles will be routed so as to minimise disturbance to local residents. Delivery vehicles will be prohibited from waiting within or in the vicinity of the Site with their engines running. e) All plant items will be properly maintained and operated according to manufacturers' recommendations in such a manner as to avoid causing excessive noise. All plant will be sited so that the noise impact at nearby noise sensitive properties is minimised. f) Piling and compaction plant and practices will be selected to ensure that vibration levels are at the lower end of the ranges. g) Compaction plant will not be started up in proximity to receptor locations (residential properties). Any steady state compaction work that is necessary close to receptors will be of the minimum necessary duration such that any adverse impacts will be kept to a minimum. h) Particularly noisy activities, or activities taking place close to receptors (residential properties) (commensurate with the worst-case conditions assessed) will be screened by local hoarding as necessary.
4) Air Quality a) The CEMP will be informed by the Institute of Air Quality Management (IAQM) Guidance and would include prevention measures, such as screening stockpiles of materials, deployment of windbreak netting, dampening exposed soils and use of less polluting Non-Road Mobile Machinery as appropriate and set out requirements for ongoing monitoring and liaison with the local community, and CDC.
5) Water and Ground a) The CEMP will contain measures set out within the Pollution Prevention Guidance and CIRIA 'Control of water pollution from construction sites' and include specific working methods/practices and monitoring requirements to minimise the risk of detrimental effects on water quality including: i) Washing down or equipment cleaning associated with concrete or cementing processes and provision of facilities to remove sediment prior to disposal; ii) Use of sediment traps on surface water drains; iii) The safe storage of materials and fuels and oils; iv) Wheel washing facilities; v) Screening stockpiles and materials; vi) Use of impermeable materials to prevent ingress into the ground; vii) Provision of treatment facilities for runoff from construction areas; viii) Provision of treatment facilities to runoff from construction areas; and ix) Regular sweeping to remove loose sediments. b) Construction workers will adhere to best practice Health and Safety when

Measure
handling and transporting contaminated soils and should follow normal hygiene practices. c) Where contaminated soils are excavated for remediation, the sides and base of the void will be validated through visual, olfactory or chemical analysis means before being backfilled with clean material. d) Contaminated arisings will either be treated on Site for later reuse or classified for the purposes of waste and exported from Site. e) Material imported to Site during the construction stage for clean cover layers, engineered fill or working platforms, if required, will be validated for chemical and geotechnical suitability prior to being accepted on Site and for thickness once it is placed in accordance with the approved Specifications. f) New service corridors will be installed during the construction stage. g) Newly formed areas of soft landscaping will require chemically clean, validated topsoil that meets the minimum nutritional standards set out in the British Standard (BS:3882 2015). h) Construction works will be undertaken in accordance with legislative requirements, statutory and regulatory guidance and industry best practice, e.g. safe systems of work (SSoW), risk assessments and method statements (RAMS) and provision of appropriate personal protective equipment (PPE). i) Visitor access will be restricted during the works and no trespassers will be able to access the construction area. j) All earthworks and foundation design will be in accordance with relevant industry guidance, including but not limited to CIRIA Report C572: Treated ground engineering properties and performance[20], British Research Establishment document FB75: Building on Fill - Geotechnical Aspects[21] and British Standard 6031:2009: Code of Practice for Earthworks[22].
6) Lighting a) lighting would be controlled through the implementation of best practice measures, informed by the ILP 'Guidance Note 1 for the reduction of obtrusive light' and would include: i) The use of sufficient lighting units for the task in hand to avoid the need for tall, wide beam lighting units; ii) The reduction of fixed lighting outside working hours; and iii) Any requirements for ongoing monitoring and liaison with stakeholders. b) Measures as avoiding any artificial lighting, unless absolutely critical and the use of hoods, cowls and timers to restrict lightspill only to where it is required and for as long as it is required. c) Lighting within the Proposed Scheme will be designed in accordance with best practice guidance produced by the Institute for Lighting Professionals and Bat Conservation Trust[23].
7) Waste a) Hazardous/contaminated waste will be handled, processed and removed from Site by suitability qualified contractors, all being undertaken in line with The

Measure
Hazardous Waste (England and Wales) Regulations 2005. b) Waste produced during construction would be controlled through the implementation of the CEMP, the detailed version of which will be secured by planning condition. The final CEMP will be informed by the waste provisions of the Environmental Protection Act 1990[24] and the Environmental Protection (Duty of Care) Regulations 1991[25] and will set out the principles and legal requirements relating to waste (including hazardous waste). c) The final CEMP will also describe how materials will be managed efficiently and disposed of legally during construction. It will also outline the aims, objectives and on-going management responsibilities, including management practices, to be implemented during the construction stage, and will set targets for the reduction, diversion from landfill and reuse of waste.
8) Habitat Management a) The final CEMP will be produced in light of best practice and include measures such as sensitive storage of materials, wheel washing, and implementation of measures such as interceptor fencing, as required to avoid effects to habitats. b) Implementation of temporary protective fencing or Ecological Protection Zones with appropriate buffers will also prevent potential damage or disturbance of retained habitats. c) Completion of habitat management and clearance works outside of the main bird nesting season, or alternatively immediately following a check for nesting birds completed by a suitably qualified ecologist. d) Completion of a pre-commencement aerial inspection survey of trees in line with European Protected Species legislation to ensure the absence of bats. Any mitigation for the loss of a bat roost will also be undertaken in line with this legislation. e) Competition of pre-commencement badger walkover survey to identify new badger activity, covering of trenches overnight and daily pre-commencement checks. f) Illuminated Site compounds will be located away from the tree lined Gullicote Lane, woodland edges, mature trees, and hedgerows. Where required, the times that lights are would be controlled to avoid lights being illuminated between and including dusk and dawn hours, allowing some dark periods for bats and other wildlife. g) If required, additional measures based on advice from the suitably qualified ecology can be secured within the final CEMP.
9) Climate Change a) Provision of climate change adaptation and measures to reduce risks to human health from overheating such as provision of shaded refuges and potable water supplies during construction. b) Climate change adaptation and measures to reduce water use during construction. c) Measures will be put in place to protect the Site from increased risk of flooding, during construction compounds will include appropriate measures,

Measure
which may include raised levels and temporary drainage; protection of the Site and wider area from an increased risk of flooding and potential pollution effects through the provision of appropriate drainage and pollution prevention systems. d) The Proposed Scheme will be designed in accordance with current guidance and best practice, and this will include the consideration of changing climate on stability of the ground conditions, influencing foundation design as necessary. e) Where possible, as part of the remediation and construction of the Site energy, fuel use and carbon emissions associated with those stages will be monitored with measures put in place to reduce emissions.
10) Utility Management a) Consultation will be sought with Thames Water to identify the capacity of the local foul water infrastructure, however, it is assumed that the environmental effects of any increase in foul water will be controlled through the discharge consents or permits associated available to Thames Water. b) If necessary, it is thought that any mitigation required would be limited to sewer operator delivered reinforcement works to the local foul water network. c) Thames Water will be consulted prior to the start of any works to understand suitable connection points for foul water from welfare facilities during the construction stage. d) Consultation with Thames Water is required to understand whether potable water supply is sufficient. If a sufficient supply is available. If mitigation measures are required to facilitate the necessary supply, then these mitigation measures will ensure that the Proposed Scheme does not have a significant effect on the local water supply network. e) Any foul drainage associated with construction works could utilise existing foul drainage serving the current or former Site buildings or Portaloo type of arrangements could be employed. f) Any utilities requiring diversion, stopping up or temporary relocation will be undertaken in line with an agreed strategy with the relevant district network operators.

4.70 The above (including any monitoring) will be set out and agreed as part of the CEMP and agreed with CDC following liaison with the local community and the Environment Agency (where relevant). The CEMP will be in accordance with the following structure:

- Programme and phasing details of proposed construction works;
- A plan of site preparation and construction works, highlighting the various stages and their context within the project, including a full schedule of materials, manpower resources, and plant and equipment schedules;

- Detailed Site layout arrangements, plans for storage, accommodation, vehicular movements, delivery and access;
- Prohibition or restricted operations;
- Details of plant used;
- Identification of roles and responsibilities of key staff in relation to environmental management of the Site;
- Details of operations that are likely to result in disturbance, with an indication of the expected duration of each phase with key dates; and

4.71 A mechanism for the public to register complaints and procedures for handling complaints and requirements for monitoring and record-keeping.

References

[1] Institute for Lighting Professionals (2021). Guidance Note 01/21 for the Reduction of Obtrusive Light.
[2] British Standard (2020). 5489-1:2020 Design of road lighting. Lighting of roads and public amenity areas. Code of practice.
[3] British Standard BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings.
[4] BRE (2015) Report BR211 Radon: Guidance on protective measures for new dwellings.
[5] British Standard (2005). BS 5906:2005 Waste management in buildings – Code of practice. Availabel at: https://www.rbkc.gov.uk/pdf/BS5906-2005.pdf [Accessed 24/10/2022].
[6] The Controlled Waste (England and Wales) Regulations 2012 No.811. Available at: https://www.legislation.gov.uk/uksi/2012/811/contents/made [Accessed 24/10/2022].
[7] DEFRA (2011). Biodiversity 2020: A strategy for England's wildlife and ecosystem services.
[8] Natural England (2020). Climate Change Adaptation Manual (NE751).
[9] MHCLG (2021). The Future Buildings Standard - Consultation on changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for non-domestic buildings and dwellings; and overheating in new residential buildings
[10] CIRIA (2002). Report C572: Treated ground engineering properties and performance.
[11] British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.
[12] British Standard (2009). 6031:2009: Code of Practice for Earthworks.
[13] HM Government (2013). Approved Document A - Structure (2004 Edition incorporating 2004, 2010 and 2013 amendments).
[14] Jubb (2022). Phase 1 Desk Study Report: Hanwell Field, Banbury.
[15] CIRIA (2002). Report C572: Treated ground engineering properties and performance.
[16] British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.
[17] British Standard (2009). 6031:2009: Code of Practice for Earthworks.
[18] HM Government (2013). Approved Document A - Structure (2004 Edition incorporating 2004, 2010 and 2013 amendments).
[19] BRE. Home Quality Mark ONE. Available at: https://www.homequalitymark.com/wp-content/uploads/2018/09/HQM-ONE-Technical-Manual-England.pdf [Accessed 24/10/2022].
[20] CIRIA (2002). Report C572: Treated ground engineering properties and performance.
[21] British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.
[22] British Standard (2009). 6031:2009: Code of Practice for Earthworks.
[23] ILP / BCT (2018). *Guidance Note 08/18: Bats and Artificial Lighting in the UK*. Institute of Lighting Professionals and Bat Conservation Trust.
[24] Environmental Protection Act 1990 No. 43 Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed: 30/09/2022].
[25] Environmental Protection (Duty of Care) Regulations 1991 No. 2839. Available at: https://www.legislation.gov.uk/uksi/1991/2839/made#:~:text=The%20duty%20requires%20such%20persons,person%20or%20to%20a%20person [Accessed: 30/09/2022].