CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

(BIODIVERSITY)

EXAMPLE SOLAR FARM, LOCATION

prepared by

CLARKSON & WOODS

ECOLOGICAL CONSULTANTS

commissioned by

CLIENT

APRIL 2022

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (BIODIVERSITY)

EXAMPLE SOLAR FARM, LOCATION

CONTENTS

Project title	Site		
Project number			
Document title	CEMP (Biodiversity)		
Client			
Author			
Status	Approved for C&W by		Date
V1.0			

1 INTRODUCTION

1.1.1 This Construction Environmental Management Plan (CEMP) (Biodiversity) has been prepared by Clarkson and Woods Ltd. on behalf(client) in support of the planning application for the installation of a solar photovoltaic (PV) development at (location).

1.1.2 This plan sets out the environmental protection procedures for undertaking works associated with the proposed development; specifically dealing with the protection of habitats and species during the construction phase. Information relating to the management of other environmental issues such as traffic movements, compound location, site welfare, working hours, services and noise will be provided separately within the Construction Environmental Management Plan (CEMP). This biodiversity-focussed CEMP has been prepared to accompany and be read alongside the CMP.

1.1.3 This plan has been informed by ecological surveys and the following corresponding reports:

- *List of reports*

1.1.4 This CEMP (Biodiversity) outlines measures to prevent impacts on retained habitats and protected species; thus avoiding offences being committed under relevant legislation. The purpose of this plan is to:

- *Plainly identify known risks to preserving habitats and/or the function of the site for protected or notable species and implement the mitigation outlined in the ecological report;*
- *Clearly set out when and where ecological supervision will be required;*
- *Identify ecologically sensitive areas (biodiversity protection zones) and indicate where protective buffers/fencing is required; and*
- *Identify roles and responsibilities for undertaking the work in relation to protecting biodiversity on site during the construction phase.*

1.1.5 Approved layout plans for the site were consulted in the preparation of this plan. A copy of the Site Plan can be found in Figure 1 below.

1.1.6 This CEMP (Biodiversity) follows the guidelines set out within the Biodiversity – Code of Practice for Planning and Development, British Standard 42020:2013.

1.1.7 A separate Landscape and Ecological Management Plan (LEMP) has also been prepared for the site, which covers the continued protection and enhancement of the ecological features associated with the site during operation.

Figure 1: Site Layout

2 RESPONSIBLE PERSONNEL & LINES OF COMMUNICATION

2.1 Client

2.1.1 (client) are to be responsible for the implementation of this CEMP (Biodiversity) and shall liaise with the Ecological Clerk of Works (ECoW) to commission and arrange an ecologist's input or site attendance, where required.

2.1.2 Should management on the site change, new personnel will be made aware of and action this CEMP.

2.2 Site Manager

2.2.1 To be confirmed - at this stage, details of construction personnel are not fully known.

2.3 Ecological Clerk of Works (ECoW)

2.3.1 An ECoW is required to support the development and ensure that (client) adheres to the requirements of this CEMP (Biodiversity) to be legally compliant.

2.3.2 Ecological queries should be directed to Clarkson & Woods Ltd, contactable on 01934 712500. Where another ecological consultancy is employed to fulfil this role, any ecologist must be suitably qualified, have at least two years' experience and in receipt of suitable training in how the responsibilities of the ECoW are to be discharged.

2.3.3 The ECoW will be responsible for delivering the prescriptions requiring ecological expertise during construction. They shall assist and advise (client) in their adherence to the requirements of this CEMP (Biodiversity).

2.4 Contact Details

Client				
Main Contractor				
ECoW	Clarkson & Woods	Primary Contact:	Overbrook Business Centre, Poolbridge Road, Blackford, Somerset, BS28 4PA	Contact Email: xxx@clarksonwoods.co.uk Contact Telephone: 01934 712500

3 BIODIVERSITY PROTECTION ZONES

3.1.1 The following ecological features (as informed through the aforementioned baseline surveys) will be safeguarded through implementation of Biodiversity Protection Zones (BPZs) or through adoption of sensitive working methods (see Section 5) to avoid and minimise adverse impacts during the construction phase. The locations of ecological features and BPZs are illustrated in Figure 2. A detailed risk assessment of the construction-phase impacts of the proposals upon the identified ecological features is provided in Section 4 overleaf.

Habitats:

- *Small copses of broad-leaved woodland present within the site boundary;*
- *Hedgerows, some of which are species rich and 'Important' under the Hedgerow Regulations (1997); and*
- *Ponds and ditches, some of which are permanently filled with water and some of which are seasonally dry.*

Species:

- *Badger setts and foraging badgers within and adjacent to the site;*
- *A population of brown hare using the site;*
- *Birds breeding in woodland, hedgerows and open fields, including a range of farmland bird species of conservation concern;*
- *Great crested newts present within pond adjacent to the south-eastern boundary of the site. The site has been granted a Natural England District Level Licence (ref) and conservation payment made to ensure there are no detrimental impacts to great crested newts at the landscape scale; and*
- *Widespread amphibians and reptile species likely to be utilising hedgerows, woodland edges, field margins and ditches/ponds.*

4 ECOLOGICAL RISK ASSESSMENT

4.1.1 A risk assessment of the construction-phase impacts of the proposals upon habitats and species identified in Section 3, along with suggested remedial measures to be implemented through Method Statements, is provided below. *This excludes impacts which have been avoided through the layout design of the development and mitigation/ compensation/ enhancement measures which are covered by the LEMP.*

Ecological Feature	Ecological Feature Description/Comments	Potential Adverse Impacts (Risk Assessment)	Risk Avoidance Methods - see Section 5 for Method Statements (MS)	Timing to Implement Risk Avoidance MS (see Section 6)	Person Responsible to Implement Risk Avoidance Methods
Designated Sites					
Local Wildlife Site	Nationally designated site for its rich woodland canopy and ground flora; as well as areas of herb-rich limestone grassland. LWS areas with some diverse habitats	Some potential for indirect impacts of construction of the array, such as increased noise, human activity and dust deposition. Could lead to degradation of habitat and indirect adverse effects on species it supports.	Airborne Pollution (Dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect habitats as per monitoring schedule	ECoW
Habitats					
Retained hedgerows and associated trees	Locally important mix of species-poor hedgerows	Accidental physical (mechanical) damage to trees, including disturbance (direct or indirect) of any species using features. Also soil compaction and associated effects	BPZ Fencing (MS 2)	Install prior to construction and maintain for duration of construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect fencing on installation and as per monitoring schedule	ECoW
		Accidental damage from airborne pollution resulting in smothering of leaves/ deposition of spoil from runoff resulting in change to soil character. Could lead to degradation of habitat and indirect adverse effects on species it supports	Airborne Pollution (Dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect habitats as per monitoring schedule	ECoW
Retained woodland	Locally important semi-natural copses of broadleaved woodland	Accidental damage to woodland habitats from airborne pollution resulting in smothering of	Airborne Pollution (Dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor

Ecological Feature	Ecological Feature Description/Comments	Potential Adverse Impacts (Risk Assessment)	Risk Avoidance Methods - see Section 5 for Method Statements (MS)	Timing to Implement Risk Avoidance MS (see Section 6)	Person Responsible to Implement Risk Avoidance Methods
		leaves/ deposition of spoil from runoff resulting in change to soil character. Could lead to degradation of habitat and indirect adverse effects on species it supports	Construction-phase Monitoring (MS 11)	Inspect habitats as per monitoring schedule	ECoW
		Accidental physical (mechanical) damage to trees, including disturbance (direct or indirect) of any species using features. Also soil compaction and associated effects	Toolbox Talk (MS 1)	Pre-construction	ECoW
			BPZ Fencing (MS 2)	Install prior to construction and maintain for duration of construction	Main contractor
			Construction-phase Monitoring (MS12)	Inspect fencing on installation and as per monitoring schedule	ECoW
Retained ditches	Locally important network of drainage ditches at field boundaries	Pollution of watercourse through dust deposition, siltation or chemical spillage. Pollution may result in adverse impacts on flora and fauna the ditch supports in addition to habitat/species downstream	Airborne Pollution (dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor
			Pollution Prevention (Safe Storage of Chemicals and Materials) (MS 4)	Control measures to be adhered to throughout construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect habitats as per monitoring schedule	ECoW
		Accidental physical (mechanical) damage to ditch-side habitat including disturbance (direct or indirect) of any species using these features	Toolbox Talk (MS 1)	Pre-construction	ECoW
			BPZ Fencing (MS 2)	Install prior to construction and maintain for duration of construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect fencing on installation and as per monitoring schedule	ECoW
Retained ponds	1 on-site pond and 1 off-site ponds within 250m of	Pollution of pond through dust deposition, siltation or chemical spillage. Pollution may result in adverse impacts on pond flora and fauna	Airborne Pollution (dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor

Ecological Feature	Ecological Feature Description/Comments	Potential Adverse Impacts (Risk Assessment)	Risk Avoidance Methods - see Section 5 for Method Statements (MS)	Timing to Implement Risk Avoidance MS (see Section 6)	Person Responsible to Implement Risk Avoidance Methods
	development area, locally important		Pollution Prevention (Safe Storage of Chemicals and Materials) (MS 4)	Control measures to be adhered to throughout construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect habitats as per monitoring schedule	ECoW
		Injury/ mortality of wildlife around pond due to movement of construction plant	Toolbox Talk (MS 1)	Pre-construction	ECoW
			BPZ Fencing (MS 2)	Install prior to construction and maintain for duration of construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect fencing on installation and as per monitoring schedule	ECoW
Species					
Badgers	Protected species of Site importance. Active setts present and site likely to be used for foraging	Accidental physical (mechanical) damage to a sett including disturbance (direct or indirect), or obstruction	BPZ Fencing (MS 2)	Install prior to construction and maintain for duration of construction	Main contractor
			Update Badger Survey (MS 6)	If impacts cannot be avoided. Exclusion between July-November only	ECoW
		Accidental injury/ mortality of badgers due to becoming trapped in excavations/ site materials; electrocution or collision with vehicles	Precautionary Site Maintenance Measures (MS 7)	Measures to be adhered to throughout construction	Main contractor
			Construction-phase Monitoring (MS 11)	Inspect construction site as per monitoring schedule	ECoW
		Exclusion from foraging areas	Precautionary Site Maintenance Measures (MS 7)	Upon fence installation	Main contractor
Bats	Habitats within site are likely to be used by local populations of bats for foraging and commuting.	Potential dissuasion of bats from foraging/ commuting areas, possibly resulting in reduced prey availability/ reduced fitness of individuals and population decline	Sensitive Lighting Strategy (MS 5)	Measures to be adhered to throughout construction	Main contractor

Ecological Feature	Ecological Feature Description/Comments	Potential Adverse Impacts (Risk Assessment)	Risk Avoidance Methods - see Section 5 for Method Statements (MS)	Timing to Implement Risk Avoidance MS (see Section 6)	Person Responsible to Implement Risk Avoidance Methods
Brown hare	Locally important population of this Species of Principal Importance	Accidental injury/ mortality from construction activities	Precautionary Site Maintenance Measures (MS 7)	Measures to be adhered to throughout construction	Main contractor
		Exclusion from foraging areas		Upon fence installation	Main contractor
Breeding Birds (Ground Nesting Birds of Open Farmland)	Populations of birds, including several species of conservation concern, using open fields for nesting of District importance	Accidental injury/ mortality from construction activities	Nesting Bird Mitigation (MS 8)	Cut prior to construction commencing, after last harvest and before 1st March. Maintain for duration of construction	Main contractor
				If vegetation not maintained as prescribed in MS 8; March-August inclusive	ECoW
Breeding Birds - Other	Populations of birds, including several species of conservation concern, using boundary habitats for nesting	Accidental injury/ mortality from hedgerow clearance/ vehicular damage	BPZ Fencing (MS 2)	Install prior to construction and maintain for duration of construction	Main contractor
			Nesting Bird Mitigation (MS 8)	If vegetation is to be removed; March-August inclusive	ECoW
			Construction-phase Monitoring (MS 11)	Inspect construction site as per monitoring schedule	ECoW
		Accidental degradation of nests and injury or mortality of young due to dust deposition	Airborne Pollution (dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor
Reptiles and toads	Widespread reptiles and common toad likely to be present in marginal habitats	Accidental injury/ mortality from habitat clearance	Precautionary Measures for widespread Reptiles and Amphibians (MS 9)	During clearance of suitable habitat	Main contractor, ECoW
Great crested newts	Population of GCN within a pond adjacent to the south-eastern site boundary (off-site)	Accidental injury/ mortality from habitat clearance	GCN Risk Avoidance Method Statement (MS 10)	Duration of construction	Main contractor, ECoW
Invertebrates	Locally important assemblage of invertebrates, both terrestrial and aquatic	Accidental injury/ mortality due to smothering by airborne pollution/ deposition of spoil from runoff. Indirect effects of pollution damage to habitats	Airborne Pollution (dust) & Silt Control (MS 3)	Control measures to be adhered to throughout construction	Main contractor

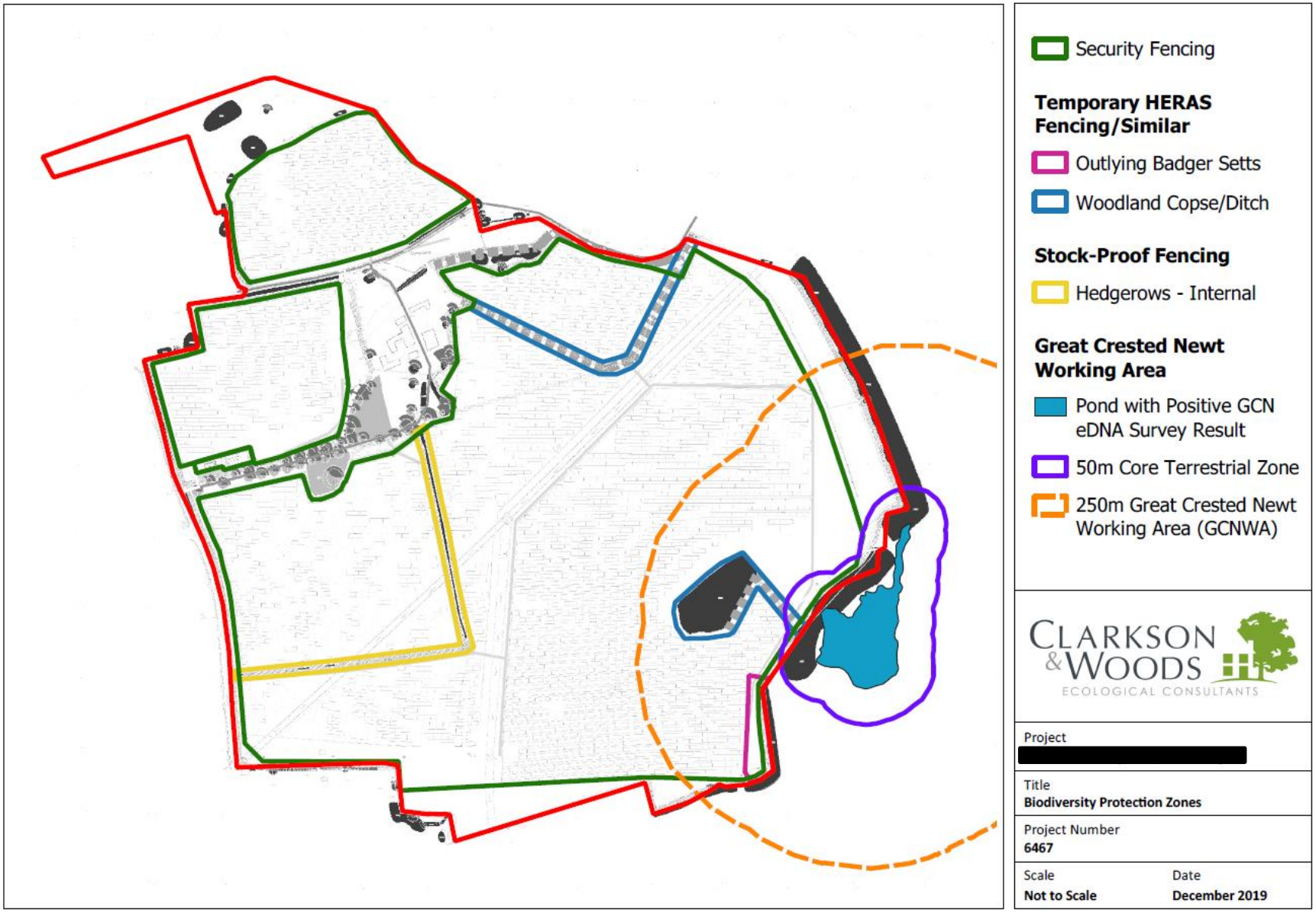

Figure 2: Biodiversity Protection Zones

5 BIODIVERSITY WORKING METHOD STATEMENTS

5.1.1 The method statements detailed below relate to the ecological features identified in Section 4. Adherence to these method statements will ensure that construction activities remain legally compliant and follow best practice measures relating to biodiversity.

5.1.2 Periodic review of the Method Statements will be undertaken, informed by construction-phase monitoring by the ECoW, to ensure that the recommendations remain relevant and any required remedial action is taken.

METHOD STATEMENT No.1:
Toolbox Talk

Project Name	Site	**Anticipated Start Date**	Pre-construction
Site Address / Location		**Anticipated Finish Date**	Commencement of construction
Personnel Required	Site Manager (TBC) Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	Toolbox talk to be delivered regarding ecological constraints within the site.		
Purpose	To ensure species and retained habitats are protected during construction and site personnel are aware of their responsibilities in this regard.		
Sequence / Method	Prior to construction activities commencing, a toolbox talk with be delivered by the ECoW to all site personnel. The talk will cover the ecological features present or potentially present within the site and the legal and ecological imperatives for their protection. It will also provide an overview of the Method Statements to be implemented. It will be the responsibility of the site manager to relay all of the information within the toolbox talk to all site staff during their inductions. In the event that site management changes, the toolbox talk shall be repeated by the ECoW.		
Completion	Delivery of toolbox talk marks completion.		
Reporting Requirements	A log of when and to whom toolbox talks were delivered should be kept to be made available as required as evidence of adherence to the requirement for toolbox talks to be delivered to key site personnel.		
Monitoring/Aftercare Requirement	All new site personnel to be given toolbox talk by site manager. Requirement for repetition of talk by ECoW if site management changes.		

METHOD STATEMENT No.2:
Biodiversity Protection Zone Fencing

Project Name	Site	**Anticipated Start Date**	Pre-construction
Site Address / Location		**Anticipated Finish Date**	Completion of construction
Personnel Required	Site Manager (TBC) Fencing Contractor (TBC) Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	BPZs to be maintained through provision of fencing according to BS 5837: 2012. See Figure 2 for layout of fencing.		
Purpose	To protect retained habitats and protected species therein. Wildlife and Countryside Act (1981)		
Sequence / Method	The BPZs will prevent construction activities from resulting in physical damage to areas of sensitive habitat and species outside of the construction area. BPZs will be delineated by appropriate fencing for each habitat type/ feature to be protected, as detailed in the table below. Fencing will be in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction and will be marked with weather-proof signage (minimum A4 size) stating "Biodiversity Protection Zone – Keep Out". The fencing will be installed in accordance with Figure 2, prior to the commencement of ground works. Temporary fencing will remain in place until the development is completed and all site machinery and materials removed from site. No site personnel or machinery shall enter the BPZs and no equipment will be stored therein for the duration of construction. The maintenance of the BPZs and condition of fencing will be inspected by an ECoW on installation to ensure it complies with the correct specification and is installed in the correct locations. Thereafter the fencing will be subject to regular checks by the ECoW as per Method Statement 12; however it will be the responsibility of the site manager to ensure the fence is appropriately maintained throughout the construction phase.		
Completion	Completion of fencing installation and inspection by ECOW marks completion of work.		
Reporting Requirements	Ecological Inspection Proforma (EIP) to be provided to (client) as evidence of completion of work. EIP to be retained as evidence of installation of fencing as per the CEMP.		
Monitoring/Aftercare Requirement	Monitoring and maintenance of BPZs during construction (MS 11)		

Feature	BPZ Minimum Specification	Fencing Type
Woodland copses	Root protection zone or shading zone of trees, whichever is greater	Temporary Heras/ similar
Hedgerows - boundaries	4m from hedgerow edge	Security fencing
Hedgerows - internal	4m from hedgerow edge	Stock-proof fencing
Ditches	6m from top of bank	Temporary Heras/ similar
Badger sett – outlying setts	5m from sett entrance	Temporary Heras/ similar
Ground-nesting bird nest	50m around nest	Temporary Heras/ similar
Other bird nest	4m around nest	Temporary Heras/ similar

METHOD STATEMENT No.3:
Airborne Pollution (Dust) and Silt Control

Project Name	Site	**Anticipated Start Date**	Pre-construction
Site Address / Location		**Anticipated Finish Date**	Completion of construction
Personnel Required	Site Manager (TBC)		
Description of Work	Dust and silt control measures to be implemented throughout construction phase for relevant activities.		
Purpose	To protect retained habitats and protected species therein. Wildlife and Countryside Act (1981)		
Sequence / Method	All aspects of works will be conducted in such a manner to minimise the generation and spread of dust and silt into the surrounding area, including the following: • Stockpiles of materials will be kept away from the site entrance and field boundaries; • Stockpiles of materials subject to wind erosion will be dampened down or seeded to ensure satisfactory dust control and covered with tarpaulins as appropriate; • Airborne dust will be kept to a minimum by the regular use of water spray systems and bowsers wetting down haul roads and pre-excavated areas; • All loads entering and leaving site, as well as skips stored on site, will be securely covered; • Delivery of materials to site will be programmed to minimise the time stockpiles are kept on site; • Plant and wheel washing will only be carried out in a designated area at least 15 metres from any watercourse, surface drain or potential pollution pathway. This will be constructed on an impermeable base with a collecting sump to prevent spreading of dust and spoil onto the surrounding roads; • The wheels of all vehicles will be checked on leaving the site, and if necessary will be cleaned by jet wash within the designated washing area; • Construction activities within 25m of woodland, hedgerows, ditches or ponds will be avoided during heavy rain to minimise risk of sediment effects; • Silt fencing or temporary drainage channels will be used to block or divert runoff from stockpiles of materials; and • Notices will be erected to stipulate that the above measures are adhered to.		
Completion	Implementation of correct procedure as verified by Site Manager marks completion.		
Reporting Requirements	Records of all measures to reduce dust and silt are to be kept on site, including dates undertaken.		
Monitoring/Aftercare Requirement	Monitoring of habitat condition during construction (MS 11)		

METHOD STATEMENT No.4:
Pollution Prevention (Safe Storage of Chemicals and Materials)

Project Name	Site	**Anticipated Start Date**	Commencement of construction
Site Address / Location		**Anticipated Finish Date**	Completion of construction
Personnel Required	Site Manager (TBC)		
Description of Work	Pollution-prevention measures to be implemented.		
Purpose	To protect retained habitats and protected species therein. Wildlife and Countryside Act (1981)		
Sequence / Method	Any potential contaminants (fuel, oils and chemicals) used during construction will be stored in designated compounds on an impermeable surface, at least 15m from any watercourse or pond. These will be securely locked away when not in use. Appropriate measures to prevent the spillage of chemicals into the ponds and ditches will be implemented, including the storage of several spill kits and, potentially, the usage of earth bunds surrounding the designated refuelling/chemical handling site. A detailed pollution/spill response plan will be kept within the site office. The Environment Agency will be contacted in the event of an incident. Machinery operation within 25m of ponds and ditches will be minimised in general and avoided entirely during periods of heavy rain. Appropriate pollution control measures will be employed in accordance with those outlined in the NetRegs document Guidance for Pollution Prevention (GPP) 5: Works and maintenance in or near water (February 2018). Although not endorsed by the Environment Agency in England (as the EA do not currently provide good practice guidelines following the withdrawal of Pollution Prevention Guidelines (PPG) 5), measures in this document (accessed at: http://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf) should nevertheless be followed in order to prevent pollution of the nearby watercourses and ensure any pollution events are dealt with swiftly. A spill kit must be kept on site with sand, earth or commercial products for the containment of fuel and other material spillages. All staff will receive appropriate training in the use of these kits and are to be made aware of where the kit is stored. In the event of a spillage of oils or chemicals resulting in contamination of water courses or damage to habitats, the following procedure will be adopted: • The appropriate spill kit is to be deployed immediately and the site manager is to be informed; • The incident is to be recorded within the site log book; and • In the event of contaminants being discharged directly to water courses, or in the event of significant spillage (in excess of 10 litres), the Environment Agency is to be contacted on the incident hotline 0800 80 70 60 (see contact details in Section 2)		
Completion	Implementation of correct procedure as verified by Site Manager marks completion.		
Reporting Requirements	In the event of a pollution incident details must be kept of the nature of the incident and all remedial actions undertaken within the site log book.		
Monitoring/Aftercare Requirement	Monitoring of habitat condition during construction (MS 11)		

METHOD STATEMENT No.5:
Sensitive Lighting Strategy

Project Name	Site	**Anticipated Start Date**	Commencement of construction
Site Address / Location		**Anticipated Finish Date**	Completion of construction
Personnel Required	Site Manager (TBC)		
Description of Work	Artificial lighting will be avoided during the summer months and if needed during winter, directed away from retained boundary habitats.		
Purpose	To avoid adverse impacts on nocturnal wildlife including bats.		
Sequence / Method	No artificial lighting will be employed during construction of the development unless agreed with the ECoW before use. It is anticipated that no artificial lighting will be used during the summer months (April-September inclusive). Artificial lighting, if required, is likely to be restricted to use within the site compound and will only be used during typical working hours approx. (7am – 7pm). Should any artificial lighting need to be employed, this will be directed away from retained boundary habitats to ensure light spill is avoided in these areas. Lighting will only be used during working hours and no lighting will be switched on overnight outside of these hours, unless under prior agreement with the ECoW, with lighting being on a motion sensor with a maximum agreed time limit.		
Completion	Implementation of correct procedure as verified by Site Manager marks completion.		
Reporting Requirements	Lighting strategy to be agreed in writing with the ECoW before use.		
Monitoring/Aftercare Requirement	Monitoring of site condition during construction (MS 11).		

METHOD STATEMENT No.6:
Update Badger Survey

Project Name	Site	**Anticipated Start Date**	Within 1 month prior to construction
Site Address / Location		**Anticipated Finish Date**	Completion of survey
Personnel Required	Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	An update badger survey will be conducted to ensure no new badger setts are present within the site and exclusion of setts under licence is not required.		
Purpose	To avoid harm to badgers as a result of construction activities which would constitute an offence. Protection of Badgers Act 1992		
Sequence / Method	Given that badgers can excavate new setts in a relatively short time, an update site inspection by an appropriately experienced ecologist (ECoW) will be carried out no more than 1 month prior to the commencement of construction activities on-site. The survey will look for evidence of badger activity within the site, including setts, paths, hairs, footprints or faeces and record the location of and type of all setts at the site, as well as their active status. In the event that an active sett is discovered that would be impacted by construction activities, a licence from Natural England may be necessary to temporarily or permanently close the sett. Works to a badger sett can only be undertaken from 1st July-31st November inclusive. Outside of this time no works affecting the sett would be permitted and a buffer zone, as informed by the ECoW, would be required in which different levels of disturbance are permitted. Work in other parts of the site, however, can continue as advised by the ECoW. A conventional mitigation licence from Natural England can take at least 30 working days to determine. A class-licensed ecologist could obtain a licence more quickly.		
Completion	Completion of survey by ECOW marks completion of work.		
Reporting Requirements	Ecological Inspection Proforma (EIP) to be provided to (client) as evidence of completion of work. This report may need to be submitted to the LPA as evidence of compliance with this requirement.		
Monitoring/Aftercare Requirement	Monitoring of site condition during construction (MS 11)		

METHOD STATEMENT No.7: Precautionary Site Maintenance Measures			
Project Name	Site	**Anticipated Start Date**	Commencement of construction
Site Address / Location		**Anticipated Finish Date**	Completion of construction
Personnel Required	Site Manager (TBC)		
Description of Work	Maintenance of access for hares, badgers and other wildlife to the construction site, as well as precautionary measures to avoid harm to wildlife which may result from interaction with machinery, equipment or excavations		
Purpose	To allow wildlife continued access to the construction site and to avoid injury or mortality to wildlife as a result of construction activities. Wildlife and Countryside Act (1981)		
Sequence / Method	It is likely badgers (and other mammals) may move within the site during the construction phase. As such any pits or trenches, dug during the construction phase, will be covered overnight or a wide, rough sawn plank or earth ramp will be placed/created in the pit at a 45° angle to enable any animals to escape should they fall in. In addition, any open pipework larger than 150mm outside diameter will be blanked off at the end of each working day to prevent badgers from occupying it. Electrical equipment will be stored away securely to prevent electrocution of wildlife. In the unlikely event of a badger (or any other animal) becoming trapped or injured during construction, Clarkson and Woods and/or the RSPCA (contact details in Section 2) must be called immediately and the appropriate action undertaken. A 10mph speed limit on the site will be imposed to reduce the risk of collisions and subsequent injury or mortality of wildlife. Gaps in the external fencing of 100-150mm will be maintained to allow access badgers, hares and other wildlife to access the construction site. Gaps will need to be created around the perimeter of the site with a gap provided at least every 200m. This will be verified by the ECoW during the inspection of the biodiversity protection zone fencing and subsequently gaps will be checked during regular ecological monitoring.		
Completion	Implementation of correct procedure as verified by Site Manager marks completion.		
Reporting Requirements	The presence and location of gaps for mammals should be identified within an EIP prepared by the Ecologist once the gaps have been created. The periodic inspection of the mammal gaps should be recorded within the ecologists EIP which will be prepared following each site inspection (See MS12)		
Monitoring/Aftercare Requirement	Monitoring of site condition during construction (MS 11)		

METHOD STATEMENT No.8:
Nesting Bird Mitigation

Project Name	Site	**Anticipated Start Date**	Pre-construction
Site Address / Location		**Anticipated Finish Date**	Completion of vegetation clearance
Personnel Required	Site Manager (TBC) Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	Open habitats within the construction zone will be maintained as unsuitable for nesting birds prior to construction commencing. Thereafter, any open or hedgerow/ woodland habitat which remains suitable for nesting birds will first be inspected by an ecologist, if these habitats are to be impacted during the nesting season.		
Purpose	To avoid harm to nesting birds, their eggs and young. Wildlife and Countryside Act (1981)		
Sequence / Method	**<u>Maintenance of Unsuitability of Open Habitats for Nesting</u>** After the last harvest of crops prior to construction commencing, open habitats will be cut to ground level after 31st August and before 1st March to discourage nesting within the following nesting season. Habitats will be regularly rolled and flattened (at least weekly) thereafter to maintain them as unsuitable for nesting. **<u>Nesting Bird Inspections</u>** During the construction phase, any removal of suitable vegetation for nesting, including hedgerow, woodland and open areas which have not been maintained as unsuitable through the measures detailed above, should ideally be conducted outside the bird nesting season (which is usually March to August but variable dependent on climate). However, in the event works are required during this period, an inspection to confirm the absence of nesting birds must first be carried out by a suitably experienced ecologist (or the ECoW) to ensure that offences relating to nesting birds are not committed. ***Open Field*** If suitable habitats remain during the nesting season (vegetation >100mm), an experienced ecologist will conduct a walkover survey within 48 hours prior to construction commencing to check for nests within the open field. If no nests are found, the habitats should be cut short to maintain them as unsuitable for nesting within 48 hours of the survey. ***Woody Vegetation*** A check of any hedgerow, woodland or scrub for nesting birds must be carried out no more than 48 hours prior to their removal. ***General*** If an active nest is found, a suitable exclusion zone (to be determined by the ecologist but <u>minimum</u> 50m for nests in open habitats and 4m for other nests) will be instigated around the nest to protect it until completion of nesting. The exclusion zone will be demarcated by barrier tape or appropriate temporary fencing (e.g. High Visibility Netlon or Heras) along with notices informing site staff that the excluded area must not be disturbed. A brief proforma report will be issued to the site manager/foreman immediately following the inspection which will detail the findings, any constraints, and confirmation of actions required. The ecologist will monitor the nest periodically and determine when the chicks have fledged so the exclusion zone can be removed. In the unlikely instance that an active bird nest is subsequently identified during site clearance in the absence of an ecologist, activity must cease immediately and advice sought from the ECoW.		

Completion	Approval by ECoW that all checks have been conducted marks completion.
Reporting Requirements	Ecological Inspection Proforma (EIP) to be prepared after all site inspections for nesting birds by the ECoW.
Monitoring/Aftercare Requirement	Monitor any nests found and protect until completion of nesting.

METHOD STATEMENT No.9:
Precautionary Measures for Reptiles and Amphibians

Project Name	Site	**Anticipated Start Date**	Construction phase (April-October inclusive)
Site Address / Location		**Anticipated Finish Date**	Completion of habitat clearance
Personnel Required	Site Manager (TBC) Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	Precautionary strategy for clearance of habitats liable to support reptiles or amphibians.		
Purpose	To avoid reckless injury or mortality of widespread reptiles and other wildlife such as toads. Wildlife and Countryside Act (1981)		
Sequence / Method	Field margins, scrub, the bases of hedgerows and tree roots may support widespread reptile species and amphibians such as common toad. Generally these areas are being protected and therefore minimal work in these habitats is necessary. If works to these habitats is required, this will be restricted to the months of April-October inclusive and be conducted under an ecological watching brief by an ecologist. **Grassland field Margins** Initially, all areas of grassland to be removed will be strimmed/cut down to a height of 100mm and left for at least 24hrs to increase light and reduce shelter at ground level. This aims to encourage reptiles and other wildlife to leave of their own accord. Thereafter, the ECoW will inspect the site and note areas which require a targeted destructive search. The destructive search will entail removal of the remaining vegetation and top layer of soil using a 360° tracked excavator to search for any remaining animals under an ecological watching brief by an ecologist. **Dense scrub, hedgerows and woodland** Areas of dense scrub, hedgerows or woodland to be removed will need to be cleared in phases, with the upper parts of the vegetation cut down to 300mm initially, subject to the measures detailed in MS2, 6 and 8. Secondary clearance of vegetation below 300mm will be conducted between the months of April and October when reptiles are not in hibernation. Clearance shall be conducted using a 360° tracked excavator with a toothed bucket under an ecological watching brief. **Shelter Features** Any shelter features found, such as root balls, logs, rocks and rubble/ debris piles, will be lifted by hand or where considered necessary a targeted destructive search conducted utilising a 360° tracked excavator with a toothed bucket. An ECoW will be present during this work. **General** All cut vegetation (brash and clippings) from site clearance will be moved off-site immediately following cutting to minimise the risk of creating habitat features that may attract wildlife into the site. In the event that any reptiles, amphibians or other wildlife are discovered during site clearance, they shall be caught and relocated to suitable retained habitat around the site. In the event of accidental injury to an animal Clarkson and Woods and/or RSPCA must be called immediately and the appropriate action undertaken (contact details in Section 2 of CEMP).		
Completion	Approval of correct procedure by ECoW marks completion.		
Reporting Requirements	Ecological Inspection Proforma (EIP) to be provided to (client) as evidence of completion of work.		
Monitoring/Aftercare Requirement	None.		

METHOD STATEMENT No.10:
Great Crested Newt Risk Avoidance Method Statement

Project Name	Site	**Anticipated Start Date**	1st November
Site Address / Location		**Anticipated Finish Date**	28th February
Personnel Required	Site Manager (TBC) Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	Precautionary working methods to avoid adverse impacts upon great crested newts within defined Great Crested Newt Working Area (GCNWA).		
Purpose	To avoid adverse impacts upon great crested newts and thereby avoid committing an offence.		

Sequence / Method

Construction work will adhere to the following precautionary method statement:
Non Licensable Precautionary Working Method Statement

Site Area
This method statement will be followed for all major works including the installation of the solar panels and associated minor works within the great crested newt working area. This area encompasses a 250m radius around the large off-site pond, where great crested newt presence has been confirmed through a positive eDNA sample taken in April 2019.
Works will be restricted to within the existing arable fields, inside the security fencing only.
Under no circumstances will any hedgerows or field margin habitat be removed or disturbed during construction.

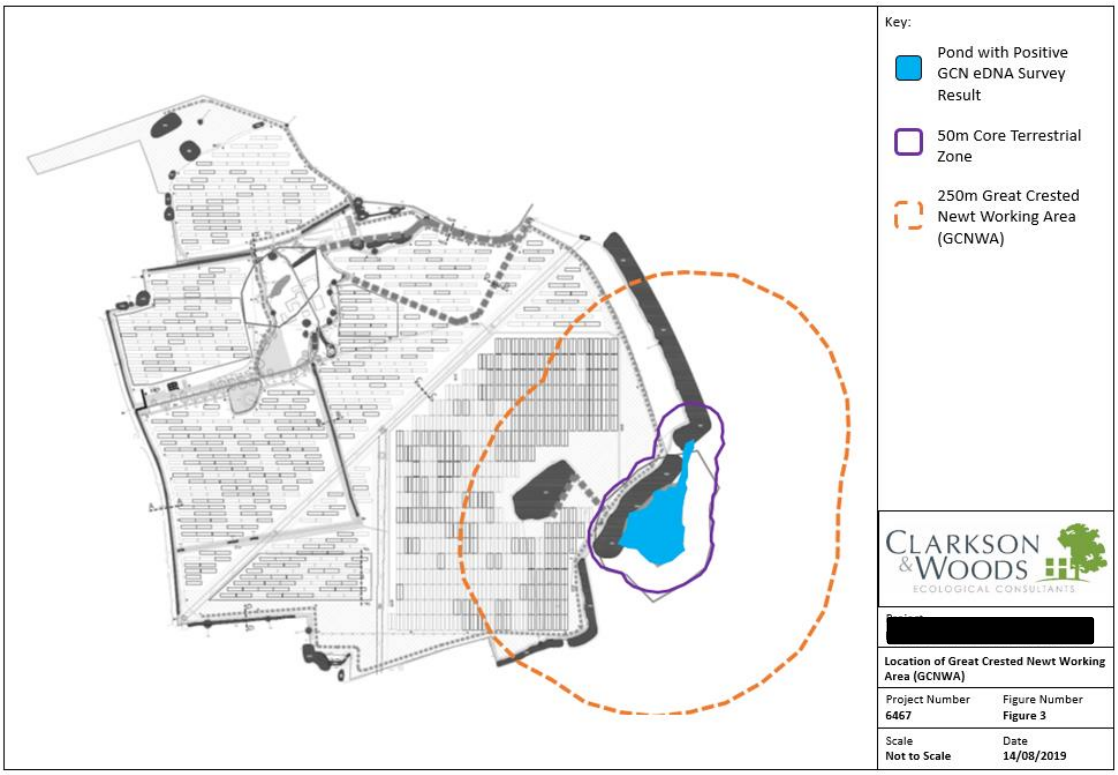

Figure 3: Location of Great Crested Newt Working Area

Timing
Major site works within the great crested newt working area (GCNWA), including trenching, panel installation and fencing will commence from 1st November and must be complete before 28th February.

	In the event that there is a mild spring great crested newts may emerge early from hibernation and therefore between 1st and 28th February, should overnight temperatures reach 5°C or higher for three consecutive nights, works will thereafter need to be supervised by a licensed/accredited ecologist. No works will proceed beyond 28th February without prior discussion with an experienced ecologist as this may require a European Protected Species (EPS) licence with associated mitigation. In addition to the heavy machinery to be deployed at the site when carrying out the major works, lighter vehicles will also be used such as utility vehicles (such as Bobcat UTVs). These will be required for a variety of auxiliary purposes, including moving light tools, materials and personnel around the site and for connecting up wiring. These vehicles will not damage the ground whilst moving and being operated, and as such the risk of mortality or injury to newts is greatly reduced. The potential for impacts on newts as a result of the use of these vehicles would be similar to that of routine farming practices already undertaken at the site. These vehicles will also largely make use of the haul routes established at the site. Habitat within the construction zone is suboptimal for great crested newts and only small numbers at most of dispersing individuals would be expected to be present in the construction zone during the active season. As such, time restrictions on the deployment of light, wheeled vehicles is not subject to time restrictions, and will be used as necessary until the site is completed. *Tool Box Talk* Site operatives will be provided with a 'tool box' talk prior to commencing work on site. This will inform all operatives of the importance to restrict all working activities to within the security fencing and not to disturb any retained field margin habitat. Contractors will be provided with visual guides on the identification of great crested newts in the unlikely event that any are encountered during the over-winter works. In the event that any great crested newts are encountered, they will be left in-situ. The site manager will ensure that Clarkson & Woods are contacted immediately on 01934 712500, and any works within 50m from the area within which the newt is found must stop. *Responsibilities* It is the responsibility of the site manager to ensure that this method statement is strictly adhered to during all works within the GCNWA that have the potential to impact great crested newts.
Completion	Completion of all piling, heavy groundworks and trenching with the GCNWA
Reporting Requirements	Regular monitoring report prepared as per MS11 to confirm adherence to the RAMS
Monitoring/Aftercare Requirement	.Given the ongoing risk to great crested newts during works within the GCNWA an ECoW will be required to undertake regular (not less than quarterly) monitoring inspections of the GCNWA and confirm that ongoing construction activities adhere to the details set out within this RAMS. These can be combined with the site visits undertaken as part of MS11. One of these visits will be scheduled for late February during the first year of construction to ensure the timings of the RAMS are adhered to. Where monitoring inspections find failure to adhere to the RAMS the ECoW will seek to immediately rectify breaches. For example if heavy groundworks are found to be taking place within the GCNWA beyond February, the ECoW will advise that works cease until the necessary course of action is determined to prevent harming newts. As a minimum, works continuing in the GCNWA will need to be undertaken with an ecologist present in a watching brief role. . The ECoW may also advise that works within this area will need to be temporarily ceased until a suitable licence can be obtained from Natural England and an appropriate translocation exercise can be completed. It should be noted that such an approach is likely to lead to a delay of at least 4 months.

METHOD STATEMENT No.11:
Construction-phase Monitoring

Project Name	Site	**Anticipated Start Date**	Commencement of construction
Site Address / Location		**Anticipated Finish Date**	Completion of construction
Personnel Required	Ecological Clerk of Works (Clarkson and Woods)		
Description of Work	Periodic monitoring by the ECoW of site condition and correct implementation of Method Statements 1-10.		
Purpose	To ensure that retained habitats and species are being safeguarded.		
Sequence / Method	At the outset of construction and every 3 months thereafter during the construction phase, the ECoW will inspect the site to ensure the compliance with the CEMP. This will include checking the following: • Correct installation of fencing; • Safeguarding of biodiversity protection zones; • Hedgerow and woodland condition; • Pond and ditch condition; • Implementation of precautionary site maintenance measures; • Adherence to the Great Crested Newt RAMS for work in GCNWA; and • Adherence to lighting strategy. <u>Water course monitoring</u> Water samples will be taken at 4 points both upstream and downstream of the development on the River (see relevant figure) in order to assess water quality. Parameters will be pH, electrical conductivity, temperature, dissolved oxygen and total suspended solids. Where there are significant differences in water quality between the two sample points, the causes will be investigated. This may require a walk of the length of the watercourse and any adjoining ditches in order to identify sources of pollution or silt runoff. Remedial measures will be implemented as required. Following inspections the ECoW will discuss monitoring outcomes with the site manager and provide a written proforma of findings to (client) identifying any remedial actions and timescales for actions to be implemented.		
Completion	Completion of monitoring visit by ECOW marks completion of work.		
Reporting Requirements	Ecological Inspection Proforma (EIP) to be provided to (client) as evidence of completion of work.		
Monitoring/Aftercare Requirement	Ongoing throughout construction.		

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