



Technical Appendix 10: Arboricultural Impact Assessment

Longhedge Solar Farm

30/11/2022



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Contents

Introduction	5
Statutory Tree Protection In Respect Of Trees And Wildlife	8
Tree Population	9
Site Description, Development Proposals And Tree Impacts	11
Other Recommendations	16
Summary And Conclusions	17
Appendices	19

INTRODUCTION

Background

- 10.1. This Arboricultural Impact Assessment (“AIA”) has been prepared for Neo Environmental Limited, on behalf of Renewable Energy Systems (RES) Ltd (“the Applicant”) in support of a planning application submitted to Rushcliffe Borough Council (“the Council”) for a proposed 49.9MW solar farm development (the “Proposed Development”) on lands between Hawksworth and Thoroton, circa 15.5km east of Nottingham, Nottinghamshire (the “Application Site”); the approximate centre point of which can be found at Grid Reference E476129, N343467.
- 10.2. The tree survey and this Arboricultural Impact Assessment (AIA) follow guidelines contained in *British Standard 5837:2012 Trees in relation to design, demolition and construction* (hereafter BS 5837).
- 10.3. Please refer to Site Layout Plan (**Figure 4 of Volume 2: Planning Application Drawings**) for the layout of the Proposed Development.

Development Description

- 10.4. The Proposed Development will consist of the construction of a c. 49.9MW solar farm. It will involve the construction of bi-facial ground mounted solar photovoltaic (PV) panels, new access tracks, underground cabling, perimeter fencing with CCTV cameras and access gates, a temporary construction compounds, substation and all ancillary grid infrastructure and associated works.

Site Description

- 10.5. The Application Site is located in a semi-rural setting on lands between the settlements of Hawksworth (0.1km west) and Thoroton (0.2km southeast), circa 15.5km east of Nottingham, Nottinghamshire. (See **Figure 1 of Volume 2: Planning Application Drawings** for further detail).
- 10.6. Centred at approximate Grid Reference E476129, N343467, the Proposed Development Site comprises nine fields covering a total area of c. 94.24hectares (ha), although only 37.7ha of this area is required to accommodate the solar arrays themselves, with the remaining area being used for ancillary infrastructure and mitigation and enhancement measures. The Proposed Development Site covers low lying lightly undulating agricultural land with an elevation range of c. 20m to 25m AOD. Internal field boundaries comprise, hedgerows, tree lines and several linear strips of woodland shelter belt. External boundaries largely consist of mature to lower hedgerows with individual trees and some evident gaps. In terms of existing infrastructure; electricity pylons extend north-south through fields 5, 6 & 8, whilst electricity lines pass northwest to southwest through fields 4, 5, 6 & 9.

- 10.7. The Application Site will be accessed via the creation of a new entrance off the linear public highway Thoroton Road. The vegetation is set back from the road verge by a few metres and therefore visibility will not be an issue. Appropriate visibility splays are included within the CTMP.
- 10.8. The haul route will be from the A46 to the southwest of the Application Site. The vehicles will exit the A46, signposted A6097 (Mansfield), take the 4th exit at the roundabout onto Bridgford Street followed by the 1st exit at the next roundabout onto Fosse Way. Vehicles will travel along this road for approximately 1.5km to the next roundabout, where they will take the 2nd exit onto Tenman Lane. This road will be travelled on in an eastern direction for approximately 3.2km before taking a left hand turn onto Hawksworth Road and vehicles will travel along here for approximately 2km before taking a right hand turn onto Thoroton Road. Vehicles will travel in a southeast direction for approximately 0.9km before turning left into the Application Site.
- 10.9. There is one recreational route located within the Proposed Development Site (Bridleway 1 & 6 that pass through the northern fields), and several located close by (**See Figure 3 of Vol 2: Planning Drawings**). National Cycle Network (NCN) route 64 shares the minor road on the east side of the Proposed Development Site.
- 10.10. The Proposed Development Site is mostly contained within Flood Zone 1 (at little or no risk of fluvial or tidal / coastal flooding), however there are some areas of Flood Zone 2 and 3a which follow the watercourse/drains within the site and have been carefully considered during the design phase.

Statement of Authority

- 10.11. The arboricultural consultant, Joseph Lambert, has over 14 years of experience in arboriculture, with over a decade spent in contracting and the most recent 3½ years in the consultancy sector. In turn, from these varying roles and perspectives, he has subsequently gained extensive experience and associated knowledge of the main elements of the profession. Joseph's key tasks are undertaking tree surveys and inspections and producing subsequent detailed reports for a range of commercial, industrial and residential projects for various clients for the purposes of development or tree risk management. Joseph has achieved academic qualifications up to a BSc (Hons) degree (first class) in Arboriculture and Urban Forestry, as well as holding the LANTRA Professional Tree Inspector, being a Quantified Tree Risk Assessment (QTRA) advanced user and holding a professional membership of the Arboricultural Association and Associate Membership of the Institute of Chartered Foresters.

Documents and Information Supplied

- Arboricultural Impact Assessment
- Tree survey Schedule and BS5837:2012 Table 1
- Tree Impact Plan

Surveying Methodology & Report Limitations

10.12. A summary of the survey methodology can be found at section 10.15 and 10.16 of this report and the report limitations are included in **Appendix 10B**.

Plans Accompanying This Report

10.13. The following associated plans, tree survey schedule, fencing specification and details of a cellular confinement system are found at:

- Tree Survey Schedule and BS5837:2012 Table 1(**Figure 10A.1**).
- Tree Impact Plans (1-3) (**Figure 10A.2**).
- Temporary Protective Fencing specification (**Figure 10A.3**).
- Manufacturer's Brochure for Cellular Confinement System (**Figure 10A.4**).

Terms of Reference, Scope of Works And Tree Survey

10.14. Bowland Tree Consultancy Ltd was instructed to:

- a) Survey, as individuals or by group, all trees as having reasonable potential to affect or to be adversely affected by the proposed development of the site under consideration;
- b) Annotate the existing and proposed site plans to produce a Tree Impact Plan (TIP), identifying tree retention categories, crown spreads, Root Protection Areas (RPAs), projected tree related impacts, trees proposed for retention, etc.;
- c) Prepare a tabulated Tree Survey Schedule (TSS) based on guidance specified BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations;
- d) Evaluate the potential tree related impacts and design conflicts of the proposals, based on the supplied development proposal plan(s);
- e) Advise on removal, retention and management options for the trees in the current context and in the context of the proposed development;
- f) Advise on suitable retained tree protection measures required during development; and
- g) Produce an Arboricultural Impact Assessment report outlining the main tree related issues and reasonably foreseeable tree impacts in relation to the proposals and commenting on suitable compensation and mitigation provisions and retained tree protection measures.

Scope and Purpose of Report

10.15. By detailing foreseeable tree related issues this report is intended to assist the Local Planning Authority (LPA), in this case Rushcliffe Borough Council (Rushcliffe BC) in their review of the proposed development and, as such, should be supplied to them in support of the planning application to which it pertains. Essentially, it provides an initial analysis of the impacts that the proposed development is projected to have on trees located within the site and, where necessary, on land immediately adjacent to its boundaries. It also offers guidance on suitable retained tree management and compensation for projected losses, along with advice on

appropriate tree protection measures in accordance with current guidance in the context of the proposals.

Site Visit, Data Collection and Tree Plans

- 10.16. In respect of the survey it should be noted that tree quality is categorised within the existing context without taking any development proposals into account. However, recommendations for works included in the TSS take both current site usage and the proposed development into consideration where there are definable issues with regard to specific trees.
- 10.17. Under the UK's planning system trees are a material consideration in the planning and development process. Nonetheless, only trees of a suitable quality and value should be considered a material constraint to development. In this respect the TSS includes a column ('Cat. Grade') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (Appendix One). 'A' category trees are those considered to be of 'high quality' and, accordingly, the most suitable for retention, whilst 'B' category trees are those considered to be of 'moderate quality', and 'C' category trees are those considered to be of 'low quality' with a correlated low retention value. In turn, 'U' category trees are those that are considered to be 'unsuitable for retention'.

STATUTORY TREE PROTECTION IN RESPECT OF TREES AND WILDLIFE

Tree Preservation Orders and Conservation Area Designations

- 10.18. The Town and Country Planning Act (1990) (the Act) and associated Regulations empower Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees of over 75 mm diameter that stand within the curtilage of a Conservation Area (CA). Subject to certain exemptions, an application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a CA that are not protected by a TPO.
- 10.19. According to Rushcliffe BC's planning department website (checked on 18/08/2022) the site does not stand within a CA, although the site partially borders the Thoroton CA to the south-east and the Hawksworth CA to the south-west. The council's website, however, does not give details of TPOs and, as such, it is therefore essential that the LPA be contacted directly to check for the presence of any such statutory protection prior to scheduling or carrying out any tree works that are not directly related to the implementation of a detailed (i.e. full) planning permission.

Protected Species

- 10.20. Nesting birds are afforded statutory protection under the Wildlife & Countryside Act (1981) (as amended) and their potential presence should therefore be considered when clipping hedges, removing climbing plants and pruning and removing trees. The breeding period for woodlands runs from March to August inclusive. Hedges provide valuable nesting sites for many birds and clipping should therefore be avoided during March to July. Trees, hedges and ivy should be inspected for nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged.
- 10.21. All bat species and their roosts are protected under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and under Schedule 2 of the Conservation of Habitats & Species Regulations 2017 (as amended). In this respect it should be noted that it is possible that unidentified bat habitat features may be located high up in tree crowns and all personnel carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present in trees with such features. If any bat roosts are subsequently identified then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigates and advises on appropriate actions prior to works continuing.
- 10.22. In turn, any subsequent works carried out in relation to any protected species must be carried out under guidance from a suitably qualified and experienced ecologist and in strict accordance with the guidance provided in BS42020:2013 - Biodiversity – Code of Practice for Planning and Development and, with regard to bats, in strict accordance with BS8596:2015 - Surveying for Bats in Trees and Woodlands. Further information on points 10.19 to 10.21 can be found in the Landscape Ecological Management Plan (LEMP). See **Figure 1.14, Technical Appendix 1, Volume 3**.

Felling Licences

- 10.23. Subject to certain exemptions the Forestry Act (1967) requires that a 'Felling Licence' be obtained to remove growing trees amounting to more than five cubic metres of timber in a calendar quarter. Felling Licences are administered by the Forestry Commission and contravention of the associated controls can incur substantial penalties. A felling licence is, however, not required for the felling of trees immediately required for the purpose of carrying out development authorised by a full planning permission granted under the Town and Country Planning Act 1990. It is not envisaged that any works will be undertaken on site which would require a felling licence.

TREE POPULATION

- 10.24. A total of 77 individual trees, 37 groups of trees, 19 hedges and seven woodlands were surveyed for the purpose of this appraisal. Detailed tree dimensions and other pertinent information, such as structural defects and physiological deficiencies, are included in the Tree Survey Schedule (TSS) at **Figure 10A.1**.

- 10.25. In this respect, the initially instructed tree survey covered a larger area than the current area under consideration for the development proposals, detailed from paragraph 10.29 onwards.
- 10.26. In respect of the survey it should be noted that tree quality is categorised within the existing context without taking any development proposals into account. However, recommendations for works included in the TSS take both current site usage and the proposed development into consideration where there are definable issues with regard to specific trees.
- 10.27. Under the UK’s planning system trees are a material consideration in the planning and development process. However, only trees of a suitable quality and value should be considered a material constraint to development. In this respect the TSS includes a column (‘Cat. Grade’) listing the trees’ respective retention values, where they are rated either ‘A’, ‘B’, ‘C’ or ‘U’, as per BS5837:2012 Table 1 (**Figure 10A.1**). ‘A’ category trees are those considered to be of ‘high quality’ and, accordingly, the most suitable for retention, whilst ‘B’ category trees are those considered to be of ‘moderate quality’, and ‘C’ category trees are those considered to be of ‘low quality’ with a correlated low retention value. In turn, ‘U’ category trees are those that are considered to be ‘unsuitable for retention’.
- 10.28. As detailed in Table A, below, five trees were categorised as high quality (i.e. ‘A’ category), 18 trees, six groups and seven woodlands were categorised as moderate quality (i.e. ‘B’ category), 40 trees, 26 groups and the 19 hedges were categorised as low quality (i.e. ‘C’ category), and 14 trees and five groups were classed as unsuitable for long term retention (i.e. ‘U’ category) regardless of the development proposals.
- 10.29. Furthermore, as detailed in the TSS, it is noted that a number of the surveyed Ash trees, located both on and around the site, have evidently been colonised by Ash Dieback Disease (*Hymenoscyphus fraxineus*), with resulting canopy dieback, reductions in vitality, as associated low retention values.

Table A: BS5837-2012 Retention Categories of the Surveyed Trees, Groups and Hedges

	Ret. Cats.	Tree/Group/Hedge/Woodland Numbers	Totals
Those of a moderate or high quality that should be afforded appropriate consideration in the context of development	‘A’	T10, T13, T17, T66, T68	5 Trees
	‘B’	T1, T2, T3, T4, T5, T12, T15, T21, T33, T42, T48, T55, T58, T59, T67, T75, T76, T77, G3, G4, G21, G25, G32, G35, W1, W2, W3, W4, W5, W6, W7	18 Trees 6 Groups 7 Woodlands
Those of a low quality that should not be considered a material constraint to development	‘C’	T7, T11, T14, T16, T18, T19, T20, T22, T23, T24, T26, T28, T29, T31, T32, T34, T36, T37, T38, T39, T40, T43, T44, T45, T46, T47, T49, T50, T51, T52, T54, T56, T57, T61, T62, T63, T69, T70, T72, T74, G1, G2, G8, G9, G10, G12, G13, G14, G15, G16, G17, G18, G19, G20, G22, G24, G26, G27, G28, G29, G30, G31, G33, G34, G36, G37, H1-H19	40 Trees 26 Groups 19 Hedges
Those that should be removed for sound management reasons regardless of site proposals	‘U’	T6, T8, T9, T25, T27, T30, T35, T41, T53, T60, T64, T65, T71, T73, G5, G6, G7, G11, G23	14 Trees 5 Groups
			77 Trees, 37 Groups, 19 Hedges & 7 Woodlands in total

*Note: Various surveyed trees/groups/hedges/woodlands stand, in parts, as boundary features to the edge of agricultural fields around ditches and fences. As such, it is the responsibility of the client to identify specific ownership of any such trees/groups/hedges or woodlands (and gain any subsequent permissions if applicable) prior to implementing any removals and/or pruning works whether part of this planning permission or otherwise

SITE DESCRIPTION, DEVELOPMENT PROPOSALS AND TREE IMPACTS

- 10.30. As previously noted at paragraph 10.24, the development site under consideration covers a smaller area than the initially instructed tree survey area, and consequently, the impact report relates to this proposed development area, with surveyed trees outside of this area (some of which are listed in Table A) not therefore projected to be impacted by the proposals.
- 10.31. As indicated on the TIP, the proposal is for the construction of a solar farm with associated internal access roadways, inverters and a central substation. It is proposed that the connecting cables will run along the proposed access trackways and connection to the grid will be via the overhead high voltage cables immediately east of the proposed substation area. Further details regarding the development proposals can be found at paragraphs 10.1 to 10.9.

Projected Arboricultural Losses relating to the Proposals

- 10.32. In turn, as detailed in Table B (below), it is projected that construction of the development as proposed will require the removal of parts of two low quality (i.e. 'C' category) hedges, equating to approximately 19m of hedge H5 and 14m of hedge H7 to form access to and within the site and provide passage of the proposed permissive footpath (See TIP – Appendix 10A.2).

	Ret. Cats.	Removals necessary to implement development	Removals recommended regardless of development	Total no. of removals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A'	-	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	-	-	-
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	H5, (part), H7 (part)	-	2 Part Hedges
Those that should be removed for sound management reasons regardless of plans	'U'	-	-	-
Totals		2 Part Hedges	-	= 2 part Hedges in Total

- 10.33. With regard to projected impacts it is emphasised that the development proposals sit largely within areas of what is evidently worked agricultural ground and, as such, it can reasonably be concluded that the ground within and adjacent to indicated RPAs and canopy spreads has been repeatedly cultivated. Additionally, it is noted that tree canopies and hedgerows are evidently cyclically maintained to allow the passage of agricultural machinery below and adjacent to tree canopies and hedgerows. This past management has, in turn, been projected to both limit the presence of significant rooting within the upper soil levels and prevent significantly low overhanging canopies forming over the ground.
- 10.34. Works to install solar panels and the perimeter fencing, the latter likely to be close to or partially impinging on edges of indicated RPAs and canopy spreads, are generally understood

to be of light construction in nature and is likely to cause negligible impacts to retained trees due to the previous site usage and management, as aforementioned, and the proposed set back distances of works from retained trees and hedges.

- 10.35. Furthermore, the proposed installation of the panels has been set back from the site boundaries which will minimise impacts of shading from any adjacent trees and hedges and the predominantly deciduous nature of the majority of trees will reduce the potential shading of the solar panels during winter. It is also projected that mechanical management of the hedgerows will continue in accordance with the LEMP (**Figure 1.14, Technical Appendix 1, Volume 3**) and Landscape Visual Assessment (LVA) (**Technical Appendix 1, Volume 3**) following the works.
- 10.36. With the exception of tree T17 (See Table C and paragraphs 10.41-10.43), the proposed internal access track runs outside retained tree RPAs and within previously disturbed agricultural ground and, as such, is not projected to impact upon the majority of retained trees. In addition, the permissive footpaths will not be subject to any hard surfacing or significant level changes.
- 10.37. Consequently, it is not projected that any major pruning works to retained trees will be required. However, should it become apparent that any pruning works are required to attain suitable clearances below retained tree canopies, then these works should be carried out in strict accordance with paragraphs 10.54 to 10.57, which will ensure that they are not detrimental to the applicable trees' long term structural and physiological condition. It is also projected that any pruning works undertaken would not be dissimilar to those ordinarily and cyclically be undertaken to maintain canopy clearances to the existing agricultural ground.

Compensation for Projected Arboricultural Losses

- 10.38. Although the level of necessary tree and hedge losses can reasonably be classed as very minimal, it is evident from the proposals that the wider site can accommodate new tree and hedge planting to compensate for the proposed losses. In this respect, new proposed tree and hedge planting are included within the LEMP.
- 10.39. As such, it is projected that adequate compensation can be achieved for the necessary small number of losses required to construct the development as proposed as a component of the LEMP.
- 10.40. Additionally, the replacement of 'U' category trees across the site, particularly those Ash succumbing to Ash Dieback Disease could be explored through long term management, whilst taking into account both the potential habitat value of those declining trees and risk management considerations.

Special Design, Materials and Working Methods for Construction within RPAs

- 10.41. The appraisal identified that part of the proposed trackway is within the RPA and canopy of high quality tree T17, as detailed on the TIP. Nonetheless, it should be noted that such works are achievable under current industry standard guidance (i.e. BS5837:2012) providing that they are planned and implemented whilst affording a suitable level of protection to the tree in question, such as through the use of appropriate working methods and procedures.
- 10.42. As such, it will subsequently be necessary to ensure that the tree under consideration is suitably protected in strict accordance with current government guidance through the use of special working and protection measures, specific details of which are given in Table C.

Table C: Elements of Proposal with Potential to Impact Upon Trees and Subsequent Specialist Working Methods

Element of Proposal with Potential to Impact Upon Retained Trees	Applicable Trees	Proposed Specialist Working and Construction Methods	Relevant BS5837 Section(s) to be Adhered to	Information Required and Relevant Specialist(s)
Construction of internal access track	T17	<ul style="list-style-type: none"> ▪ Proposed access track within RPAs to be constructed using a 'no dig' 3-dimensional cellular confinement system (See Appendix 10A.4) with wooden edge supports, to be installed on existing ground levels following removal of surface debris, in order to avoid ground excavation and/or compaction and subsequent root loss and damage. ▪ Excavations for drainage and/or cable runs to be deviated from track at this point outside of tree's RPA 	7.4	Supplier or experienced installer of 3-d cellular confinement system to provide details of proposed finished levels in comparison to existing levels and method statement for installation

- 10.43. Consequently, in order to ensure adequate protection of retained trees, in particular tree T17, then any special working methods and or protection measures for the above specific elements of the proposed development can be included in a suitably detailed site and development specific Arboricultural Method Statement and Tree Protection Plan, which can be produced prior to commencement of construction on site (see paragraphs 10.51 & 10.52 for further details regarding Arboricultural Method Statements and Tree Protection Plans).

Recommendations For Successful Tree Retention in the Context of the Development

Root Protection Areas and Construction Exclusion Zones

- 10.44. Adequate protection of the Root Protection Areas (RPAs) of retained trees during construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas that should be protected by temporary protective fencing as Construction Exclusion Zones (CEZs) throughout the development process, thereby keeping the trees' root zones free from disturbance. Consequently, the RPA distances, as detailed in the TSS (see 10.45) and on the TIP, give an idea of the on-site below-ground constraints in respect of tree roots and assist in planning for appropriate tree retention in relation to feasible development.
- 10.45. The TSS includes two columns listing the RPAs of the individually surveyed trees and, where applicable, the largest of the trees in any surveyed groups as overall areas in square metres and as radial distances. The radial RPAs are indicated as magenta coloured circles on the TIP (**Appendix 10A.2**).
- 10.46. With regard to CEZs the design, materials and construction of the fencing should be appropriate for the intensity and type of site construction works, should conform to at least section 6.2 of BS5837:2012. A Temporary Protective Fencing Specification is included at **Appendix 10A.3**.
- 10.47. In respect of the above it is noted that the majority of the works are located a sufficient distance from retained trees and, as previously noted in paragraph 10.32, in areas of worked agricultural ground therefore negating the need for large scale fencing of CEZs around the site. Construction compounds and inverters and substations are also positioned a considerable distance from retained trees and hedges and the majority of fields have existing agricultural tracks and pathway surrounding them. Consequently, in light of the above, it is concluded that the provision of protective fencing around the entire site would be wholly uneconomical and unnecessary.
- 10.48. That said, high quality tree T10 is an isolated field tree and will be located within the solar farm itself, moderately close to the proposed substation, whilst works are proposed within and in close proximity to the RPA and canopy of high quality tree T17 and adjacent to hedges H5 and H7. It is therefore proposed that tree T10 be protected for the duration of the works by forming a CEZ in accordance with the appended specification, and that the areas of tree T17's RPA that are not subject to specialist works detailed in Table C, be protected with a CEZ (see TIP). Additionally, protective fencing is proposed to either side of where the proposed access tracks will cross, following proposed hedge removals.

Underground Utilities and Drainage

- 10.49. The installation of underground utilities in close proximity to trees can cause serious damage to their roots. As such, it is essential that utilities be routed outside RPAs unless there is no other available option. Where RPAs cannot be avoided then guidelines set out in the National Joint Utilities Group publication 'Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2) – Operatives Handbook'

should be followed (e.g. trenches of a very limited width to be hand dug or the use of directional drilling).

- 10.50. It is understood, from information provided by the agent for the client, that it is proposed that the associated underground cable routes are to follow the proposed access route around the site which, in turn, is located outside retained tree and hedge RPAs. In turn, the connection to the existing grid is to be via the overhead lines as indicted on the TIP which, again, are located outside of retained tree and hedge RPAs and canopy spreads. It is also understood that the existing field drains will be retained and a drainage channel may be added to areas of the access route where required which, again, is routed outside of retained tree and hedge RPAs.

Arboricultural Method Statement and Tree Protection Plan

- 10.51. Government guidance recommends that, where considered expedient by the LPA, an Arboricultural Method Statement (AMS) and a Tree Protection Plan (TPP) be prepared detailing special mitigation construction issues in relation to the development under consideration. Essentially, the AMS and TPP describe and detail the procedures, working methods and protective measures to be used in relation to retained trees in order to ensure that they are adequately protected during the construction process.
- 10.52. In order to ensure that any such special working methods are followed, and that the retained trees are adequately protected throughout the development process, the production of and adherence to an AMS and a TPP can be required, if deemed necessary.

Generic protection methods

- 10.53. These general precautions **must** be followed within **unsurfaced** Root Protection Areas (RPAs) of **retained** trees during the construction phase:
- No change in the soil level, by stripping or filling unless required for access tracks;
 - No excavation, without prior discussion with the Project Arboriculturist and/or the Local Planning Authority unless required for access tracks;
 - No redirection of surface water runoff into or out of the RPA;
 - No temporary buildings, sheds, or offices, without prior discussion with the Project Arboriculturist and/or the Local Planning Authority;
 - No storage of materials or fuel;
 - No dumping of materials, whether into a skip or onto the ground;
 - No fires within 10m of the RPA or tree canopy, whichever is greater;
 - No refuelling of mechanical equipment;
 - No storage or mixing of cement; and
 - No washing of cement mixers within or uphill of the RPA.

OTHER RECOMMENDATIONS

Non-Development Related Tree Works and Recommendations

10.54. Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should therefore be carried out regardless of any site development proposals and potential changes in land usage. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations and in accordance with the LEMP. See **Figure 1.14, Technical Appendix 1, Volume 3.**

Tree Work Related Consents

10.55. No tree pruning or removal works should commence on site until necessary consents have been obtained from the LPA as part of a planning approval or in respect of any statutory tree protection (e.g. CA and/or TPO protection).

Arboricultural Contractors

10.56. All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current CE and UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides if required.

Contractors and Subsequently Identified Tree Defects

10.57. Tree contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then these should be notified immediately to the site manager within five working days.

New Tree Planting

10.58. All tree planting at the site should be carried out in accordance with BS8545:2014 Trees: from nursery to independence in the landscape – Recommendations, and in accordance with the guidance detailed in section 5.6 and Table A.1 of BS5837:2012 and as per the LEMP.

Landscaping Within and Close to Retained Trees' RPAs

10.59. Any landscaping carried out within and close to retained trees' RPAs should be carried out in strict accordance with the guidance detailed in section 8 of BS5837:2012.

Retained Tree Management

- 10.60. Trees are dynamic living organisms whose structure is constantly changing and even those evidently in good condition can succumb to damage and/or stress. However, any tree risk management appraisals and subsequent recommendations made in this report were based on observations and site circumstances at the time of the survey in January 2022.
- 10.61. In this respect, it should be noted that, under the Occupiers' Liability Act (1957 & 1984), site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. In turn, it is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks. Details of retained tree management are included within the LEMP (**Figure 1.14, Technical Appendix 1, Volume 3**).

SUMMARY AND CONCLUSIONS

- 10.62. Seventy-seven individual trees, 37 groups of trees, 19 hedges and seven woodlands were surveyed for the purpose of this appraisal, in respect of the proposed construction and installation of a solar farm and associated works.
- 10.63. Five trees were categorised as high quality, 18 trees, six groups and seven woodlands were categorised as moderate quality, 40 trees, 26 groups and the 19 hedges were categorised as low quality, and 14 trees and five groups were classed as unsuitable for long term retention regardless of the development proposals.
- 10.64. An appraisal of the proposal documentation provided to date identified that construction of the development as proposed will require the removal of parts of two low quality hedges, and that some relatively minor canopy pruning works will be necessary to obtain sufficient access clearances.
- 10.65. Nonetheless, it is noted that the wider site has sufficient space for compensatory tree and hedge planting to compensate for the necessary losses, the provision of which can be assured through the implementation of the LEMP (**Figure 1.14, Technical Appendix 1, Volume 3**).
- 10.66. Consequently, any new tree planting or other landscaping works subsequently carried out within and close to retained trees' RPAs, should be carried out in strict accordance with current government guidance.
- 10.67. In addition to the above it is also concluded that, in order to ensure successful existing tree preservation over the long-term, it is essential that any retained trees are protected in strict accordance with current Government guidance and the recommendations included herein.

- 10.68. In this respect, it is deemed that the scale and nature of works, the previous agricultural site usage, and the distances between proposals and retained trees negates the need for the large scale use of temporary protective fencing.
- 10.69. That said, temporary protective fencing is recommended for high quality tree T10, parts of the RPA of high quality tree T17 and, following removal of relevant sections, the points of low quality hedge H5 and H7 at either side of where the proposed access track and permissive bridleways will cross.
- 10.70. In this respect the appraisal identified that works to install the proposed access track have the potential to impact upon the RPA and canopy spread of tree T17, and special construction, working and protection methods and measures are subsequently proposed in order to minimise any potential damage to the tree in question.
- 10.71. Accordingly, in order to ensure adequate protection of retained trees, then the aforementioned special consideration factors can be included in a suitably detailed Arboricultural Method Statement and Tree Protection Plan if required.
- 10.72. Finally, it is emphasised that all site works should be carried out in strict accordance with any advice and recommendations made by the project ecologist where applicable and, in turn, in accordance with current government guidance relating to biodiversity, wildlife and development, and in accordance with the LEMP (**Figure 1.14, Technical Appendix 1, Volume 3**).
- 10.73. In conclusion, provided that all the recommendations made in this report are followed it is considered that the proposed development can be implemented in accordance with British Standard BS 5837:2012, **without detriment** to the health and longevity of the retained trees and hedges.

APPENDICES

Appendix 10A – Figures

- Figure 10A.1 Tree Survey Schedule and BS5837:2012 Table 1
- Figure 10A.2 Tree Impact Plans (1-3)
- Figure 10A.3 Temporary Fencing Specification
- Figure 10A.4 Manufacturer’s Brochure for Cellular Confinement System ().

Appendix 10B – Disclaimer