



Mallard Pass

Solar Farm

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outline Landscape and Ecology Management Plan (oLEMP) [Clean]

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1.0 Introduction

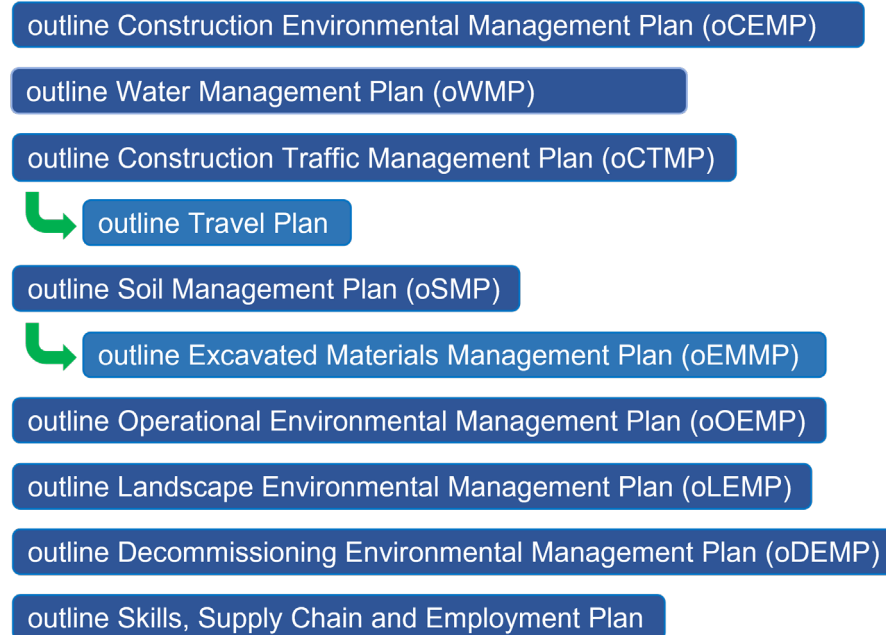
1.1. Purpose of this document

- 1.1.1. This document provides an outline Landscape and Ecological Management Plan (oLEMP) for the Mallard Pass Solar Farm (hereafter referred to as 'the Proposed Development'). A LEMP will be produced for each phase (or more than one phase) of the Proposed Development in accordance with a Requirement of the Development Consent Order (DCO) prior to commencing construction, which will be required to be in accordance with this oLEMP submitted as part of the DCO Application. The LEMP will include a Tree Protection and Removal Plan identifying the location of protection fencing (where required) for retained trees and which trees are to be removed for each phase of the development.
- 1.1.2. The oLEMP provides a framework for delivering the landscape strategy and the successful establishment and future management of the proposed landscape and ecological works associated with the Proposed Development for the duration of its operation. It sets out the short and long-term measures and practices that will be implemented by the Applicant to establish, monitor and manage landscape and ecology mitigation and enhancement (including biodiversity net gain) measures embedded in the design. The latter will be achieved through habitat creation over and above that used for habitat mitigation and is supported by, and informs the **Net Biodiversity Gain Statement (Appendix 7.6 of the ES [EN010127/APP/6.2])**.
- 1.1.3. The measures proposed within the oLEMP will be agreed prior to the commencement of construction works with the local planning authorities in consultation with Natural England. The LEMP(s) will be prepared following the appointment of a principal construction contractor, prior to the start of works and in accordance with this oLEMP. This oLEMP provides the likely

structure of the LEMP(s) and controls which might be included within the LEMP(s) to deliver the operational phase of the Proposed Development.

- 1.1.4. The appointed construction contractor will be responsible for working in accordance with the environmental controls documented in this oLEMP, pursuant to the DCO. The overall responsibility for implementation of the LEMP(s) will lie with the appointed contractor as a contractual responsibility to the Applicant, as the Applicant is ultimately responsible for compliance with the Requirements of the DCO.
- 1.1.5. The oLEMP has been informed by consultation and engagement with relevant parties including Rutland County Council (RCC), Lincolnshire County Council and South Kesteven District Council. Detailed LEMPs will be produced as part of the detailed design stage and will provide more detail for specific areas of the Proposed Development as required.
- 1.1.6. The oLEMP has been produced with reference to the Biodiversity – Code of Practice for Planning and Development British Standard: BS 42020:2013 (BSI Standards Limited, 2013) and in particular, Section 11.1 which provides details on the content of management plans.
- 1.1.7. This oLEMP is set out in the context of the other environmental management plans that will be submitted with the DCO Application in Diagram 1 below. It should also be read with reference to the **Green Infrastructure Strategy Plans** (Appendix 2 of this document) and **Figure 3.2: Field Numbering Plan** of the ES Figures [EN010127/APP/6.3].

Diagram 1 Environmental Management Plans Hierarchy



1.2. Structure of the LEMP

1.2.1. The oLEMP is structured as follows:

- a. **Section 1:** Provides an introduction and sets out the structure of the oLEMP.
- b. **Section 2:** Describes the Order limits, considers its ecological value, records the habitats and species present and summarises the landscape character of the Order limits and its surrounds.
- c. **Section 3:** Details the management objectives for the Proposed Development.
- d. **Section 4:** Details a framework for the required management works
- e. **Section 5:** Sets out a framework for management activities and works.
- f. **Section 6:** Provides a summary of management roles and responsibilities.

1.3. The Order Limits

- 1.3.1. The Order limits are described in **Chapter 3: Description of Order limits**, of the ES.
- 1.3.2. They comprise the Solar PV Site, Mitigation and Enhancement Areas, Highway Works Site and the Grid Connection Corridor.

1.4. The Proposed Development

- 1.4.1. The Proposed Development is described in **Chapter 5: Project Description** of the ES and the principal components comprise the following:
 - a. PV Modules;
 - b. Mounting Structures;
 - c. Inverters;
 - d. Transformers;
 - e. Switchgears;
 - f. Onsite Substation and Ancillary Buildings;
 - g. Low Voltage Distribution Cables;
 - h. Grid Connection Cables;
 - i. Fencing, security and ancillary infrastructure;
 - j. Access tracks; and
 - k. Green Infrastructure (GI)
- 1.4.2. Existing Green Infrastructure (GI) permeates through and across the Order limits but is principally delivered through the Mitigation and Enhancement Areas as set out on the Green Infrastructure Strategy Plans (Appendix 2 of this document). These are described in further detail within the Design and Access Statement (DAS) [EN010127/APP/7.3].and Section 3.0 of this

document but comprise of either retained arable land, the West Glen River Corridor and areas of wildflower grassland with calcareous species in the west of the Order limits.

1.5. Associated Documents

1.5.1. This oLEMP has been informed with reference to the following assessments:

- a. Ecological Impact Assessment (see **Chapter 7: Ecology and Biodiversity** of the ES) and **Appendix 7.2: Ecology Baseline Report [EN010127/APP/6.2]**.
- b. Landscape and Visual Impact Assessment (**Chapter 6: Landscape and Visual** of the ES).
- c. **Arboricultural Impact Assessment** in **Appendix 15.2** of the ES.

1.6. Summary of Baseline Data

1.6.1. The Order limits comprises primarily rolling, agricultural fields bounded by a network of woodland blocks, hedgerows and treebelts. A network of ditches drains to the West Glen River which runs northwest to southeast through the centre of the Order limits forming the natural topographical low point, and ranges between 16 – 67m AOD across the Order limits.

1.7. Nature Conservation Designations

1.7.1. Four international designated sites are present within 10km of the Order limits, the Rutland Water Special Protection Area (SPA) and Ramsar Site, which are located approximately 5.6km to the south-west of the Order limits, but 8.6 km from the Solar PV Site, Baston Fen SAC is located 4.46 km north east of the Order limits boundary, Grimsthorpe SAC is located 4.67 km north of the Order limits boundary and Barnack Hills and Holes SAC is located 6.8 km south of the Order limits boundary.

- 1.7.2. Eight nationally important statutory designated sites are present within 2km of the Order limits. All of these sites are Sites of Special Scientific Interest (SSSI), which include Ryhall Pasture and Little Warren Verges SSSI and Newell Wood SSSI, Great Casterton Road Banks SSSI, Tolethorpe Road Verges SSSI, Tickencote Marsh SSSI, Bloody Oaks SSSI and East Wood, Great Casterton SSSI and Clipsham Old Quarry and Pickworth Great Wood SSSI.
- 1.7.3. A total of 71 non-statutory Local Wildlife Sites (LWS) are present within 2km of the Order limits. The majority of these are designated for habitats (predominantly hedgerows, grassland and woodland) with many also featuring locally or nationally scarce species.

1.8. Habitats

- 1.8.1. The Solar PV Site and Mitigation and Enhancement Areas consists of fields predominantly in agricultural use with associated hedgerows, ditches, ponds, woodland parcels and tracks and buildings. The majority of field margins measure less than 1m in width, though some are larger. Many fields are very large (the largest being over 58ha). The fields support a very low diversity of arable weeds.
- 1.8.2. The arable fields are of low intrinsic ecological value and are not Habitats of Principal Importance (HPI) for the conservation of biodiversity in England as defined by the Natural Environment and Rural Communities (NERC) Act 2006 (as amended). Local Planning Authorities are required to have due regard to such habitats when carrying out their duties and are a material consideration when determining planning applications under the Town and Country Planning Act 1990. The intense nature of the agricultural practice and very limited margins mean they are not considered to be ecologically valuable and are not HPis.

- 1.8.3. Areas of grassland are present across the Order limits, predominantly forming margins to arable fields. Improved grassland areas are dominated by perennial rye grass *Lolium perenne* with very few herbs present (predominantly white clover *Trifolium repens* and creeping buttercup *Ranunculus repens*). This grassland does not meet the description of any HPIs.
- 1.8.4. Areas of species-poor, semi-improved grassland are also present across the Order limits, predominantly forming margins to arable fields. These support a slightly higher plant species diversity. This grassland does not meet the description of any HPIs.
- 1.8.5. More diverse grassland is present in the Order limits along certain arable field margins, road verges and adjacent to the river and in two small fields on either side of the Essendine Dismantled Railway Embankment LWS. This has been assessed as being semi-improved neutral grassland. Due to the relatively low species richness and absence of indicator species for lowland meadows, this grassland does not meet the description of the Lowland Meadows HPI (Maddock, 2011).
- 1.8.6. There are multiple parcels of woodland adjacent to the Order limits area, some of which are semi-natural broadleaved woodland, but none are within the Order limits. A former railway embankment in the western extent of the Order limits (designated as the Essendine Dismantled Railway Embankment LWS adjacent to Field 19 as shown on **Figure 3.2** of the ES) features dense mixed scrub of comparative high species richness. This habitat is not an HPI.
- 1.8.7. Most external boundaries and some internal boundaries of the Order limits feature native hedgerows. Some species-rich sections are present with over five woody species per 30m section. The majority of hedgerows onsite are species-poor, and formed by one to three woody species. Many hedgerows across the Order limits feature one or several standard trees.

Most hedgerows, particularly in the east of the Order limits, are intensively managed by cutting and show structural indicators of poor condition (abundant horizontal and vertical gaps), with some hedgerows defunct and/or left to grow out into scrubby treelines. All the hedgerows onsite are considered to meet the description of the Hedgerows HPI.

- 1.8.8. An analysis of aerial imagery and mapping as well as site visits have revealed the presence of 23 ponds onsite or within 500m of the Order limits. There are nine ponds within the Order limits or adjacent to its boundary, with an additional 14 ponds within 500m of the Order limits. All the ponds onsite holding water have the potential to meet the description of the Ponds HPI (Maddock, 2011) based on the presence of aquatic species and water quality parameters.
- 1.8.9. The West Glen River flows through Fields 20, 21, 24 and 26, as indicated on **Figure 6.11** of the ES Figures. This watercourse features a river channel dominated by marginal vegetation. Emergent/submerged plants are also present in patches, but a detailed survey was not undertaken to identify these down to species level. The banks of the river comprise of a mosaic of species poor semi-improved grassland, semi-improved neutral grassland, scattered scrub and tall ruderal vegetation. The river has the potential to meet the description of the Rivers HPI (Maddock, 2011) and as a precautionary approach, this has been assessed as being an HPI.
- 1.8.10. A mixture of dry and wet field ditches are present across the Order limits. These generally did not feature aquatic vegetation, with any vegetation present reflecting the surrounding habitat (generally species-poor grassland field margins as described above). This habitat does not meet the description of any HPIs.
- 1.8.11. Small pockets of tall ruderal vegetation are present, particularly in the western extent of the Order limits. These are too small to map and often form transitional areas between other habitat types. Species noted

included common nettle, broad-leaved dock and common hogweed. This habitat does not meet the description of any HPIs.

- 1.8.12. The Solar PV Site and Mitigation and Enhancement Areas also includes small areas of bare ground (e.g. access tracks), scattered trees and hard standing
- 1.8.13. The Order limits does not support any ancient woodland; however, there are parcels of this located to the north-east adjacent to the Order limits (replanted ancient woodland at Braceborough Little Wood) and north-west, at a distance of approximately 275m (ancient woodland and replanted ancient woodland at Newell Wood).

1.9. Species

- 1.9.1. The Order limits supports a range of species which are either protected and / or notable. Specific surveys have been carried out for species to which impacts from this type of proposal can be anticipated.
- 1.9.2. The Order limits is likely to support or has been shown to support:
- a. Water vole and otter in the West Glen River.
 - b. Breeding birds typical of farmland habitats, including skylark.
 - c. Bats are likely to be present and use existing linear features for commuting and foraging. Roosting features in buildings and larger trees are also present.
 - d. Great crested newt have been recorded in a single off site pond, but not within the Order limits.
 - e. Reptiles may be present in small numbers using hedgerow bases.
 - f. Dormice may be present in woodlands and hedgerows.
 - g. Badgers are present within the Order limits with several setts identified.

- h. Brown hare are present using the large fields and hedgerows.
- i. Hedgehogs are likely to be present, foraging in open areas and woodland and sheltering in woodland and hedgerows.

1.10. Landscape Designations

- 1.10.1. The Order limits is not subject to any landscape designations such as National Park (NP) or Areas of Outstanding Natural Beauty (AONB). The closest designated landscape is the Norfolk Coast AONB located over 50km to the east of the Order limits.
- 1.10.2. There are no geological designations within the Order limits but an understanding of the underlying geology, geomorphology and soil characteristics has informed the GI Strategy Plans and oLEMP and will inform detailed design specifications.

1.11. Landscape Character

National Landscape Character

- 1.11.1. The Proposed Development is located entirely within National Character Area (NCA) 75: Kesteven Uplands (see **Figure 6.3** of the ES Figures), located in its southern extent. NCA 75 is described as being a “*deeply rural landscape which has only a very small urban area*” and comprises “*gently rolling, mixed farming landscape dissected by the rivers ...*” including the West Glen River which is an “*important feature*” and runs through the Order limits in a southerly direction. It also notes the “*more elevated arable areas ... have exposed distant views of the West Glen river valley*” and the presence of the East Coast Mainline Railway that crosses this NCA and bisects the Order limits. Key characteristics identified for NCA 75 include [inter alia] “*Significant areas of woodland ... and parkland landscapes which, in combination with the topography, frame and contain views*”.

- 1.11.2. Statements of Environmental Opportunity identified for NCA 75 include [inter alia]:
- a. SEO2: Protect and significantly increase the extent, quality and connectivity of the unimproved and limestone grasslands throughout the NCA, to enhance biodiversity, ecological networks, water availability and quality, climate regulation and sense of place.
 - b. SE03: Manage and expand the native woodlands throughout the Kesteven Uplands to reinforce the area's wooded character, benefit biodiversity, increase the potential for biomass, access and recreation, and help to regulate climate change and water quality.
 - c. SEO 4: Protect, manage and promote the area's rich historic environment ... while also improving access and interpretation to enhance people's understanding and enjoyment of the landscape”.
- 1.11.3. Specific Landscape opportunities identified for the NCA include [inter alia]:
- a. “Protect, manage and restore the areas species-rich grasslands, particularly limestone grassland.
 - b. Maintain and restore hedgerows ... including replanting where necessary, to maximise their contribution to landscape character and biodiversity networks. Restore and introduce hedgerow trees into key locations to reinforce field patterns.
 - c. Conserve and manage the open character of the Kesteven Uplands protecting long distance views.
 - d. Manage and expand broadleaf woodlands where possible, conserving the predominant tree species that include ash and oak and considering successional tree planting to conserve the tree canopy in existing woodland. Manage existing wet woodland, and extend and buffer where possible.”

Local Landscape Character

1.11.4. At the local character level, the Order limits covers both the Kesteven Uplands LCA in the north, east and south and Clay Woodlands LCA in its central and western areas. Key characteristics of the Kesteven Uplands include:

- a. “a relatively unified, simple, medium-scale agricultural landscape, with a high proportion of historic woodland ...
- b. Undulating landform based around the valleys of the Rivers ...
- c. High concentration of houses and parks, with areas of farmland under estate management.
- d. A dispersed, nucleated settlement pattern, mostly following the river valleys.
- e. Enclosed mostly by hedgerows, with hedgerow trees.”

1.11.5. Recommendations/objectives for the Kesteven Uplands LCA include [inter alia]:

- a. “Protect and improve field boundary condition.
- b. Protect existing hedgerow trees.
- c. Plant new hedgerow trees.
- d. Maintain important grassland areas.
- e. Protect important and distinctive woodland cover.
- f. Protect historic parkland.
- g. Protect field trees, particularly in parkland and in large arable fields.
- h. Use of new planting to minimise the visual impact of major roads and industrial buildings.

- i. Pay special attention to sensitive spaces around the edge of historic towns such as Stamford and the villages.
- j. Maintain open areas that extend into the towns and villages.””

1.11.6. Key characteristics of the Clay Woodlands LCA include:

- a. “medium to large scale mixed broadleaved and coniferous woodlands within large farming estates ... These woodlands... are conspicuous features in most views within or into this area. Close to, they enclose views whilst providing an extensive backdrop in most distant views across well maintained farmland.”
- b. Woodlands are less extensive around the Gwash Valley, where trees are in small copses and where close-trimmed hedges alongside large arable fields give a more open feeling to the landscape. This is particularly so in the extreme eastern corner of the County, between Ryhall and Essendine, where the railway line and its tall gantries, high voltage power cables and pylons, and modern housing are intrusive.”
- c. “a transitional area between the settled estate woodlands to the north and west, and the more open, modern unsettled claylands to the east and south.”

1.11.7. Recommendations/objectives for the Clay Woodlands LCA and related reports include [inter alia]:

- a. “To conserve and enhance the large-scale, gently undulating, agricultural landscapes with substantial woodlands and avenues,
- b. to enhance the sustainable management of existing woodlands and
- c. to create new woodlands in the less wooded parts around the Gwash Valley, especially where they would create skyline features.
- d. to improve the edges of the settlements and integrate large structures and modern buildings into the landscape where necessary.”

2.0 Landscape, Ecology and Amenity Proposals

2.1.1. The ***Design and Access Statement (DAS)*** [EN010127/APP/7.3] sets out further details of the iterative design process and how the Proposed Development has responded to its environmental context, designed to be sympathetic to local character but also to provide positive benefits wherever possible. The following outlines the design and mitigation measures relating to the Landscape, Ecology and Amenity aspects of the Proposed Development:

Landscape

- a. Siting of development within the existing landscape structure, allowing the retention of the existing landscape fabric of woodland, hedgerows, ditches and watercourses within the Order limits. Some pruning and/or removal of hedgerows may be required in limited areas for access requirements.
- b. Substantial new planting across and throughout the Order limits providing visual screening and benefits to landscape character at landscape wide scale.
- c. Infilling and gapping up of existing hedgerows where required, reconnecting landscape features and providing visual screening.

Ecology

- a. Retention of the majority of the habitats of the highest value, where possible, including woodland, hedgerows, ditches and watercourses with appropriate buffers.
- b. Extensive new planting comprising a variety of habitats and species including: Hedgerows, woodland, diverse wildflower grassland (with calcareous grassland species in the western parts of the Order limits

and with more neutral grassland species in the eastern parts of the Order limits), reconnecting habitats at the landscape scale.

- c. New shallow scrapes for birds along the West Glen River.
- d. New features/provisions including bat and bird boxes and artificial otter holts.
- e. Ongoing future management for biodiversity benefits including hay meadow style management of new grassland areas, low intensity grazing, less intensive hedgerow management allowing vegetation to grow out more fully providing biodiversity benefits.

Amenity

- a. Retention of all existing Public Rights of Way (PRoW) within the Order limits.
- b. Creation of 4 new permissive paths totalling 8.1km within the Order limits and new areas for nature interpretation and engagement within the West Glen River Corridor.
- c. Offset of Proposed Development at least 15m either side from existing PRoW and proposed permissive paths.
- d. New planting to provide visual screening to users of existing and newly created PRoW within the Order limits.

3.0 Management Objectives

3.1.1. This section sets out the management objectives for the key habitats, species, and functionality of the Order limits.

3.1.2. The following management objectives are proposed:

Objective 1 – Protect and enhance the biodiversity of the Order limits.

3.1.3. The biodiversity value of the Order limits will be significantly enhanced with a minimum Biodiversity Net Gain (BNG) of over 10% (significantly above the target set by the central Government in the Environment Act) being delivered by the Proposed Development. This will primarily be achieved through new habitat creation informed by Lincolnshire BAP guidance via the planting of more diverse habitats, which will include:

- a. native screening / structure planting comprising individual trees, tree belts and hedgerow planting as Green Infrastructure Strategy Plans (Appendix 2 of this document).
- b. new wet woodland / riparian planting in the West Glen River Corridor;
- c. wildflower grassland throughout the Order limits but outside the Solar PV Site which can be utilised by skylark;
- d. permanent grassland (underneath solar panel areas);
- e. Retention of arable land and creation of skylark plots within them to increase the opportunities for breeding.

3.1.4. In addition to habitat creation, existing habitats will be enhanced through positive management to improve habitat conditions.

3.1.5. The enhancement of the biodiversity of the Order limits is demonstrated by the ***Net Biodiversity Gain Statement (Appendix 7.6 of the ES)***.

Objective 2 – Facilitate opportunity for engagement with the natural environment and renewable energy.

- 3.1.6. Opportunities for the local community to engage with and learn about the natural environment will be provided. This will include the provision of informal, low-key interpretation boards at appropriate, strategic points across the Order limits that would allow the local community to learn and engage with nature. Information will also be provided on the solar farm, climate change and the benefits of renewable energy. Way-markers and interpretation boards will be provided at appropriate junctions of the existing footpaths or where they enter the Order limits to aid interpretation.
- 3.1.7. A new nature area within the West Glen River corridor is proposed, comprising of low-key bench seating and willow screen hides to allow access and engagement with the natural environment.
- 3.1.8. Locations for these features will be confirmed in the LEMP.

Objective 3 – Protect and enhance the existing characteristics and features of value of the Order limits including the field structure, mature trees, hedgerows and ditches.

- 3.1.9. A strong network of habitats is present across the Order limits and will be retained by the Proposed Development as summarised in Section 1.8.
- 3.1.10. This not only provides important visual screening functions but also biodiversity habitats and connectivity. Existing hedgerows, which includes large hedgerow trees, will be largely retained and managed via a rotational cutting regime with the objective of enhancing their biodiversity and landscape/screening value, whilst also providing important ecological connectivity in accordance with landscape character and ecological guidance.

- 3.1.11. This will ensure:
- a. Retention and enhancement of the existing field pattern and wildlife corridors both during the construction and operational lifespan of the Proposed Development;
 - b. Protection of existing habitat for nesting birds, dormice and foraging and roosting bats;
 - c. Protection of existing habitat corridors along these features;
 - d. Protection of the functionality of the landscape and its watercourses. The enhancement of existing vegetation and the implementation of proposed planting will promote improved interception, evapotranspiration, infiltration rates, whilst also providing water quality treatment for surface water runoff before it enters the watercourses within and surrounding the Order limits; and
 - e. Positive management of the dismantled railway designated as a Local Wildlife Site (LWS) for biodiversity maintain a diversity of habitats including scrub and scrubby trees.

Objective 4 – Create a strong structural planting framework and protect, restore and maintain the existing vegetation network.

- 3.1.12. In addition to the retained field structure planting and features, further structural planting of hedgerows is proposed, informed by an understanding of the environmental context and aspirations of the Lincolnshire BAP and landscape character studies which encourage planting of native species, creation of calcareous grassland, and planting of native woodland and individual trees. This will ensure:
- a. An enhanced landscape structure with greatly improved GI corridors and connectivity around and within the Order limits such as GI corridors and along PRowWs.

- b. Enhanced screening of close views to the PV Arrays and associated built elements from PRowS, local roads (such as the A6121, B1176, Uffington Lane and Carlby Road) and other publicly accessible areas within and immediate adjacent to the Order limits. This will also mitigate the potential effects of glint and glare specifically identified for the two residential properties at Wood Farm Cottages where a small copse of woodland is proposed to screen views (refer to **Appendix 15.3** of the ES for the Glint and Glare study).
- c. A greater ability to mitigate against climate change, such as flood events. Research¹ demonstrates that a comprehensive landscape strategy will maintain a development site's existing hydrological response – with enhancement of existing planting and new planting promoting improved interception, evapotranspiration, infiltration rates alongside water quality treatment for surface water runoff before it enters watercourses. These increased hydrological rates will provide a betterment on existing runoff rates, which is beneficial in any future climate change scenarios.

3.1.13. Key structuring elements include:

The West Glen River Corridor

- a. The West Glen River Corridor is a key landscape structuring element that has shaped the design of the Proposed Development from the very beginning. The river corridor, which has historically been heavily channelised and is currently not publicly accessible within the Order limits, naturally presents the opportunity to deliver landscape scale enhancement.

¹ Hydrologic Response of Solar Farms (Cook and McCuen, 2013), Journal of Hydrologic Engineering

- b. Enhancement to the river corridor is proposed with new planting such as wet woodland/carr scrub and also the creation of shallow scrapes to provide new habitat to fauna, including birds.
- c. A new permissive path along the West Glen River is proposed both in the north (adjacent to Field 7) but also in the central section when it runs parallel to the Order limits adjacent to the East Coast Main Line (adjacent to Fields 20 and 21) with new low key bench seating and willow screen hides creating new opportunities for engagement with the natural environment.
- d. The Applicant is in dialogue with Anglian Water who have identified the West Glen River for potential works to improve biodiversity and riparian habitats as part of their Catchment Based Approach (CaBA) partnerships programme. These works are mutually compatible and beneficial with the aspiration GI Strategy and would bring biodiversity benefits to the West Glen River.

Existing PRow and New Permissive Paths

- a. Five existing PRow traverse the Order limits and an additional four new permissive paths (8.1km in total) are proposed as part of the Proposed Development. A minimum offset of at least 15m from the existing PRow and permissive paths is proposed to the PV Array perimeter fencing with a combination of new treebelt, hedgerow and grassland planting proposed for those routes adjacent or within the Solar PV Site Area to provide screening and habitat connection.
- b. Both existing and permissive paths provide key structuring features, linking habitats and providing a continuous and extensive GI network across the Order limits and beyond.

Calcareous Grassland Enhancements

- a. Areas in the northwest of the Order limits are underlain by chalk geology. Many of the road verges in this area are protected either statutorily or locally given the diversity of verge-side flora. The creation of new grassland with calcareous species in areas in the west of the Order limits connecting to the verges and other areas has been a key principle of the design contributing to this important habitat and reconnecting up other neighbouring habitats that have become fragmented.

Woodland Reconnection

- a. Throughout the Order limits there are a number of woodland blocks that, through modern agricultural practices, have become fragmented and isolated. The retention of existing hedgerows and their management and enhancement where required with infill and new planting seeks to re-link these habitats, connecting them back into the GI network within the Order limits and beyond.
- b. The Proposed Development also seeks to create new connections to existing woodlands, either through enhancement of existing hedgerows or the creation of new planting.

Objective 5 – Create greater opportunities for protected species and species of conservation concern.

- 3.1.14. Whilst the Order limits is currently of limited value to most protected or notable species, the Proposed Development will seek to enhance opportunities for these where possible in accordance with Lincolnshire BAP aspirations. The size of the Order limits provides opportunity for proposals that target specific species of interest as well as general creating wildlife corridors between areas. Enhancements for species will include:

Creation of shallow riparian scrapes in the West Glen River Corridor Area

- a. Shallow scrapes designed to flood periodically will be included in the Proposed Development. These will be seeded with species typical of flooded meadows. These features will provide foraging habitats for wintering wildfowl and contributing to diversifying the habitats along the river corridor.

Installation of otter holts along the West Glen River

- a. Two otter holts will be created adjacent to the West Glen River in secluded, not publicly accessible areas. These will include an entrance tunnel and a large chamber, based on approved designs for these features.

Installation of 50 bat boxes to increase roosting opportunities.

- a. These will be installed on mature trees within the Order limits. These will be the 2F Schwegler Bat Box or 2FN Schwegler Bat Box, Vivara Pro WoodStone Bat Box or similar, with precise locations to be advised by an ecologist.
- b. In addition, the grassland areas, new tree and hedgerow planting will provide increased foraging opportunities for bats.

Installation of 50 bird boxes to increase roosting opportunities.

- a. These will be installed in mature trees and will include boxes for a range of species of principal importance, such as starling (no. 20 of Eco Starling Nest Box or similar), house sparrow (no. 20 of Vivara Pro Seville 32mm WoodStone Nest Box or similar) and spotted flycatcher (no. 10 of Vivara Pro Barcelona WoodStone Open Nest Box or similar).

Installation of gaps for mammals.

- a. The ground underneath the PV Array will provide suitable habitat for a range of mammal species and as such access for these under/through the security fencing will be provided to allow badger, brown hare, polecat and hedgehog to move through the Order limits and forage over the grassland beneath the PV Arrays. Gaps measuring 30cm x 30cm will be created at ground level at all fenced PV Array perimeters, with access point provided at several locations in each fence alignment, as appropriate to the surrounding habitats.
- b. Grass cuttings will be stacked in piles close to field ditches and ponds to provide egg laying habitat for grass snake.

Creation of ground nesting opportunities for skylark.

- a. As identified on the Green Infrastructure Strategy Plans (Appendix 2 of this document), existing arable fields within the Order limits will be retained and continue to be farmed. Within these fields skylark plots will be created to provide nesting opportunities in line with guidance published by the RSPB (undated). This essentially entails leaving several small areas of bare earth (approximately 16 – 24 sq m) within the arable crop when seeding it to act as plots for skylarks to land and nest. The plots would be located sufficiently distant from field boundaries, tram lines and other skylark plot sites to encourage nesting and provided at a density of two per hectare.
- b. Grassland with wildflowers will also be created throughout the Order limits and managed as a late cut hay meadow to provide nesting and foraging opportunities for skylark.

Objective 6 – Protect public amenity from Public Rights of Way.

3.1.15. A total of five PRoWs run through the Order limits and several more run adjacent to the Order limits boundary at various points along it. An important objective is to minimise where possible the perceived detrimental impacts of the Proposed Development on the recreational amenity. This has been addressed by:

- a. Creation of new native planting along existing routes to screen close views to the Proposed Development, comprising a combination of wildflower planting, tree belt and hedgerow planting.
- b. Retention of at least 15m wide footpath corridors either side of existing PRoWs and permissive paths to minimise any perceived channelling / funnelling of the visual experience from these routes.
- c. Siting of security fencing behind new scrub planting to reduce visual impact.
- d. Implementation of interpretation boards at appropriate junctions of PROWs within the Order limits, which will allow for opportunities to better understand the positive contribution the Proposed Development will make in adapting to climate change.
- e. An Amenity and Recreation Assessment (see **Appendix 6.5** of the ES) has been prepared which considers quantitatively the potential impacts to PRoW within and near to the Order limits. This concludes that the recreational amenity of PRoW within the Order limits would change but would not be significantly adversely affected in the long term whilst PRoW beyond the Order limits would also not be significantly affected.

4.0 Required Works

4.1.1. This section details the required works to help to ensure the objectives set out in **Section 3.0** can be achieved. Works will be undertaken in accordance with the following plans and documents:

- a. Green Infrastructure Strategy Plan (Appendix 2 of this document).
- b. ***outline Construction Environmental Management Plan (oCEMP)*** [EN010127/APP/7.6].

4.1.2. All habitat creation and hard works requirements will be detailed in specifications for implementation by the appointed contractors/site managers.

4.2. Pre-Construction and Construction

4.2.1. The following pre-construction and construction principles will be followed:

- a. All new planting should be sourced from a reputable UK based provider who are able to demonstrate provenance of planting and adhere to all relevant biohazard controls including Landscape Institute Technical Note 1/15 Pests and Disease Threats.
- b. All new planting must be certified disease and pest free from the chosen supplier(s). Planting to be undertaken in suitable planting conditions. All new tree planting will be undertaken in accordance with the BS8545:2014 “Trees: from Nursery to Independence in the Landscape – Recommendations” document.
- c. Areas of bare earth and scarification as a result of the construction to be resown with a suitable mix of wildflower species to encourage sward diversity. Details of proposed planting are provided on the Green Infrastructure Strategy Plans (Appendix 2 of this document).

- d. Skylark plots within retained arable areas to be created before construction of the Proposed Development, if necessary in the preceding planting season.
- e. Where vegetation removal/pruning is required for access and/or visibility splays, the works should be limited to that amount required to achieve the appropriate access / visibility required. Pruning of vegetation will be preferred over removal wherever possible.
- f. Bat boxes will be installed on retained trees across the Order limits. This will consist of 50 general purpose bat boxes which would be used by a range of species. These will be the 2F Schwegler Bat Box or 2FN Schwegler Bat Box, Vivara Pro WoodStone Bat Box or similar.
- g. Bird boxes will be installed in mature trees and will include boxes for a range of species of principal importance, such as starling (no. 20 of Eco Starling Nest Box or similar), house sparrow (no. 20 of Vivara Pro Seville 32mm WoodStone Nest Box or similar) and spotted flycatcher (no. 10 of Vivara Pro Barcelona WoodStone Open Nest Box or similar). Two new otter holts will be constructed in sheltered locations away from other works and PRow. These will be created after planting or habitat creation to avoid the risk of active holts being disturbed.
- h. The installation of deer protection fencing to protect new planting from deer browsing may be required, the details of which would be set out within the LEMP.

Planting and Utilities

- 4.2.2. Offsets to utilities has been factored in as part of the design process and appropriate planting of species (grassland and low shrubs) is proposed in these utility corridors where indicated on the GI Strategy Plans.
- 4.2.3. In accordance with National Grid guidance (Development Near Overhead Lines, 2008), only slow and low growing species of trees and shrubs will be

planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances. Planting specification will be confirmed within the LEMP. Planting will be regularly inspected to maintain clearance from overhead utilities.

- 4.2.4. Planting on underground utilities will accord with relevant utility provider guidance with suitable species selected that do not result in risk to buried utilities as a result of roots or soil shrinkage. Planting specification will be confirmed within the LEMP.

Enabling Works

Trees

- 4.2.5. Minor works to trees such as lateral pruning or crown lifting will be undertaken where required prior to construction to avoid damage to trees by construction activities. Some vegetation and tree clearance/pruning may also be required. These works will be undertaken by a qualified arborist and in accordance with an agreed specification set out within an Arboricultural Method Statement (AMS) that will form part of the CEMP.
- 4.2.6. Tree protection fencing will be erected before any construction works begin on the Order limits. Location and alignment of tree protection fencing will be provided within the AMS. Tree protection fencing will be in accordance with the principles set out within 'BS5837: Trees in relation to design, demolition and construction – Recommendations'. Where appropriate, the Order limits perimeter security fence shall act as an effective protection barrier but in some locations specific, temporary tree protection fencing will be required. Protection fencing may be erected and dismantled in phases as construction progresses across the Order limits.
- 4.2.7. Construction of the Proposed Development will accord with the AMS for where construction activities encroach into root protection areas of trees.

- 4.2.8. Topsoil stripping would be limited to the construction of the Onsite Substation, access tracks and Solar Stations. All soil would be managed in accordance with the Soil Management Plan produced in accordance with the **Outline Soil Management Plan [EN010127/APP/7.12]** secured pursuant to the DCO.
- 4.2.9. The creation of temporary passing bays within verges would also be required as part of the construction works and is addressed in the **oCEMP**. These would be restored to grassland upon completion of construction.

Passing Point Planting

- 4.2.10. New planting serving as mitigation for the creation of passing points along Uffington Lane will be implemented post construction. The LEMP (s) will detail the locations and extent of this planting.

Operational Management

- 4.2.11. The following section details the key landscape and ecology components of the Proposed Development with detailed management prescriptions for each set out in Appendix 1.

West Glen River Corridor

- 4.2.12. The West Glen River Corridor is a landscape scale habitat within the landscape and the Proposed Development has sought to respond sensitively but also enhance where possible this key structuring feature.
- 4.2.13. Opportunities for synergies with Anglian Water aspirations for the ecological enhancement of the river corridor will be explored as part of the ongoing planning and management for the Order limits.
- 4.2.14. New wet woodland / carr planting (3.7ha) along with riparian grassland. A number of shallow scrapes, creating small ephemeral waterbodies would also be created proving habitat for birds and invertebrates. The area would

also be scarified and sown with Emorsgate EM8 Meadow Mixture for Wetlands or similar approved at 4g/m².

- 4.2.15. A new permissive path would provide public access to the area which is currently not publicly accessible and new bench seating, interpretation boards and willow screen hides will allow opportunities for engagement with the natural environment.

Screening / Structure Planting – Woodland

- 4.2.16. A small area of woodland is proposed in the central area of the Order limits adjacent to Uffington Lane (Field 25) to provide screening to nearby residential properties. Planting will comprise of native mixed broadleaf woodland with some evergreen species to provide all year round vegetative screening.

Screening / Structure Planting – Tree Belts

- 4.2.17. Substantial new tree belt planting throughout the Order limits, principally along existing bridleways and around perimeter field boundaries, to bolster existing vegetation but also to create new tree belts providing screening and biodiversity benefits.
- 4.2.18. Tree belts will be a combination of native broadleaf and coniferous species and include bushier smaller species such as hazel, hawthorn, blackthorn and holly to provide structure and screening at lower levels.
- 4.2.19. Early planting could be implemented before construction activities commence and this would be set out at the detailed design stage and within the LEMP.

Screening / Structure Planting – Hedgerows

- 4.2.20. Substantial new tree belt planting throughout the Order limits, both to bolster existing hedgerows but also to create new hedgerows to provide screening and biodiversity benefits.

- 4.2.21. A native mix of scrubby species such as hawthorn, blackthorn, holly and hazel will be used, interspersed with taller tree species such as field maple and oak which will mature to become large hedgerow trees.
- 4.2.22. Existing field hedgerows would be gapped up / filled in with new planting where required and would be allowed to grow out more fully and would be managed for visual screening and biodiversity benefits for the duration of the Proposed Development.

Wildflower Grassland with Calcareous Species

- 4.2.23. Wildflower grassland with calcareous species is proposed in the north west of the Order limits (Field 1 and 3), where the underlying chalk geology provides a habitat for a variety of chalk grassland flora.
- 4.2.24. The areas of existing arable land will be sown with Emorsgate Meadow Mixture for Chalk and Limestone Soils EM6 or similar approved at 4g/m².
- 4.2.25. The grassland will be cut every two years on rotation in late summer (August) after the setting of seed. Arisings will be collected and used to create habitat piles in the margins of the fields or removed and used for fodder production.

Tussocky Grassland with Wildflowers

- 4.2.26. New grassland with species of neutral conditions accounts for approximately 117ha across the Order limits, the majority within field margins and utility corridors. This habitat creation and biodiversity enhancement is specifically targeted for enhancing the diversity of grassland habitat types within the Order limits. These areas will be scarified where necessary and seeded with Emorsgate Tussock Mixture EM5 or EM10 or similar approved at 4g/m².
- 4.2.27. The grassland will be cut every two years on rotation in late summer (August) after the setting of seed. All arisings will be collected and used to

create habitat piles in the margins of the fields or removed and used for fodder production.

Grazed Grassland – Underneath Solar Arrays

- 4.2.28. Areas under the PV Arrays within the security fencing will be reseeded to create a permanent grassland. Species diversity will not be very high, though a good diversity (six species per m²) will be aimed for.
- 4.2.29. After construction, the area will be sown in the Autumn or Spring with an appropriate mix, such as Emorsgate Basic General Purpose Meadow Mixture EM1 at 4g/m².
- 4.2.30. If grazing with sheep is to be carried out, it will be managed through the use of appropriate stock numbers on a rotational grazing regime to ensure the land is not over-grazed. In line with the Lowland Grassland Management Handbook, stocking rates should be around 0.5 livestock units per hectare per year. Grazing would be undertaken in autumn and winter and ceased at the start of the bird breeding season, this would create rough areas which could then be used by various bird species to forage during the nesting season and allow grasses and some herbs to flower (benefitting invertebrates and birds). Assuming grazing is carried out over six months, these areas of the Order limits are likely to be capable to support 8 stocking units. This is equivalent to approximately 3,600 ewes according to Table 5.8 in Lowland Grassland Management Handbook².
- 4.2.31. If no grazing is possible, the grassland between the panels will be cut twice a year, at the beginning of summer (April-May) and after the setting of seed in late summer (September). Arisings will be collected and removed and will be able to be used for fodder production or used to create habitat piles in the margins of the grassland, at least 2m away from streams, ditches and ponds. Use of herbicides will be restricted to ensure the

² <http://publications.naturalengland.org.uk/file/114020> [accessed 17/03/21]. See Tables 5.7 and 5.8.

efficient functioning of the PV Modules and prevent damage to adjacent grassland and vegetation areas. Herbicide application would additionally be limited to spot applications used to control invasive weed species within areas of tussocky grassland with wildflowers and only then when absolutely necessary. Any herbicide application will be carried out by suitably licensed persons following appropriate guidance and legislation.

Field Margins outside of Security Fencing

- 4.2.32. Areas not identified for specific enhancement Green Infrastructure Strategy Plans (Appendix 2 of this document) outside of the security fencing that are too small to be farmed, namely hedgerows and field margins will be left to grow out. Periodic pruning of vegetation will be undertaken to ensure the operational performance of the Proposed Development and also to ensure the biodiversity of adjacent grassland verges to ensure they do not become over-encroached or overshadowed
- 4.2.33. Cutting of these areas will be undertaken at the end of the winter period to ensure fruit and seeds remain in place as a food source during the winter months (i.e. in early February).

Arable Fields with Skylark Plots

- 4.2.34. Retain agricultural fields within the Order limits as indicated on the Green Infrastructure Strategy Plans (Appendix 2 of this document) will remain in agricultural production.
- 4.2.35. Within these fields, skylark plots will be created, essentially a small uncropped area at least 3m wide and between 16 and 24 sqm in area. In each field, the plots will be created as groups a minimum of 25m between the plots and at least 50m from the field boundary. Plots will be created by one of the following:
- a. Turning off the drill during sowing to leave an unsown plot; or

- b. Sowing the crop as normal and spraying with a herbicide to create the plot by 31 December.

5.0 Management Programme (work schedule)

5.1. General Management

- 5.1.1. The following general management will be undertaken across the whole of the Order limits. An indicative works schedule is presented in **Appendix 1** which will be confirmed in the LEMP.

Pest and Disease Control

- 5.1.2. All plant material shall be inspected for the presence of any pests or disease occurring on the Order limits and appropriate action shall be taken to remedy the disease and eradicate pests.
- 5.1.3. All materials used in connection with these works shall be of an approved type and be applied and used in accordance with the conditions for the use of herbicides which will be outlined in the specification documents at the construction stage.

Public Rights of Way

- 5.1.4. Public Rights of Way (PRoW) through the Order limits will be maintained to allow unhindered passage. Vegetation will be checked periodically and pruned where necessary to maintain an obstruction free route. Stiles and gates will be checked to ensure they are safe and operationally effective.

Fencing

- 5.1.5. All perimeter fencing for the Proposed Development will be regularly checked to ensure it is safe and fit for purpose. Repairs and replacement of fencing will be made as soon as practically possible as and when required.
- 5.1.6. Stock proof fencing will be used where necessary to ensure grazing animals do not impinge on tussocky grassland with wildflower areas.

Maintenance of Tree Supports

- 5.1.7. Supporting tree stakes, ties and tree guards used for more mature tree planting where used will be biodegradable and maintained in good condition, replaced as necessary and removed when trees are self-supporting (normally after two years).
- 5.1.8. Tree ties will be adjusted for tightness as necessary to avoid strangulation of the stem.

Riverbanks and watercourses

- 5.1.9. Riverbanks and watercourse, including ditches, will be managed for the biodiversity enhancements whilst maintaining flow levels. Currently these are heavily shaded across much of the Order limits. The watercourses will benefit from limited thinning of vegetation to decrease shading but without causing significant losses in scrub/hedgerow habitats. Small gaps of approximately 5 m will be created to allow marginal vegetation to establish at intervals along the streams and placed every 100m. This will improve the quality of the aquatic and marginal habitat in places while retaining much of the dense scrubby vegetation potentially used by other species such as dormouse, and farmland birds.

Control of Litter/Vandalism

- 5.1.10. Grounds maintenance will be delivered throughout the Proposed Development. The Proposed Development will be kept clean and litter free as part of the regular maintenance of the Order limits. Response to acts of vandalism or graffiti will be dealt swiftly with the repair or replacement implemented as soon as practically possible.
- 5.1.11. Benches, interpretation boards and signages will be regularly checked and maintained to ensure they are in good condition.

Avoidance of fertiliser and herbicides

- 5.1.12. In order to maximise the biodiversity value of the Order limits, and avoid water pollution, fertiliser use will be avoided on GI areas within the Order limits, including areas used for productive purposes (such as grazing land). It is likely that fertilizers and herbicides will continue to be used for the arable areas.
- 5.1.13. Herbicide use will be limited to areas under the PV Arrays and avoided elsewhere within the Order limits to prevent damage to adjacent habitats, except for spot applications used to control invasive weed species, and only then when this is considered absolutely necessary. Any herbicide application will be carried out by suitably licensed persons following appropriate guidance and legislation.

Vegetation Management

- 5.1.14. Vegetation management will be undertaken at an appropriate time of year so as to avoid nesting bird season and in such a way as to avoid incidental injuring or killing of reptiles and amphibians. Cutting of grassland and similar habitats will be carried out no lower than 150 mm. Wood vegetation will be cut during January or early February to avoid the nesting season and allow berries and other fruit to remain in place into the early part of the winter.

6.0 Roles, Responsibilities and Monitoring

6.1. Roles and Responsibilities

- 6.1.1. This oLEMP incorporates objectives and prescriptions for the approach to be adopted in the maintenance and management of the Proposed Development.
- 6.1.2. The aim is to promote a sensitive management approach, which protects and improves the landscape and visual amenity value of the Order limits, enhances biodiversity and is compatible with the Proposed Development.
- 6.1.3. The management and maintenance responsibilities of the measures proposed in this oLEMP is to be confirmed in the LEMP but may be undertaken by the landowner, tenants or a private landscape management company, depending on the area in question.
- 6.1.4. The appointed party/parties will be required to manage and maintain the landscapes of the Proposed Development in accordance with this oLEMP. The Applicant shall satisfy itself that the appointed party/parties is fit and capable of undertaking the management tasks as detailed within this oLEMP as ultimately the Applicant is responsible for it under the DCO.
- 6.1.5. Details of the appointed principal constructor contractor and ecological clerk of works will be provided to the local planning authorities as part of the CEMP. Contact details of the appointed party/parties will also be made available to local residents and provided at suitable locations within the Order limits.

6.2. Monitoring

- 6.2.1. The LEMP will be updated as necessary, with a full review as required (at least quarterly) throughout the construction period. A brief report will be produced and submitted to the relevant local planning authorities for information on a quarterly basis and following completion of

commissioning. This will summarise the monitoring process, observed deviations from the LEMP and the corrective actions taken.

- 6.2.2. Following completion of construction, monitoring of the LEMP(s) will be undertaken every 5 years by a suitably qualified ecologist and landscape architect and a written report produced and provided to the relevant local planning authority. Any works to trees identified as a result of monitoring will be undertaken by a suitably qualified arborist. A list of approved contractors is available from the Arboricultural Association.
- 6.2.3. Where the delivery of the LEMP(s) is not being met for whatever reason(s) appropriate action will be identified and taken to rectify failings. This may entail making changes to specification of planting species if these are failing to establish successfully, including additional planting and/or replacement planting for planting that has failed to establish. Equally, where successes are identified, these should be promoted further and lessons learned from both success and failure fed into the next iteration of the LEMP(s).

7.0 References

Landscape Character Assessment of Rutland (2003), Rutland County Council.

Lincolnshire Biodiversity Action Plan (2011), Lincolnshire County Council.

Natural England Character Area Profiles: LCA 75: Kesteven Uplands, Natural England.

Natural England Technical Information Note 082 (undated) Illustrated Guide to Lowland Chalk and Limestone Grassland, Natural England.

Natural England Lowland Grassland Management Handbook

South Kesteven GI Strategy (2011), South Kesteven District Council.

South Kesteven Landscape Character Assessment (2007), South Kesteven District Council.

Space for Wildlife: Leicester, Leicestershire and Rutland Biodiversity Action Plan (2016).

RSPB (undated). *Farming for wildlife. Skylark Plots.*"

Appendices

Appendix 1: Management Programme Schedule

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
Enabling / Pre-Commencement								
Trees / Vegetation								
Pruning of vegetation for construction in accordance with Arboricultural Method Statement (AMS)	✓							
Erection of tree protection fencing in accordance with Tree Protection Plan	✓							
Construction of development within root protection areas in accordance with AMS	✓							
Operational Maintenance								
Trees								
Annual visual inspection of trees to ensure duty of care to users of PRow and operational performance of the Development.		✓	✓	✓	✓	✓		
Pruning if required by qualified arborist to be undertaken in later winter (February), inspections to		✓	✓	✓	✓	✓		

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
monitor health of trees and to remove dead, dying or diseased wood where necessary in accordance with BS3998:2010. Safe stacking of logs in small piles in situ.								
Existing Hedgerows								
Relaxation of management to allow hedgerows to mature and grow out. Pruning if required to maintain operational performance and integrity of calcareous grassland verges and undertaken in later winter (February) in accordance with BS3998:2010, inspections to monitor health of trees and to remove dead, dying or diseased wood where necessary. Chippings to be removed.	✓	✓	✓	✓	✓	✓		
Every two years grass cutting along margins	✓	✓	✓	✓	✓	✓		
Boundary Hedgerow Enhancements								
Planting of new native species as indicated on the Green Infrastructure Strategy Plans to gap up and strengthen existing hedgerows	✓							

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
Wildflower Grassland with Calcareous species								
Creation of grassland – plough followed by seeding with appropriate mix in autumn or spring		✓						
One late summer cut (August) every two years on rotation to c. 50mm high to allow seeds to set. Removal of arisings and creation of habitat piles margins or fodder.			✓	✓	✓	✓		
Protection of grassland from grazing animals with temporary fencing where required			✓	✓	✓	✓		
Grassland with Neutral Species								
Cutting of rough grassland areas and plug planting in autumn as per soft landscape plans		✓						
One late summer cut (August) every two years on rotation to c. 50mm high to allow seeds to set. Removal of arisings and creation of habitat piles margins of fodder.			✓	✓	✓	✓		
Protection of grassland from grazing animals with temporary fencing where required			✓	✓	✓	✓		

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
Grazed Grassland under Solar Panels								
Low-intensity grazing (on rotation between each field) between September to February following grassland establishment. If grazing is not available, two cuts per year in April and September can be used to maintain the grassland to ensure efficient functioning of the PV Modules. Targeted herbicide application may also be required beneath PV Arrays to ensure their efficient functioning whilst avoiding harm to adjacent grassland/habitats.		✓	✓	✓	✓	✓		
Bi-annual visual inspections to ensure no substantial areas of bare ground have developed. Re-seeding will be undertaken (surface sown) in the successive autumn or spring months to re-establish the grassland.		✓	✓					
Arable Fields with Skylark Plots								
Annual creation of skylark plots a minimum of 3m and 16 sqm in area		✓	✓	✓	✓	✓		

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
before 31 December and 50m from field boundary								
Native Scrub								
Annual inspection and pruning as required to maintain operational performance. Pruning if required to be undertaken in late winter (February) in accordance with BS3998:2010 to allow fruit and seed to remain in place overwinter.		✓	✓	✓	✓	✓		
Woodland								
Planting of tree stock in Autumn and regular watering as required throughout summer. Replacement of failed trees where appropriate.		✓	✓	✓	✓	✓		
Annual inspection and pruning as required to maintain operational performance. Pruning if required to be undertaken and in late winter (February) in accordance with BS3998:2010 to allow fruit and seed to remain in place overwinter. Cut wood to be stacked in piles where possible.		✓	✓	✓	✓	✓		

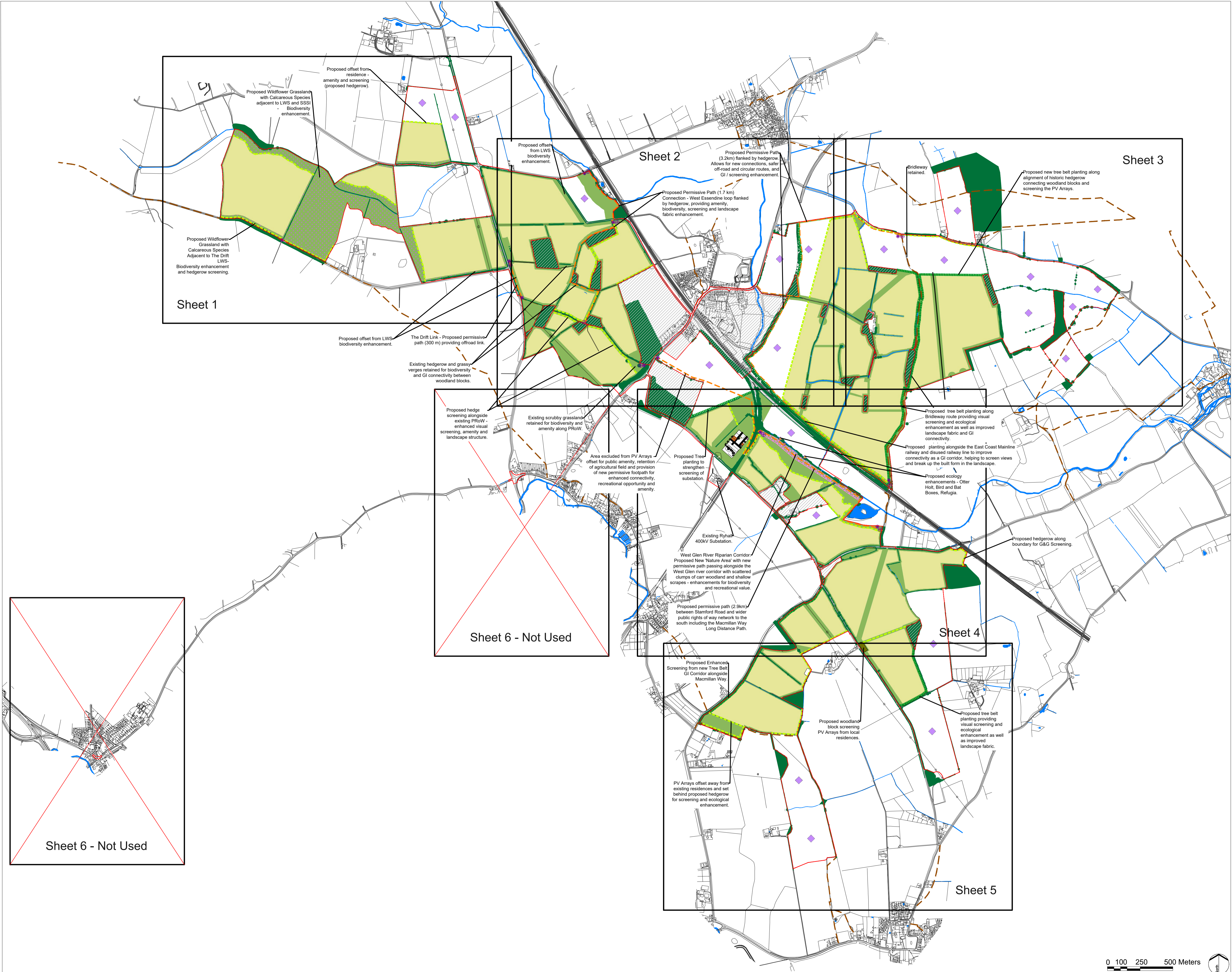
Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
Cyclical selective thinning to encourage development of a strong structure over time with sufficient room for large growing species to mature into good specimens.						✓	✓	
Wet Woodland								
Planting of tree stock in Autumn and regular watering as required throughout summer. Replacement of failed trees where appropriate.		✓	✓	✓	✓	✓		
Annual inspection and pruning as required to maintain operational performance. Pruning if required to be undertaken and in late winter (February) in accordance with BS3998:2010 to allow fruit and seed to remain in place overwinter. Cut wood to be stacked in piles where possible.		✓	✓	✓	✓	✓		
New Hedgerows								
Planting of tree and woody / scrub stock in Autumn and regular watering as required throughout summer.		✓	✓	✓	✓	✓		

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
Replacement of failed trees where appropriate.								
Annual inspection and pruning as required to maintain operational performance. Pruning if required to be undertaken and in late winter (February) in accordance with BS3998:2010 to allow fruit and seed to remain in place overwinter. Cut wood to be stacked in piles where possible.		✓	✓	✓	✓	✓		
River Banks, Ditches, and Watercourses and Waterbodies								
Annual inspection and clearing as required.		✓	✓	✓	✓	✓		
Limited initial thinning and clearing of vegetation along the southern banks of watercourses to decrease shading but without causing significant losses in scrub/hedgerow habitats. Gaps of approximately 5m created to allow marginal vegetation to establish at circa 100m intervals along the streams. Initial vegetation cut to create open short stretches and then		✓	✓	✓	✓	✓		

Management Prescription	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+ (Annually)	Every 5 years	Every 10 years
vegetation will be managed cyclically/as required.								
Control of Litter/Vandalism								
Grounds maintenance of the Order limits will ensure it is kept clean and litter free. Response to acts of vandalism or graffiti will be dealt swiftly with the repair or replacement implemented as soon as practically possible	✓	✓	✓	✓	✓	✓		
General Management Monitoring and Review								
Review of LEMP(s) and amendment of management regime if required							✓	

Appendix 2 – Green Infrastructure Strategy Plans

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LEGEND

- Order limits
- Area outside of Order limits
- Existing Features**
 - Existing Water Course / Drain
 - Existing Waterbody
 - Public Right of Way
 - Retained Arable Field Parcel with Skylark Plots
 - Existing Woodland, Trees and Hedgerows
 - Existing Trees and Hedgerows removed to allow for construction of Proposed Development
- Proposed Development Features**
 - Proposed Tussock Grassland with Wildflowers
 - Proposed Wildflower Grassland with Calcareous Species
 - Proposed Grazed Grassland (Within Fenced PV Arrays)
 - Proposed Screening / Structure Planting Woodland Copse
 - Proposed Scattered Wet Woodland Planting
 - Proposed Screening / Structure Planting Tree Belt
 - Proposed Screening / Structure Planting Hedgerows
 - Proposed Permissive Footpath
 - Proposed Feature : Interpretation Board
 - Proposed Feature : Wayfinder
 - Proposed Feature : Bench seating and Hide
 - Proposed Feature : Protected Species Structure

Notes:

- The Order limits has been drawn to the Land Registry boundaries and Topographical Survey data. The accuracy of Land Registry and the topographical survey differs from the OS Base Mapping which results in the Order limits not aligning with the line work shown on the OS Base Mapping.



P0 DCO Submission REV. DESCRIPTION RP 18/11/22 APP. DATE

Mallard Pass
Solar Farm

PROJECT TITLE
MALLARD PASS SOLAR FARM

DRAWING TITLE
GI Strategy Plans Key Plan

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
APFP Regulation: 5(2)(a)

PINS REFERENCE NUMBER
EN010127

ISSUED BY: Oxford T: 01865 887 050
DATE: 18 Nov 2022 DRAWN: TB
SCALE: As shown CHECKED: BC
STATUS: Final APPROVED: RP

DWG. NO 7863_0160 REV : P0

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Sources: Ordnance Survey, LCC and RCC



Z:\7863_NEP_Solar_Farm_CONFIDENTIAL\DRAWINGS\7863_0161_GI_STRATEGY.DWG



Proposed Wildflower Grassland with Calcareous Species adjacent to LWS and SSSI - Biodiversity enhancement.

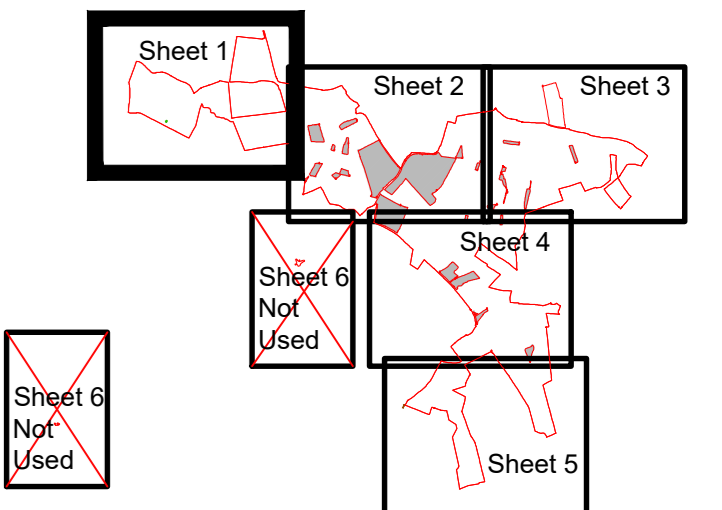
Proposed offset from residence - amenity and screening (proposed hedgerow).

Proposed Wildflower Grassland with Calcareous Species Adjacent to The Drift LWS- Biodiversity enhancement and hedgerow screening.

Proposed offset from LWS- biodiversity enhancement.

- LEGEND**
- Order limits
 - Area outside of Order limits
 - Existing Features**
 - Existing Water Course / Drain
 - Existing Waterbody
 - Public Right of Way
 - Retained Arable Field Parcel with Spurk Poles
 - Existing Woodland, Trees and Hedgerows
 - Existing Trees and Hedgerows removed to allow for construction of Proposed Development
 - Proposed Development Features**
 - Proposed Tussock Grassland with Wildflowers
 - Proposed Wildflower Grassland with Calcareous Species
 - Proposed Grazed Grassland (With Fenced PV Arrays)
 - Proposed Screening / Structure Planting Woodland Copse
 - Proposed Scattered Wet Woodland Planting
 - Proposed Screening / Structure Planting Tree Belt
 - Proposed Screening / Structure Planting Hedgerows
 - Proposed Permissive Footpath
 - Proposed Feature - Interpretation Board
 - Proposed Feature - Wayfinder
 - Proposed Feature - Bench seating and Hide
 - Proposed Feature - Protected Species Structure

Notes: 1. The Order limits has been drawn to the Land Registry boundaries and Topographical Survey data. The accuracy of Land Registry and the topographical survey differs from the OS Base Mapping which results in the Order limits not aligning with the line work shown on the OS Base Mapping.



Key Plan

REV.	DESCRIPTION	APP. DATE
P0	DCO Submission	18/11/22

Mallard Pass
Sustainable Energy

PROJECT TITLE
MALLARD PASS SOLAR FARM

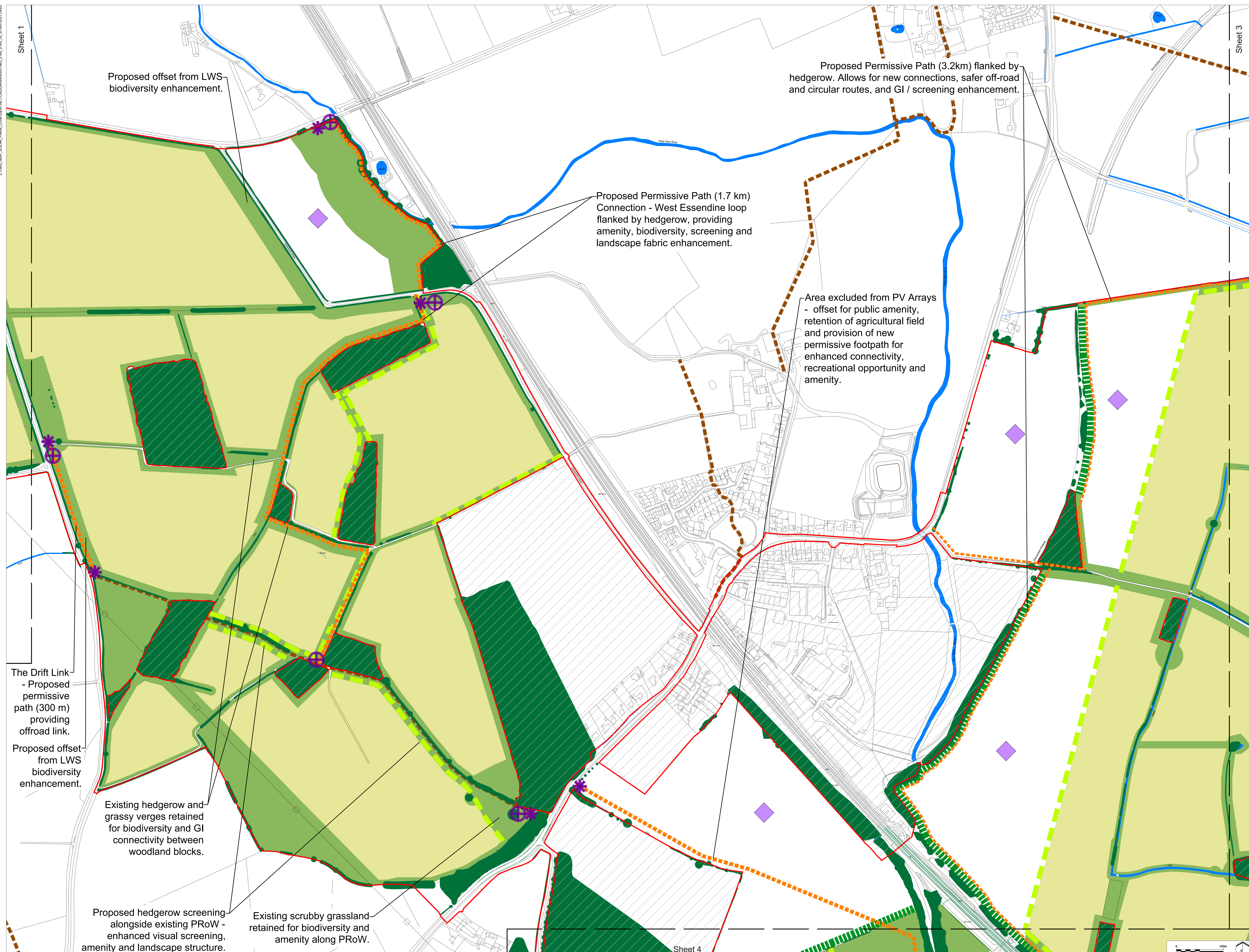
DRAWING TITLE
GI Strategy Plans
Sheet 1 of 5

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
APFP Regulation: 5(2)(a)

ISSUED BY: Oxford T: 01865 887 050
DATE: 18 Nov 2022 DRAWN: TB
SCALE: 1:2,500 CHECKED: BC
STATUS: Final APPROVED: RP

DWG. NO 7863_0161 REV : P0

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Proposed offset from LWS biodiversity enhancement.

Proposed Permissive Path (3.2km) flanked by hedgerow. Allows for new connections, safer off-road and circular routes, and GI / screening enhancement.

Proposed Permissive Path (1.7 km) Connection - West Essendine loop flanked by hedgerow, providing amenity, biodiversity, screening and landscape fabric enhancement.

Area excluded from PV Arrays - offset for public amenity, retention of agricultural field and provision of new permissive footpath for enhanced connectivity, recreational opportunity and amenity.

The Drift Link - Proposed permissive path (300 m) providing offroad link.

Proposed offset from LWS biodiversity enhancement.

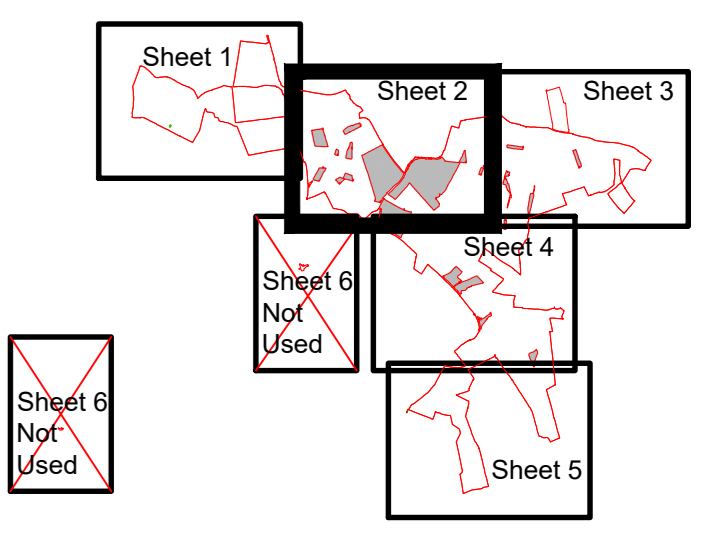
Existing hedgerow and grassy verges retained for biodiversity and GI connectivity between woodland blocks.

Proposed hedgerow screening alongside existing PRow - enhanced visual screening, amenity and landscape structure.

Existing scrubby grassland retained for biodiversity and amenity along PRow.

- LEGEND**
- Order limits
 - Area outside of Order limits
 - Existing Features**
 - Existing Water Course / Drain
 - Existing Waterbody
 - Public Right of Way
 - Retained Arable Field Parcel with Skylark Plots
 - Existing Woodland, Trees and Hedgerows
 - Existing Trees and Hedgerows removed to allow for construction of Proposed Development
 - Proposed Development Features**
 - Proposed Tussock Grassland with Wildflowers
 - Proposed Wildflower Grassland with Calcareous Species
 - Proposed Grazed Grassland (Within Fenced PV Arrays)
 - Proposed Screening / Structure Planting Woodland Copse
 - Proposed Scattered Wet Woodland Planting
 - Proposed Screening / Structure Planting Tree Belt
 - Proposed Screening / Structure Planting Hedgerows
 - Proposed Permissive Footpath
 - Proposed Feature - Interpretation Board
 - Proposed Feature - Wayfinder
 - Proposed Feature - Bench seating and Hide
 - Proposed Feature - Protected Species Structure

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Key Plan

PO: DCO Submission
REV: DESCRIPTION
APP: DATE

Mallard Pass

PROJECT TITLE
MALLARD PASS SOLAR FARM

DRAWING TITLE
GI Strategy Plans
Sheet 2 of 5

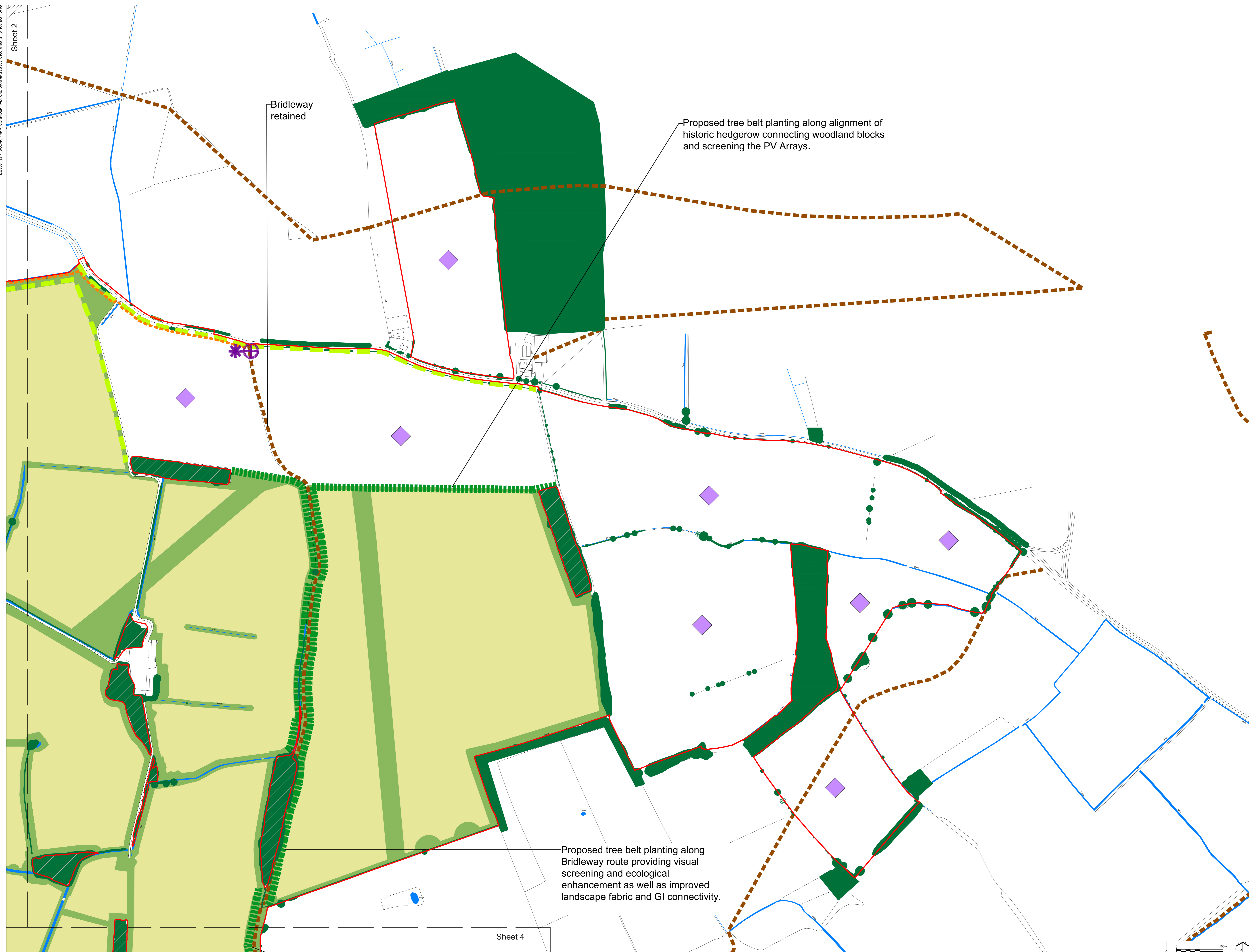
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
APPP Regulation: 5(2)(a)

PPS REFERENCE NUMBER
EN010127

ISSUED BY: Oxford	T: 01865 887 050
DATE: 18 Nov 2022	DRAWN: TB
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STATUS: Final	APPROVED: RP

DWG. NO 7863_0162 REV: PO

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Bridleway retained

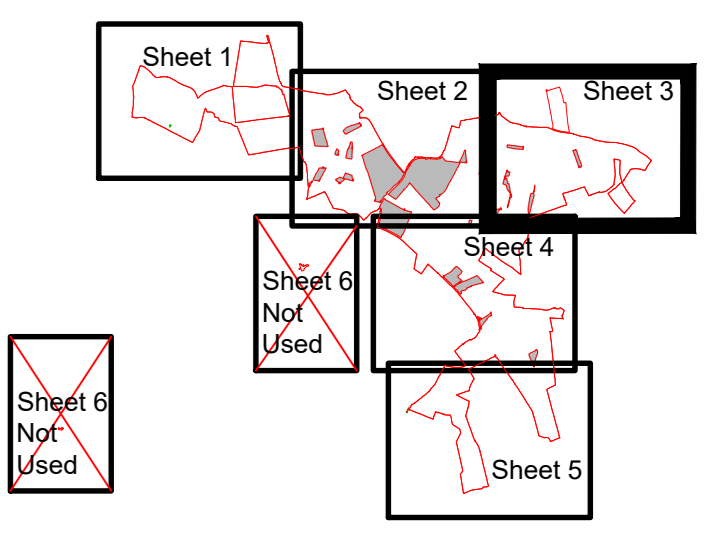
Proposed tree belt planting along alignment of historic hedgerow connecting woodland blocks and screening the PV Arrays.

Proposed tree belt planting along Bridleway route providing visual screening and ecological enhancement as well as improved landscape fabric and GI connectivity.

- LEGEND**
- Order limits
 - Area outside of Order limits
 - Existing Features**
 - Existing Water Course / Drain
 - Existing Waterbody
 - Public Right of Way
 - Retained Arable Field
 - Parcel with Skylark Plots
 - Existing Woodland, Trees and Hedgerows
 - Existing Trees and Hedgerows removed to allow for construction of Proposed Development
 - Proposed Development Features**
 - Proposed Tussock Grassland with Wildflowers
 - Proposed Willowher Grassland with Cuckoo Spices
 - Proposed Grazed Grassland (Within Fenced PV Arrays)
 - Proposed Screening / Structure Planting Woodland Copse
 - Proposed Scattered Wet Woodland Planting
 - Proposed Screening / Structure Planting Tree Belt
 - Proposed Screening / Structure Planting Hedgerows
 - Proposed Permissive Footpath
 - * Proposed Feature - Interpretation Board
 - Proposed Feature - Wayfinder
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 - Proposed Feature - Protected Species Structure

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Key Plan

PO: DCO Submission
REV: DESCRIPTION
APP: DATE



PROJECT TITLE
MALLARD PASS SOLAR FARM

DRAWING TITLE
GI Strategy Plans
Sheet 3 of 5

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
APFD Regulation: S(2)(a)

PNR REFERENCE NUMBER
EN010127

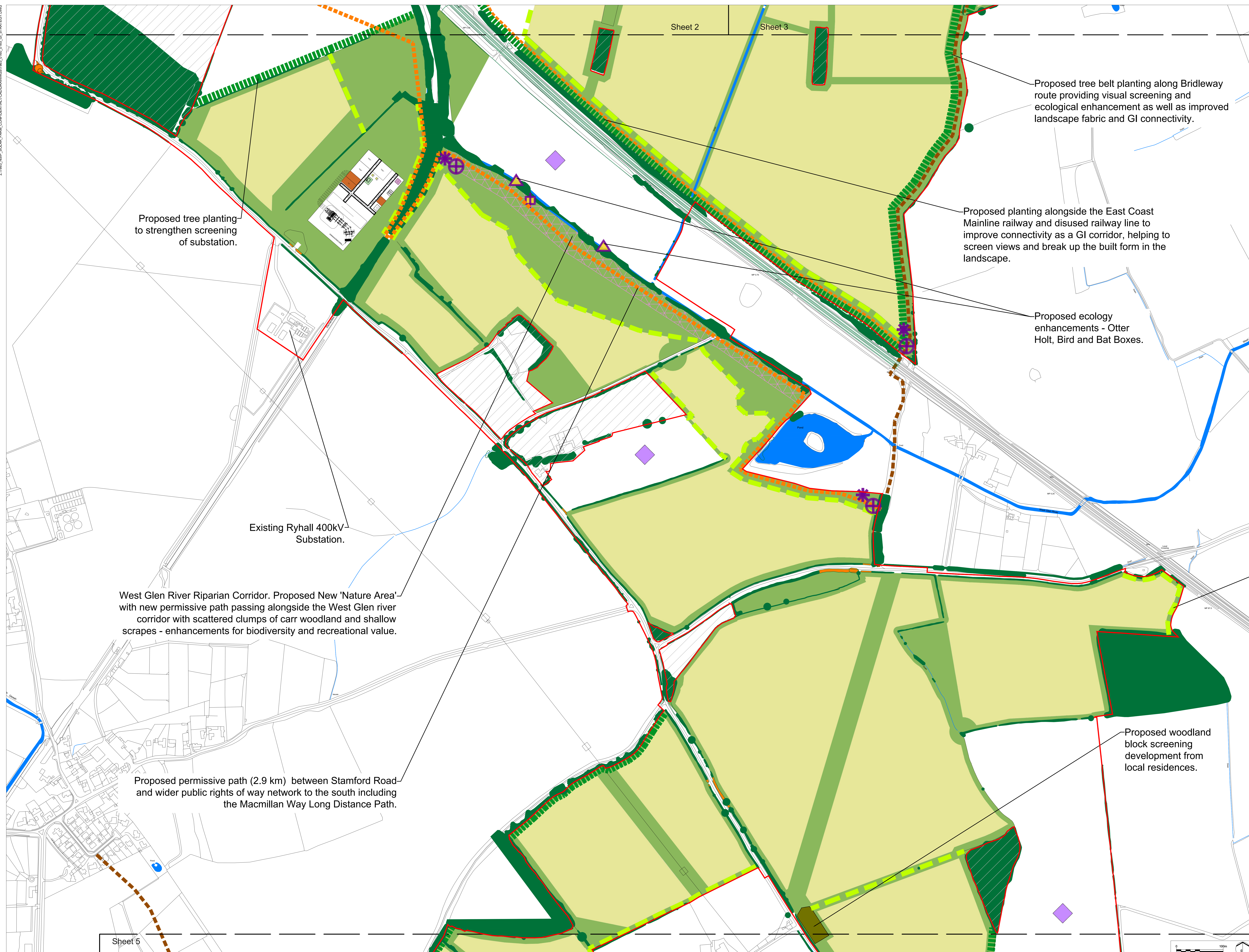
ISSUED BY: Oxford
DATE: 18 Nov 2022
SCALE/D: 1:2,500
STATUS: Final

T: 01865 887 050
DRAWN: TB
CHECKED: BC
APPROVED: RP

DWG. NO 7863_0163 REV: P0

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Sources: Ordnance Survey, LDC and BCC



Proposed tree planting to strengthen screening of substation.

Existing Ryhall 400kV Substation.

West Glen River Riparian Corridor. Proposed New 'Nature Area' with new permissive path passing alongside the West Glen river corridor with scattered clumps of carr woodland and shallow scrapes - enhancements for biodiversity and recreational value.

Proposed permissive path (2.9 km) between Stamford Road and wider public rights of way network to the south including the Macmillan Way Long Distance Path.

Proposed tree belt planting along Bridleway route providing visual screening and ecological enhancement as well as improved landscape fabric and GI connectivity.

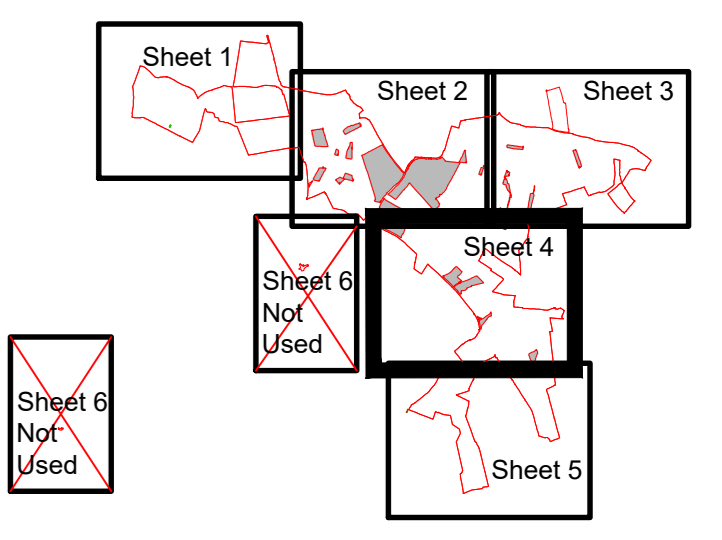
Proposed planting alongside the East Coast Mainline railway and disused railway line to improve connectivity as a GI corridor, helping to screen views and break up the built form in the landscape.

Proposed ecology enhancements - Otter Holt, Bird and Bat Boxes.

Proposed woodland block screening development from local residences.

- LEGEND**
- Order limits
 - Area outside of Order limits
 - Existing Features**
 - Existing Water Course / Drain
 - Existing Waterbody
 - Public Right of Way
 - Retained Arable Field Parcel with Skylark Plots
 - Existing Woodland, Trees and Hedgerows
 - Existing Trees and Hedgerows removed to allow for construction of Proposed Development
 - Proposed Development Features**
 - Proposed Tussock Grassland with Wildflowers
 - Proposed Wildflower Grassland with Calceolus Spices
 - Proposed Grazed Grassland (Within Fenced PV Arrays)
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 - ⊕ Proposed Feature - Interpretation Board
 - ⊕ Proposed Feature - Wayfinder
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Key Plan

PO: DCO Submission
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 REF: 18/11/22
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Mallard Pass

PROJECT TITLE
MALLARD PASS SOLAR FARM

DRAWING TITLE
GI Strategy Plans
 Sheet 4 of 5

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
 APFP Regulation: 5(2)(a)

PNR REFERENCE NUMBER
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 STATUS: Final

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DWG. NO 7863_0164 REV: P0

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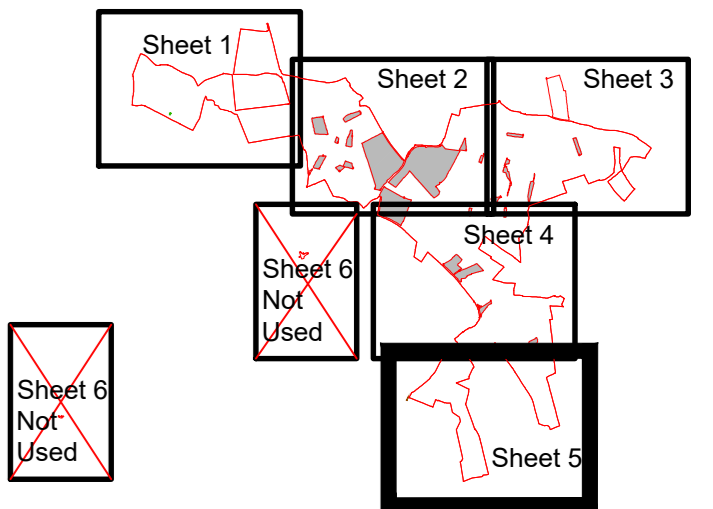
Proposed Enhanced Screening from new Tree Belt GI Corridor alongside Macmillan Way.

PV Arrays offset away from existing residences and set behind proposed hedgerow for screening and ecological enhancement.

Proposed tree belt planting providing visual screening and ecological enhancement as well as improved landscape fabric.

- LEGEND**
- Order limits
 - Area outside of Order limits
 - Existing Features**
 - Existing Water Course / Drain
 - Existing Waterbody
 - Public Right of Way
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Key Plan

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REV.	DESCRIPTION	APP.	DATE



PROJECT TITLE
MALLARD PASS SOLAR FARM

DRAWING TITLE
GI Strategy Plans
Sheet 5 of 5

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
APFP Regulation: 5(2)(a)

ONS REFERENCE NUMBER
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