



The Millbrook Power (Gas Fired Power Station) Order

Outline Landscape and Ecology Mitigation and Management Strategy – Revision 1 – Submitted for Deadline 2 – April 2018

*Superseding Volume K Appendix 11.2 of the Environmental Statement
submitted in October 2017*

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Millbrook Power Project

Outline Landscape and Ecology Mitigation and Management Strategy
Revision 1 Submitted for Examination Deadline 2 – April 2018
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On behalf of **Millbrook Power Limited**



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1 Introduction

- 1.1.1 This outline Landscape and Ecology Mitigation and Management Strategy (LEMMS) has been prepared by Peter Brett Associates LLP (PBA) on behalf of Millbrook Power Ltd. (the Applicant). It outlines the proposed mitigation and management measures for the Millbrook Power Project (hereafter referred to as the Project) in relation to landscape and ecological management and mitigation. It covers the following time periods:
- the 22-month construction period;
 - the 10-year maintenance and management strategy period detailed in the LEMMS; and
 - the further 15 years continued management, up to decommissioning.
- 1.1.2 The maximum length of time that the LEMMS covers is therefore 25 years and 22 months.
- 1.1.3 The Project is proposed at and adjacent to the former clay extraction pit at Rookery South, near Stewartby, Bedfordshire with the approximate centre of the Project Site at grid reference 501373, 240734. The boundary of the Project Site falls within both Central Bedfordshire Council (CBC) and Bedford Borough Council (BBC) areas. The Project comprises an up to 299 Megawatts (MW) gas fired peaking power generation plant which constitutes a Nationally Significant Infrastructure Project (NSIP) pursuant to the Planning Act 2008 and therefore requires development consent under that Act. This document therefore supports the development consent order ("DCO") Application for the Project.
- 1.1.4 The DCO Application is being made to the Planning Inspectorate pursuant to the Planning Act 2008 and in accordance with the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the "APFP" Regulations).
- 1.1.5 This outline strategy is the precursor to a more detailed Landscape and Ecological Mitigation and Management Plan which will be prepared should the application be successful.
- 1.1.6 The requirement to prepare a final version of the LEMMS is included as a Requirement attached to the DCO (Requirement 3 of Document Reference 3.1).

Purpose of this Document

- 1.1.7 This outline LEMMS augments the mitigation measures included in the Environmental Statement (ES) Chapter 11 (Document Reference 6.1): Landscape and Visual Impact, and Chapter 8: Ecology, and Appendix 3.2 – Outline Construction Environmental Management Plan (CEMP), (Document Reference 6.2). Its purpose is to:

- Provide a clear landscape and ecology mitigation and management rationale, which responds to the context of the Project Site;
- Provide more clearly defined landscape and ecological mitigation; and
- Provide graphical illustrations of the proposed mitigation.

Document Structure

1.1.8 The document has been structured as follows:

- **Introduction:** Describes the document's purpose along with a description of the Project and embedded design mitigation;
- **Baseline conditions:** Provides an appraisal of the landscape surrounding the Project along with a description of ecological features;
- **Ecological features:** Describes the important ecological features and other features affected by the Project;
- **Landscape and ecological mitigation principles:** Describes the key functions of mitigation, and sets out how the landscape proposals will respond to the character of each site and its surroundings, and the measures taken to minimise effects on ecological features;
- **Mitigation proposals:** Describes measures to protect existing trees and hedgerows, the planting strategy and species mixes, and phasing of the works;
- **Long term management:** Describes aftercare of landscape mitigation for a period of 10 years; and
- **Ecological management:** Outlines the seasonal constraints to be taken into account when undertaking management activities.

The Project

1.1.9 A full description of the Project is provided in Chapter 3 of the ES however; a brief overview is provided below.

1.1.10 The Project would comprise:

- a new Power Generation Plant in the form of an Open Cycle Gas Turbine (OCGT) peaking power generating station, fuelled by natural gas with a rated electrical output of up to 299 MW. This is the output of the generating station as a whole, measured at the terminals of the generating equipment. The Power Generation Plant comprises:

- generating equipment including one Gas Turbine Generator with one exhaust gas flue stack and Balance of Plant (together referred to as the ‘Generating Equipment’), which are located within the ‘Generating Equipment Site’;
 - a new purpose built access road from Green Lane to the Generating Equipment Site (the ‘Access Road’ or the ‘Short Access Road’);
 - a temporary construction compound required during construction only (the ‘Laydown Area’);
 - a new underground gas pipeline connection, approximately 1.8 km in length (the ‘Pipeline’) to bring natural gas to the Generating Equipment from the National Transmission System (the ‘Gas Connection’). The Gas Connection also incorporates an Above Ground Installation (AGI) at the point of connection to the National Transmission System; and
 - a new electrical connection to export power from the Generating Equipment to the National Grid Electricity Transmission System (NETS) (the ‘Electrical Connection’), comprising an underground double circuit Tee-in. This would require one new tower (which will replace an existing tower and be located in the existing Grendon – Sundon transmission route corridor, thereby resulting in no net additional towers). This option would require two SECs, one located on each side of the existing transmission line, and both circuits would then be connected via underground cables approximately 500 m in length to a new substation (the ‘Substation’).
- 1.1.11 The Generating Equipment, Access Road and Laydown Area are together known as the ‘Power Generation Plant’ and are located within the ‘Power Generation Plant Site’. The Power Generation Plant Site is approximately 12.5 ha in area.
- 1.1.12 The Power Generation Plant, Gas Connection, and Electrical Connection, together with all access requirements are referred to as the ‘Project’. The land upon which the Project would be developed, or which would be required in order to facilitate the development of the Project, is referred to as the ‘Project Site’. The Project Site is approximately 48 ha in area. The Project is described in more detail in Chapter 3 of the ES.
- 1.1.13 A full glossary of defined terms is presented in Appendix 1.1 of the ES.

Embedded Design Mitigation

- 1.1.14 The Project layout has taken into account the landscape receptors, ecological features, and mitigation requirements. In addition, embedded design mitigation measures which can often be considered as standard, best practice working methods, without which the Project would not be allowed to be developed, have been included as follows:

Landscape Working Methods

1.1.15 As the construction period is of a limited duration (approximately 22 months), significant mitigation to limit landscape and visual impacts is not anticipated. However, the following will be applied through a CEMP through a Requirement attached to the DCO (Requirement 10). An outline CEMP is included in Appendix 3.2 of the ES:

- Land / vegetation clearance and occupation will be limited to the minimum area necessary for the works;
- Temporary protection of vegetation and other vulnerable features to be retained will be undertaken in accordance with prevailing best practice;
- Temporary storage of soils and other material considered of value for retention will be undertaken in accordance with prevailing best practice. Where practical, stockpiles will be sited to screen the construction works from sensitive receptors such as PROW.
- Construction areas will be laid out to minimise adverse impacts arising from temporary structures, construction activities and lighting;
- Construction roads will be on the same alignment as permanent access roads where possible;
- Use of construction site lighting outside normal working hours will be restricted to the minimum necessary for workforce and public safety, and for security. Directional luminaries will be used to limit unwanted light spill in accordance with guidance provided by the Bat Conservation Trust and Institute of Lighting Engineers (2009);
- Maintenance of tidy and contained site compounds;
- Hoardings erected around the area of construction works, for reasons of creating a visual barrier to construction activities and also as a safety measure, to prevent access to the general public;
- Temporal measures including the removal of all temporary structures and stockpiles when no longer required, and prompt reinstatement of construction areas;
- Reinstatement of all agricultural land required temporarily during construction, and a five-year aftercare plan to seek to ensure land is returned to its former productivity;
- Replacement of all trees, shrubs and hedgerows removed to accommodate the utility Connections, subject to NG planting constraints; and;

- The AGI will be screened on all sides with vegetation to limit visual impacts.

Ecological Working Methods

1.1.16 The CEMP would incorporate measures to protect sensitive ecology such as:

- Work compounds and access tracks etc. will not be located in, or adjacent to, areas that maintain habitat value;
- Site fencing will be used to prevent access to areas outside working areas, particularly in areas adjacent to features of ecological value;
- Procedures will be implemented to address site safety issues, including storage of potentially dangerous materials;
- Briefings and instruction would be given to contractors regarding the biodiversity issues associated with the Project Site; and
- Best practice pollution prevention measures would be followed to prevent pollution of water courses by silt or chemicals.

Temporal Scope

1.1.17 The management plan covers the following time periods:

- the 22-month construction period;
- the 10-year maintenance and management strategy period detailed in the LEMMS; and
- the further 15 years continued management, up to decommissioning.

1.1.18 The maximum length of time that the LEMMS covers is therefore 25 years and 22 months.

Spatial Scope

1.1.19 The strategy and management plans cover the whole Project Site. The principal area for development of the Power Generation Plant takes up part of the disused Rookery South Pit next to Pillinge Farm South. The Project Site extends to the north between the Marston Vale Line and Rookery North Pit to Green Lane in Stewartby and to the south the Gas Connection AGI is adjacent to Lower Farm.

Responsibilities

1.1.20 The execution of the LEMMS will be the responsibility of the developer / operator of the Project, except for certain areas which may be managed by the landowner under agreement (e.g. limited areas of new hedge planting along the Gas Connection).

The LEMMS operations in association with AGI and SECs will be undertaken by National Grid and / or the Project operator.

Plans and Surveys

1.1.21 In preparing this LEMMS, reference has been made to other documents which also support the DCO Application for the Project, namely:

- Environmental Statement (ES) (Document Reference 6.1); and
- Ecological Surveys (Appendix 8.1 to 8.5 of the ES (Document Reference 6.2));

2 Baseline Conditions

Project Site Location

- 2.1.1 The Project would be located in an area known as ‘the Marston Vale’ between Milton Keynes and Bedford with the approximate centre of the Project Site at grid reference 501373, 240734. The Project Site falls within areas administered by both Central Bedfordshire Council (CBC) and Bedford Borough Council (BBC).

The Rookery

- 2.1.2 The Project Site is partially located within ‘The Rookery’. The Rookery comprises two former clay pits (Rookery North and Rookery South) separated by an east-west spine of unexcavated clay covering an area of some 210 ha. The Rookery is situated in the Marston Vale between Milton Keynes and Bedford.
- 2.1.3 The Generating Equipment Site, Laydown Area and parts of the Access Road, Gas Connection and Electrical Connection would be located within part of Rookery South Pit, which is approximately 95 ha in area and is bounded by steep clay banks that are varied in nature and substrate. The level of the pit base currently varies between approximately 10 and 15 m below ground level and includes open water, reed beds, pools and bare inundated clay. The land that remains at the original ground level, approximately 42 m above ordnance datum (AOD) immediately around the periphery of Rookery South Pit is predominantly bare ground that has been previously cleared of vegetation and subsequently maintained in this state over approximately the last 30 years.
- 2.1.4 The Gas Connection and Electrical Connection would extend from Rookery South Pit into farmland to the south and south east. Part of the Access Road would run to the west of Rookery North Pit.

Low Level Restoration Scheme

- 2.1.5 Prior to the commencement of construction works on site a Low Level Restoration Scheme (LLRS) will have been undertaken (Appendix 4). The restoration of the site includes the re-grading of the sides of the pit, planting of semi improved grassland, trees marsh, marginal aquatics and native hedgerows and scrub and the re-alignment of surface management ditches.
- 2.1.6 The LLRS provides the baseline for which future mitigation proposals in this LEMMS have been proposed.

Relevant History

- 2.1.7 The area around the Marston Vale has a long history of clay extraction, which was used primarily for the brick industry resulting in former clay extraction pits dominating the immediate landscape around the Project Site. Some pits have been restored for

amenity use (e.g. on the nearby Millennium Country Park), while others have been used for landfill (e.g. Stewartby and Brogborough). The Rookery South Pit has remained as an open, undeveloped pit.

- 2.1.8 Partial backfilling of Rookery South Pit has been recorded, including deposition of non-hazardous liquid organic wastes from a variety of industrial sources. The waste was reportedly mixed with unweathered Oxford Clay deposits commonly known as the “callow” and pumped, as sludge, into the south eastern quarter of the Rookery North Pit and the north eastern quarter of Rookery South Pit.
- 2.1.9 Additional fill to the base of Rookery South Pit has also been historically undertaken by placement of variable thicknesses (generally from 1 m to 4 m) of Callow Clay Fill across the base of the pit. These naturally occurring deposits were unsuitable for the brick making process and were cast back into the pit along with brick fragments and other overburden deposits.
- 2.1.10 The land directly north of the Generating Equipment Site has been allocated to a Resource Recovery Facility (RRF) which Covanta Rookery South Limited obtained DCO consent for pursuant to the PA 2008 in autumn 2011 (the ‘Covanta RRF Project’).

Landscape Character

- 2.1.11 Published sources describing the landscape character of the area at the National, Regional and District level are:
- National Character Area 88: Bedfordshire and Cambridgeshire Claylands (Natural England, 2014a);
 - National Character Area 90: Bedfordshire Greensand Ridge (Natural England, 2014b);
 - 5D: North Marston Clay Vale, Mid Bedfordshire Landscape Character Assessment (Land Use Consultants, 2007).
 - 6B: Mid Greensand Ridge, Mid Bedfordshire Landscape Character Assessment (Land Use Consultants, 2007); and
 - The Forest of Marston Vale: Forest Plan (The Forest of Marston Vale, 2000)
- 2.1.12 Figure 11.3 of the ES illustrates landscape character areas applicable to the Project Site and surrounding area.

Ecological Character

- 2.1.13 Baseline conditions of the Power Generation Plant Site include the Rookery South Clay Pit which forms part of the Rookery Clay Pit County Wildlife Site (CWS). The base of the western parts of Rookery South Pit presently comprises a mosaic of

sparsely vegetated and bare ground, with occasional channels and pools of standing water supporting emergent vegetation including reed grasses and sedges.

- 2.1.14 In the past, Rookery South Clay Pit supported a large population of great crested newts, a small population of grass snakes and a medium population of common lizards, along with a valuable invertebrate fauna and numerous bird species of conservation importance. Trapping and translocation of great crested newts (and reptiles) has taken place under a mitigation licence, issued by Natural England in 2011 as part of the LLRS. This has affected the southern half of the Rookery Clay Pit CWS incorporating the southern portion of the Access Road and a proportion of the arable land in the south of the Project Site. The translocation programme was completed in November 2014. Significant areas of the western half of the base of Rookery South Pit were levelled following completion of the translocation exercise, and during an ecological walkover survey undertaken by PBA in April 2017, it was noted that herpetofauna exclusion fencing had been retained in situ. At the time that the Project is constructed in 2020, it is assumed that no great crested newts or reptiles will be present in the base of the Rookery South Pit and surrounding area. In addition, the LLRS re-profiling works will replace any terrestrial habitat currently suitable for great crested newts, reptiles, breeding birds and/or invertebrates within Rookery South Pit with clay, rendering it of negligible nature conservation value for these species.
- 2.1.15 The surrounds of the pit comprise a patchy mosaic of bare ground, species-poor neutral grassland and woodland/scrub habitats that have developed since clay extraction ceased. The access track comprises a mosaic of bare ground with ephemeral vegetation and scrub, which is known to be used as a commuting and foraging route by a range of bat species. In addition, suitable terrestrial habitat along the track is likely to be used by great crested newts and reptiles, and the trees and scrub are likely to be used by nesting birds.
- 2.1.16 The majority of the habitats within the areas proposed for the Gas and Electrical Connection route comprise intensively managed agricultural land, characterised by large arable fields, with grassy field margins which are bound by young species-poor hedgerows. A small number of plantation woodlands, which appear to be relatively recent in origin (less than 30 years old) are present within the areas proposed for the Gas and Electrical Connection. Parts of the Gas Connection and Electrical Connection (e.g. the Substation) are within Rookery South Pit. These are assumed to be the same as the Power Generation Plant Site.
- 2.1.17 Two great crested newt meta-populations are located within 250m of the Gas and Electrical Connection area. In addition, small populations of reptiles (common lizards and grass snake) have been recorded within the Gas and Electrical Connection areas. In addition, the hedgerows are likely to be used by nesting and foraging birds.

3 Ecological Features

- 3.1.1 In order to determine the ecological features for which ecological mitigation measures are required for the Project, an evaluation of ecological features was undertaken having regards to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Guidelines for Ecological Impact Assessment (2016). Ecological features that were deemed to be important, and therefore required full consideration in the impact assessment were identified. These features are those that are important within a 'Local' context or greater. Only one important ecological feature has been identified: Rookery Clay Pit CWS. Further information is provided in Chapter 8 of the ES.
- 3.1.2 A number of ecological features are considered to be of insufficient importance to trigger a detailed assessment. Nevertheless, due to their protection under the Conservation of Habitats and Species Regulations 2010 (as amended) and/ or the Wildlife and Countryside Act 1981 (as amended), consideration needs to be given to appropriate management measures during the design and implementation of the Project, which are required to avoid a breach of legislation. These are described below.

Important Ecological Features

Rookery Clay Pit CWS

- 3.1.3 There will be direct habitat loss within Rookery Clay Pit CWS associated with the construction of the Power Generation Plant. As identified above, the re-grading works associated with the LLRS within Rookery South Pit will replace any terrestrial habitat suitable for newts, reptiles, breeding birds and/ or reptiles. Impacts are therefore limited to the loss of any new habitat that would have been created associated as part of the LLRS restoration strategy, in the absence of the Project, and the areas of ephemeral vegetation and scrub habitat on the peripheral areas of the western edge of Rookery North Pit, including along the Access Road, if vegetation removal is required. Given that the LLRS will be completed by the time of construction of the Project, and Rookery North Pit will be retained, the effect of habitat loss upon Rookery Clay Pit CWS before mitigation is considered to be 'Not Significant'.

Other ecological features requiring appropriate management to avoid a breach of legislation

Designated sites

- 3.1.4 There is one SSSI within 2 km of the Power Generation Plant Site. Coopers Hill SSSI is approximately 1.2 km to the south-east. A further 11 non-statutory designated sites are present within 2 km of the Project Site.

- 3.1.5 Given the distances of these statutory and non-statutory designated sites from the Power Generation Plant Site, the risk of dust and particulate matter emissions during construction and decommissioning of the Project is considered to be low. No direct or indirect impacts are anticipated, and no specific mitigation is deemed necessary.

Great crested newts

- 3.1.6 At the time of construction, it is assumed that Rookery South Pit will remain free of great crested newts. However, the existing access track, along the alignment of the Access Road, on the western edge of Rookery North Pit, comprises areas of scrub, ephemeral vegetation and bare ground with cracks and crevices. These habitats, including the voids in the bare ground, could be used by the meta-population of great crested newts supported by Rookery North Pit during their terrestrial phase. The potential exists for construction of the Access Road to result in incidental harm to great crested newts using suitable features associated with terrestrial habitat along the route of the Access Road.
- 3.1.7 Surveys have confirmed the presence of one small population of great crested newts and one medium population of great crested newts within the Gas and Electrical Connection area.
- 3.1.8 Great crested newts are relatively common in the county and are widespread within the vicinity of the Project Site (comprising four meta-populations recorded during the surveys, a large population associated with the receptor sites from the Rookery South Pit translocation, and robust meta-populations known to occur elsewhere within the base of Marston Vale). The great crested newt populations associated with the Project Site are therefore considered to be of less than 'Local' importance.

Reptiles

- 3.1.9 The existing access track along the alignment of the Access Road, on the western edge of Rookery North Pit comprises areas of scrub, ephemeral vegetation and bare ground with cracks and crevices which could be used by common species of reptiles associated with Rookery North Pit. In addition, small populations of common lizard and grass snakes were recorded within the Gas and Electrical Connection, although the areas affected are considered to be of limited value, due to the intense management of the arable farmland.
- 3.1.10 Given that other similar habitat is widespread in Marston Vale and the surrounding area, and that only small to medium populations of reptiles have been confirmed during the baseline surveys, the reptile populations within the Project Site are considered to be of less than 'Local' importance.

Nesting birds

- 3.1.11 The areas of scrub along the existing access track can be expected to support nesting birds. The majority of the areas proposed for the Gas and Electrical Connection are of limited value for breeding birds, consisting of large arable fields,
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delineated by species-poor hedgerows and ditches. Overall, the assemblage of breeding birds associated with the Project Site is considered to be of less than 'Local' importance.

Bats

- 3.1.12 The majority of bats were recorded foraging and commuting along the scrub-lined access track, which constitutes a 'green corridor', linking the known bat roosts at South Pilling Farm, with valuable foraging habitat to the north, associated with Rookery North Pit and beyond. The bat populations associated with the Project Site are considered to be of less than 'Local' importance.

4 Landscape & Ecological Mitigation Proposals

Overview

- 4.1.1 The Landscape and Ecology Strategy Plan (Appendix 2) includes the creation of a new structurally diverse and species-rich belt of woodland planting to reflect the species composition within the wider Marston Vale Forest. Additional planting and appropriate management of existing blocks of planted woodland would be expected to enhance their nature conservation value. Native species of local provenance will be used, wherever possible. These new areas of planting linking existing habitats would be expected to increase the connectivity of the Project Site for wildlife. The planting proposed has been designed to ensure the value for biodiversity is maximised, whilst performing a landscape screening function.
- 4.1.2 The surface water management ditches proposed as part of the LLRS have been incorporated into the LEMMS for the Project, albeit with minor realignments to the south of the Generating Equipment and Substation. In addition, a series of small ponds will be created within the Project Site, designed to be of value to wildlife, with shallow sloping edges planted with marginal vegetation to provide egg laying opportunities for newts. This new pond creation would also contribute towards relevant targets in the Bedfordshire and Luton Biodiversity Action Plan. The exact location of the ponds would be defined prior to construction, in liaison with stakeholders.

Project Landscape Strategy

Introduction

- 4.1.3 It is anticipated that where possible, existing planting within the Project Site will be retained and protected. Where it is necessary for vegetation to be removed, the extent will be kept to a minimum and it will be replanted within the Project Site following construction.
- 4.1.4 A palette of native tree and shrub planting (see Appendix 1) has been compiled to meet the various planting scenarios identified within this LEMMS.

Planting proposals

- 4.1.5 The planting species that form the basis of the landscape planting strategy on site are detailed in Appendix 1, and include the following:
- New structural planting;
 - Trees;
 - Hedgerows, both general mixed native hedgerow planting and hawthorn and blackthorn only hedgerows crossing easements;

- Grassland seeding; and
- Scrub planting.

Ecological Mitigation Strategy

Overview

- 4.1.6 Given that no likely significant effects are predicted on important ecological features (Rookery Pit CWS), no project specific mitigation is required in addition to the embedded design mitigation described in Chapter 3, section 3.6 of the ES and outlined in the CEMP (Appendix 3.2).
- 4.1.7 The LEMMS for the Project will ensure that any habitats of ecological value that would have been created as part of the LLRS (in the absence of the Project) will be incorporated into the design of the Project. This includes surface water management ditches, and areas of woodland, tree and scrub planting. Should the construction of the Access Road result in the loss of any vegetation, this would be replanted with appropriate native species, to maintain the bat foraging and commuting corridor. In addition, the enhancement of retained vegetation and creation of new habitats, through woodland, tree and hedgerow planting and new ponds would be expected to result in a net gain in biodiversity.
- 4.1.8 The Landscape Strategy associated with the Covanta RRF project has been taken into account when designing the LEMMS for the Project. All areas of proposed planting and habitat creation associated with the Covanta RRF project have been taken into account in the context of the outline LEMMS. Should areas of landscape mitigation planted as part of the Covanta RRF Project need to be disturbed by the construction of the Project, provision has been made for the areas to be replaced, re-planted or equivalent planting placed appropriately so as not to detract from the overall mitigation screening or habitat creation originally envisaged by the Covanta RRF landscape and ecology strategy. If mitigation planting used at the Covanta RRF Project is disturbed by the Project, it would be the responsibility of the developer of the Project to replace this planting.
- 4.1.9 Details showing the landscape and ecology mitigation strategy for the Project integrated with the landscape planting proposed as part of the Covanta RRF Project (e.g. assuming both projects co-exist) are provided in Appendix 3.

Great crested newts

- 4.1.10 Great crested newts and their places of shelter are protected under the Conservation of Habitats and Species Regulations 2010 (as amended). They are also protected under the Wildlife and Countryside Act 1981 (as amended). The management measures identified below are required in order to avoid the incidental mortality of great crested newts during the implementation of the Project, and to ensure that the favourable conservation status of the local great crested newt population is maintained.
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- 4.1.11 Whilst no ponds would be directly affected by the construction of the Power Generation Plant or Gas Connection or Electrical Connection, short sections of the Access Road are located approximately 490 m from the Rookery North Pit large population of great crested newts. The potential therefore exists for the incidental mortality of great crested newts, associated with the re-surfacing works. Similarly, the Electrical Connection will be installed within 250 m of Pond C (see Appendix 5) which supports a small population of great crested newts; a narrow strip of planted woodland will be removed to facilitate the trench installation. In addition, five sections of hedgerows will be removed, four of which are located within 250 m of Pond H (see Appendix 5). However, given the distances involved, the limited suitability of the habitats affected, and the presence of more suitable terrestrial habitat nearby the likelihood of encountering great crested newts has been assessed as being low in each instance.
- 4.1.12 Using Natural England's Rapid Risk Assessment tool, the likelihood of an offence being committed as a result of the Gas Connection and Electrical Connection installation is considered to be 'highly unlikely'. Any requirement to carry out the works under a precautionary method statement included within the CEMP or a derogation licence issued by Natural England to ensure that no newts are harmed during the construction process, will be determined prior to construction. This will be based on the historical context of mitigation works associated with great crested newts in and adjacent to the Project Site. If required, appropriate mitigation measures will involve the appropriate timing of works, avoidance of suitable terrestrial habitat as far as possible, and the careful removal/ dismantling by hand of any suitable refugia beneath the footprint of the works.

Reptiles

- 4.1.13 Reptiles are afforded protection under the Wildlife and Countryside Act 1981 (as amended). Any elements of the Project affecting the limited areas of potential reptile habitat will give due regard to the legislation protecting common and widespread reptile species, i.e. protection against injury and killing. This will be achieved through the displacement of any reptiles present into areas of retained habitat within and adjacent to the Project Site prior to construction works commencing through the following approach:
- Progressive removal of suitable low-lying vegetation, including long grass, ruderals and scrub, using hand-held tools. The final stages of clearance to ground level should take place during suitable climatic conditions at a time of year when reptiles are active (generally April to September inclusive).
 - Dismantling of any potential hibernacula or refugia by hand, including compost heaps and log piles.
 - Where appropriate, ground level clearance work will be overseen by a suitably experienced ecologist who would relocate any reptiles encountered to an area of suitable retained habitat within and adjacent to the site.
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- Following the clearance of vegetation, the vegetation will be maintained at ground level to prevent re-colonisation prior to works commencing.

Nesting birds

- 4.1.14 Nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). Any clearance or cutting of woody vegetation will avoid the breeding bird season (generally taken to be March to August inclusive) in order to avoid the destruction of active birds' nests. If this is not possible, the vegetation will be checked prior to removal for the presence of any active birds' nests. If active nests are present, an appropriate exclusion zone will be retained around the nest and such works will be delayed until the young birds have fledged and the nest becomes inactive.

Bats

- 4.1.15 All species of bats in the UK are European protected species, receiving protection under the Conservation of Habitats and Species Regulations 2010 (as amended). They are also protected under the Wildlife and Countryside Act 1981 (as amended).
- 4.1.16 The lighting scheme associated with the construction and operation of the Project has been sensitively designed to minimise potential impacts on bats in accordance with guidance provided by the Bat Conservation Trust and Institute of Lighting Engineers (2009). As a minimum, down-lighting and motion-sensitive lights will be used, and light spill will be minimised by the use of baffles, as appropriate to avoid disturbance effects on the known bat roost associated with the South Pilling Farm. An outline lighting strategy is included as Appendix 11.2 of the ES.

5 Landscape and Ecological Management

Establishment & Management

Protection of Valuable Features during Construction

- 5.1.1 In order to retain and protect existing trees and hedgerows, temporary fencing will be erected in accordance with British Standard BS5837:2012 '*Trees in relation to design, demolition and construction*'.
- 5.1.2 BS5837:2012, would also be followed which sets out, amongst other things, operations not permitted within the protected zones of trees, and describes suitable fencing types depending on their proximity to construction activity and the potential vulnerability of plant material to construction damage. Fencing will be erected at the commencement of the construction phase and be maintained until practical completion.

Services

- 5.1.3 Landscape proposals will be coordinated with drainage, mechanical and electrical services layouts as far as they are available prior to the design being completed.
- 5.1.4 Liaison would be undertaken with National Grid Gas (NGG) and National Grid Electricity and Transmission (NGET) to ensure that any mitigation planting within the Gas Connection or Electrical Connection is undertaken in accordance with this strategy.

Programme for Vegetation Removal and Management

- 5.1.5 Any clearance or cutting of woody vegetation will ideally avoid the nesting bird season (generally taken to be March to August inclusive) in order to avoid the destruction of active birds' nests. If this is not possible, the vegetation will be checked prior to removal for the presence of any active birds' nests. If active nests are present, an appropriate exclusion zone will be retained around the nest and such works will be delayed until the young birds have fledged and the nest becomes inactive.

Management of Vegetation Prior to Implementation of the Landscape Scheme

- 5.1.6 Hedgerow pruning will be carried out using a reciprocating blade cutter to reduce the height of 3-5m. Sides will be cut back. Standard trees are to remain uncut and be allowed to grow on.
- 5.1.7 Where overgrown hedges require rejuvenating, they will be coppiced to 150 mm in height.

Management Objectives

5.1.8 The overall management objectives are set out below for different vegetation types.

Generally

5.1.9 In general terms, the objectives of the proposals are to:

- secure the long-term future of the landscape;
- enhance local landscape character;
- integrate the site into the surrounding landscape;
- retain and manage existing woodland/structure planting as a visual amenity and/or screen, and provide additional supplementary planting to provide links across the site for wildlife;
- retain and manage trees, where possible, and to make adequate provision for age diversification;
- retain and manage scrub and hedgerows, where possible, and make provision for supplementary planting;
- create, maintain and enhance habitats of value to wildlife, to provide benefits for the local environment and biodiversity;
- create wetland habitats of value to amphibians and aquatic invertebrates;
- provide continuing complementary uses for remaining agricultural land; and
- establish a flexible management and maintenance regime able to respond to changing needs or objectives.

Specific Objectives

Timing of Works to Existing Woody Vegetation

5.1.10 Reference should be made to paragraphs 4.1.14 and 5.1.5 in relation to the bird nesting season.

Existing Woodland

5.1.11 The objectives for existing woodland are to:

- improve the age diversity of the woodland;
- increase species diversity where appropriate;

- undertake rotational tree thinning to ensure remaining trees have sound, balanced branch structures and space to mature;
- undertake operations to prolong the useful lifespan of trees;
- undertake regular condition inspections to inform the strategy for tree works to maintain a safe site, particularly adjacent to areas to which the public has access;
- ensure management allows light to reach the shrub and/or ground cover layer to allow a persistent understorey to remain/develop;

New Structure Planting

5.1.12 Objectives for new structure planting are to:

- maintain the landscape across the Project Site, to provide a wildlife corridor, and encourage species which are seed, fruit and nut bearing to provide a food resource for wildlife;
- create wildlife corridors around the perimeter of the site and connecting with the LLRS planting to benefit wildlife;
- reflect native species composition;
- develop a tree canopy above a persistent scrub canopy;
- ensure the tree canopy is incomplete and light reaches the understorey by periodic thinning;
- provide appropriate native planting to fit into the surrounding landscape;
- rejuvenate scrub growth through coppicing on a rotational basis to prevent legginess;
- maintain a screen to the Generating Equipment and Substation and the SECs; and
- control invasive species.

Existing Trees

5.1.13 Objectives for existing trees are to:

- retain individual trees, where possible;
- retain and manage mature trees where possible and make adequate provision for their long-term replacement where necessary;

- maintain and enhance the value of the site for roosting bats and nesting and foraging birds;
- ensure that as trees grow, canopies do not obstruct CCTV cameras or movement of high-sided vehicles, while maintaining their natural shape;
- undertake operations required for health and safety reasons and to prolong the useful lifespan of trees;
- ensure no construction work or digging of service trenches takes place within root protection zones; and
- undertake regular condition inspections and prepare a schedule of tree surgery required to maintain a safe site, particularly adjacent to areas to which the public has access.

New Trees

5.1.14 Objectives for new trees are to:

- introduce a management regime that allows new trees to become established;
- maintain to provide initial height and structure through inclusion of tall native species, such as oak;
- maintain new tree planting to create a strong landscape framework to the Project Site and define the boundary with publicly accessible locations;
- provide a screen to specific areas of the site;
- undertake periodic selective tree removal where fast growing trees have fulfilled their design objectives and are outgrowing their space;
- provide a valuable wildlife habitat through the planting of indigenous species;
- create green corridors, enabling movement of wildlife across the site;
- increase foraging and commuting opportunities for bats through the inclusion of species supporting high insect biomass such as small-leaved lime and pedunculate oak;
- maintain and enhance the value of the site for nesting and foraging birds;
- ensure trees have sound branch structures, allowing each tree to become an individual specimen or contribute to a tree group in accordance with the design intentions; and
- provide a varied age structure to give continuity of tree cover for the future.

Existing Hedgerows

5.1.15 Management objectives are to:

- maintain hedgerows with standard trees;
- allow hedgerows to grow to/be managed at 3-5m in height to provide robust, bushy wildlife corridors;
- establish rotational management of hedgerows by coppicing or trimming to thicken up and prevent hedgerows becoming overgrown;
- retain/re-establish unbroken lengths of hedgerow through interplanting;
- maintain and enhance the ecological value of hedgerows;
- maintain and enhance hedgerows as wildlife corridors for invertebrates, birds, bats and other mammals;
- maintain at an appropriate height where a screen or definition of space is required;
- maintain a suitable species diversity and remove/control invasive species; and
- develop and maintain a diverse ground flora.

New Hedgerows

5.1.16 Objectives for new hedgerows are to:

- reflect native hedgerow species composition;
- create species-rich continuous hedgerows to reflect the hedgerow pattern of the local area;
- introduce a management regime that allows new hedgerows to become established;
- maintain hedgerows in a manner which prevents them becoming overgrown or leggy and at a height which responds to the design intention;
- provide a wildlife habitat through the use of a range of native species; and
- connect with existing areas of scrub and trees, providing green corridors through the site to facilitate the movement of wildlife.

Ponds and Scrapes

5.1.17 The objectives for ponds and scrapes are to:

- create habitats of value to breeding and foraging birds, amphibians, aquatic invertebrates and small mammals;
- provide appropriate safety features near deep water;
- create a sunny aspect to wetlands to prevent overshadowing by tall vegetation and maximise the wildlife potential;
- adopt management techniques that allow invertebrates to remain on site following pond clearance; and
- maintain a range of water depths, with shallow sloping sides.

Public Rights of Way/Footpaths

5.1.18 Objectives for public rights of way and footpaths are to:

- maintain unobstructed routes; and
- obtain relevant notifications from the local authority for temporary footpath closures and provide alternative safe temporary access arrangements.

Scrub and grassland

5.1.19 Objectives for scrub and grassland is to:

- create areas of long grass with flower colour;
- maintain and enhance the value of the site for butterflies and other terrestrial invertebrates, through inclusion of appropriate species;
- maintain and enhance the value of the wildflower areas for slow-worms by cutting no lower than 150 mm;
- maintain and enhance the value of the site as feeding areas for birds through the inclusion of species attractive to moths and other invertebrates;
- maintain and enhance the value of the site for small mammals through cutting no lower than 150 mm; this will provide a foraging resource for birds of prey; and
- create foraging terrestrial habitat for great crested newts.

Annual Maintenance Operations

Generally

- 5.1.20 The management regime is described below in terms of the scope and frequency of annual maintenance operations. These are relevant throughout the whole management period, and particularly in years 1-5 during the establishment of woody and herbaceous plant material.
- 5.1.21 A health and safety method statement will be agreed between the Project developer and contractor regarding the types of maintenance machinery and chemicals to be used on-site.
- 5.1.22 Should any new construction works be required on-site, or additional services be installed, new and original vegetation is to be protected as set out in paragraphs 5.1.1 - 5.1.2.
- 5.1.23 The timing of tree and hedgerow works will comply with paragraphs 4.1.14 and 5.1.5.
- 5.1.24 All tree works will be undertaken by a qualified arboriculturalist or tree surgeon. Works are to comply with BS3998 and HSE Forestry and Arboricultural safety leaflets. Trees are to be left with a well-balanced shape and natural appearance. Chainsaw operatives must hold a certificate of competence. Chain or hand saw wounds will be as small as possible, cutting back to sound wood leaving a smooth surface, angled to shed the water and avoiding bark tears.

Planted Woodland / mature trees

- 5.1.25 In order to ensure longevity of trees in good condition and prevent potential instability as a result of severed roots, no compaction, excavation, digging of service trenches, or level changes are to take place within a zone extending from a tree trunk to at least 2 m beyond the outer edge of the tree canopy (for deciduous trees) or an area with a radius of half the trees height measured from the trunk (for evergreen varieties). These dimensions are relevant where root protection areas (RPA) have not been established as part of a recent (within 3 years) arboricultural survey. Where such a survey has been undertaken, the dimensions provided by the arboriculturalist are to be used. Within woodlands, RPAs are likely to be continuous.
- 5.1.26 Outside RPAs described above, tree roots over 50 mm diameter will not be cut. Where cutting takes place, it will be by means of a smooth cut with a hand saw, followed by backfilling over tree roots with original topsoil.
- 5.1.27 Inspections will be carried out at 12-15 month intervals to note any:
- major deadwood that needs to be removed from crowns;
 - split or damaged branches, storm damage, hung-up limbs, and jagged or open wounds that require tidying;

- forks, cavities and major defects that could result in structural failure, cavities, cracks or bark wounds at the base of trees, together with bracket fungus. An arboriculturalist will probe cavities as required to determine the course of action;
- basal suckers or epicormic growth that require removal from the main trunk;
- poor quality trees with structural defects, such as forked trunks that may require pruning or felling; and
- areas of disease.

5.1.28 Ivy on tree trunks will be retained, except where it needs to be removed to facilitate inspection of trees or where it has become extensive and could result in a tree falling in high winds.

5.1.29 Removal of litter and fly-tipped material will be carried out four times a year.

New Structure Planting

5.1.30 Operations will ensure:

- dead, dying and diseased wood and suckers will be removed annually to promote healthy growth, a natural shape and to avoid health and safety concerns;
- dead, missing, dying or defective plants will be replaced annually for the first 5 years after implementation;
- all tree stakes, ties and guards will be adjusted/replaced/removed as required until anchorage has been achieved. This will be done biannually;
- rabbit/deer protection will be maintained until no longer needed. This will be checked four times a year;
- weed-free ground will be maintained with the use of translocated, non-residual herbicides, until the canopy closes, in order to avoid competition for water and nutrients. This will be done eight times a year, reducing to three times a year when the canopy is closed;
- a slow release fertiliser will be spread annually in early March in the first three years after planting or replanting after defects replacements;
- litter and fly-tipped material will be removed four times a year;
- plants overhanging roads or paths or starting to encroach onto public footpaths will be trimmed back annually;
- bramble or other invasive weeds will be removed through the use of herbicides and/or by digging up;

- self-sown trees will be removed annually by digging up or use of suitable herbicides;
- plants will be watered in dry weather in the initial 3-year establishment period. Watering will be carried out twice a week to field capacity. Beyond the establishment period, watering will be in times of drought;
- pruning will take place annually to avoid obstruction of sightlines, visibility splays, traffic signs and access points; and
- formative pruning of young trees annually.

5.1.31 Management operations will ensure:

- root protection zones are identified by an arboriculturalist where construction or service trenching is anticipated. To ensure longevity of trees in good condition, and ensure no potential instability as a result of severed roots, no compaction, excavation, digging of service trenches, or level changes are to take place within the root protection zones established as part of a recent (within 3 years) arboricultural survey;
- no fertilisers or pesticides will be spread near roots or trunks of trees; and
- litter and fly-tipped material will be removed four times a year.

New Trees

5.1.32 Operations will ensure:

- new plantings provide a diversity of species, varied height and structure;
- dead, dying and diseased wood and suckers will be removed annually to promote healthy growth, a natural shape and to avoid health and safety concerns;
- dead, missing, dying or defective plants will be replaced annually for the first 5 years after implementation;
- all tree stakes, ties and guards will be adjusted/replaced/removed as required until anchorage has been achieved. This will be done biannually;
- rabbit/deer protection will be maintained until no longer needed. This will be checked four times a year;
- new trees are protected from livestock browsing. This will be checked four times a year;
- weed-free ground will be maintained with the use of translocated, non-residual herbicides, until the canopy closes, in order to avoid competition for water and

nutrients. This will be done eight times a year, reducing to three times a year when the canopy is closed;

- a slow release fertiliser will be spread annually in early March in the first three years after planting or replanting after defects replacements;
- plants will be watered in dry weather in the initial 3-year establishment period. Watering will be carried out twice a week to field capacity. Beyond the establishment period, watering will be in times of drought;
- trees are maintained upright and adjustments will be made following strong winds; and
- formative pruning will be carried out.

Mature Hedgerows

5.1.33 Objectives in relation to mature hedgerows are to:

- thin trees to centres no closer than 6 m, retaining the best quality specimens to grow on as standards within the hedge;
- trim sides to within 1.0m of the main stems and tops to 3-5m on a 3-year rotational basis across the site. Where possible, leave one side of each hedgerow uncut each year. This will maintain a resource of flowering and fruiting plants across the site and create nesting and foraging habitat for wildlife;
- cut ground flora at the base of hedges on a 3-year rotation to 150 mm height, with arisings removed. This is to maximise the value of the habitat for overwintering and foraging insects, and prevent scrub establishment. Cutting is to take place in October/November.

New Hedgerows

5.1.34 Maintenance operations will ensure:

- the base of hedges will be kept weed-free manually or by applications of a translocated non-residual herbicide. This will be done eight times a year. Maintenance input will reduce after Year 5, when continuous hedgerows should be achieved. Weeding, watering, fertiliser applications and topping up the mulch are key to achieving successful establishment;
- litter and fly-tipped material will be removed four times a year;
- plants will be watered in dry weather in the initial 3-year establishment period. Watering will be carried out twice a week to field capacity. Beyond the establishment period, watering will be in times of drought;

- composted woodbark mulch will be topped up annually to 75mm depth for the first 3 years after implementation to suppress weeds and retain moisture;
- rabbit/deer protection will be retained/replaced until no longer needed. This is to be checked four times a year;
- a slow release fertiliser will be applied annually in March;
- all bamboo canes or tree stakes will be adjusted/replaced/removed as necessary once plants are anchored. This will be carried out four times a year;
- plants will remain upright. Any adjustments will be made four times a year;
- plants will be pruned annually to remove any dead, lying or diseased wood and suckers to promote healthy growth and a natural shape;
- dead, dying, defective or missing plants will be replaced annually for the first five years after planting; and
- once established, hedgerows will be cut to 3-5m in height. Sides will be cut back to within 1.0m of the main stems to create bases that are wider than the top of the hedgerows. This will be carried out between November and mid-February using a reciprocating blade cutter, not a flail. It will take place annually on a 3-year rotation, with one third of hedgerows being pruned each year. Individual trees will be allowed to grown on. Management operations will ensure:
 - rubbish, vegetation and litter will be removed, including adjacent to any pipes, overflows or grates. This will be done biannually;
 - marginals and aquatics will be allowed to find their own equilibrium, and this is dependent upon unpredictable water levels;
 - dead foliage/flower stems will be cut down annually in early autumn;
 - vegetation removed from drainage/water features will be left on the sides for 48 hours for invertebrates to crawl back into the pond, and then removed;
 - wildflower areas or grass above the waterline will be cut as set out above. Reseeding will not take place where grass/wildflowers have died out due to regular water inundation; and
 - a more open aspect to ditches will be created to reduce overshadowing and promote the Periodic Management Operations.

5.1.35 In addition, other operations will be required intermittently; notably, pruning, woodland thinning and coppicing. Approximate years when these are required have been set out, although regular site monitoring will be required to respond to unpredictable events, poor plant establishment rates, extreme weather, etc.

- 5.1.36 A health and safety method statement will be agreed between the client and contractor regarding the types of maintenance machinery and chemicals to be used on-site.
- 5.1.37 Should any new construction works be required on-site, or additional services be installed, new and original vegetation is to be protected as set out in paragraphs 5.1.1 - 5.1.2.
- 5.1.38 The timing of tree, hedgerow and ditch clearance works will comply with paragraph 4.1.14 and 5.1.5.
- 5.1.39 Where woodland thinning involves trees with a stem diameter over 100 mm, a felling licence is required where more than 5 m³ of timber is felled per calendar quarter provided that no more than 2 m³ is sold. To avoid felling licences, felling should be undertaken quarterly over a number of years, with priority areas tackled first.

Vegetation type and management options	Years	
	2-5	6-9
Arboricultural inspections will identify:		
pruning required adjacent to overhead power cables.		*
periodic selective tree thinning to remove poorer, misshapen specimens to provide space for remaining trees to grow on. Long-lived trees, such as oak, will be retained at the expense of short-lived varieties. Mature and overmature specimens will be retained as veterans. Formative pruning will be undertaken to retained trees. Some standing deadwood will be retained for wildlife, providing it poses no health and safety risks. Thinning will ensure that remaining canopies are not touching. Anticipated centres are 5m after Years 6-9; 8m at Years 15-20 and 8-10m at Year 25 for new structure planting. Cut stumps will be treated to stop regeneration.		*
removal/pruning of tree limbs that pose a health and safety hazard.	*	*
selective removal of non-native tree species such as sycamore and horse chestnut in order to change long-term species composition.		*
raising tree canopies to 6m above the access road.	*	
coppicing the shrub layer to 300mm in height over a period of three winters, removing one third each year. The objective is to rejuvenate growth and prevent legginess. Anticipated timing for new structure planting is Years 6-9, Years 13-15 and years 19-22. Retain edge species to maintain woodland edge.		*
remove tree guards when no longer needed.		*
increase the proportion of native young growth, native tree/shrub species and natural/assisted regeneration in Year 5 onwards by: selected coppicing of hazel, for structural and habitat diversity; annually collecting seed from native species, which will be grown on and used for new underplanting within clearance areas;	*	

Vegetation type and management options	Years	
Woodland/Structure Planting:	2-5	6-9
regeneration will be monitored with reference to browsing and regeneration of understorey species; and pest damage will be monitored and a response made if this reaches unacceptable levels.		
Mature and New Trees:		
Arboricultural inspections will identify:	*	*
crown reduction required to mature trees.		
raising canopies to 6m above roads.		
pollarding of willows every 5 years.		
canopy thinning to minimise potential gale damage.		
the need to thin congested trees.		
pruning to ensure lighting/CCTV cameras are not obstructed.		

Vegetation type and management options	Years	
	2-5	6-9
Inspections will identify:		
ensure marginals and aquatics do not cover more than two thirds of the surface area of water. Periodic thinning will be required depending on the speed of colonisation.		
discarded vegetation will be left on the banks for 48 hours to allow mobile invertebrates to re-enter the water, then be removed.		*
periodic thinning of wetland plants/aquatics is required every 5-7 years to original planting centres. Rejuvenate plants by discarding old roots and rhizomes.	*	*
dredge ditches once 300mm of silt has accumulated.		*
periodic measurement of siltation will be carried out as part of the monitoring of the pond/ditch. The minimum desilting will be undertaken in order to promote good aquatic communities, whilst retaining the operational functions of ditches/rhynes. Marginal vegetation should be left untouched and the operation should be carried out from one bank only.	*	
silt will be removed from the bed of the ditches over their entire length, but 'pockets' of silt will be retained in specified areas, where this would not restrict flow or compromise flood defence. Desilting will progress in an upstream direction to aid rapid recolonisation of the desilted and disturbed substrate. It is envisaged that desilting will take place on a 10-15 year rotation		*
desilting will be preceded by a water vole survey, to ensure compliance with the law.		*
control of bankside vegetation and emergent and submerged weeds:	*	
control of emergent and submerged weeds will follow the Environment Agency's best practice guidance set out in 'Aquatic Weed Control Operation' (1998). The frequency will depend upon the extent of weed growth found in-channel. However, it is envisaged that weed control from alternate sides will be carried out on a 3-5 year rotation, in September/October.	*	
deposition of materials will follow the Environment Agency's best practice guidance set out in 'Disposal of Cut Vegetation' (1999). Submerged vegetation removed from the watercourse will be deposited on the top of the banks for a 48-hour period, to enable mobile aquatic species to return to the water. The material will be deposited away from any sensitive areas so, for example, the valuable plant communities are not smothered.	*	*

6 Delivery Mechanism

Construction

- 6.1.1 Mitigation will be implemented in accordance with the contract of works with the Project developer and is implemented through a requirement attached to the DCO. (Requirement 3). Implementation of the CEMP and the other measures during construction will be the responsibility of the Project developer.

Operation

- 6.1.2 During operation, two mitigation measures are proposed: a lighting scheme to reduce disturbance from operational lighting and a drainage design to avoid pollution of waterbodies. These will be secured as Requirements attached to the DCO (Requirements 14 and 7 respectively). Both will provide for ongoing maintenance activities and will be implemented by the site staff operating on site at the time. Please note that should great crested newts be found, additional measures may be required during operation.

Appendix 1 Plant Schedule

Woodland Mix: 2m Centres

- 20% Acer campestre (Field maple)
- 20% Betula pendula (birch)
- 20% Corylus avellana (hazel)
- 20% Crataegus monogyna (hawthorn)
- 20% Quercus robur (oak)

Hedgerows: Easement Mix

- 35% Prunus spinosa (blackthorn)
- 65% Crataegus monogyna (hawthorn)

Hedgerows: General Mix

- 15% Acer campestre (Field maple)
- 15% Corylus avellana (hazel)
- 45% Crataegus monogyna (hawthorn)
- 5% Prunus spinosa (blackthorn)
- 15% Sambucus nigra (Common elder)

Standard Trees

- Quercus robur (oak)
- Acer campestre (Field maple)

Scrub

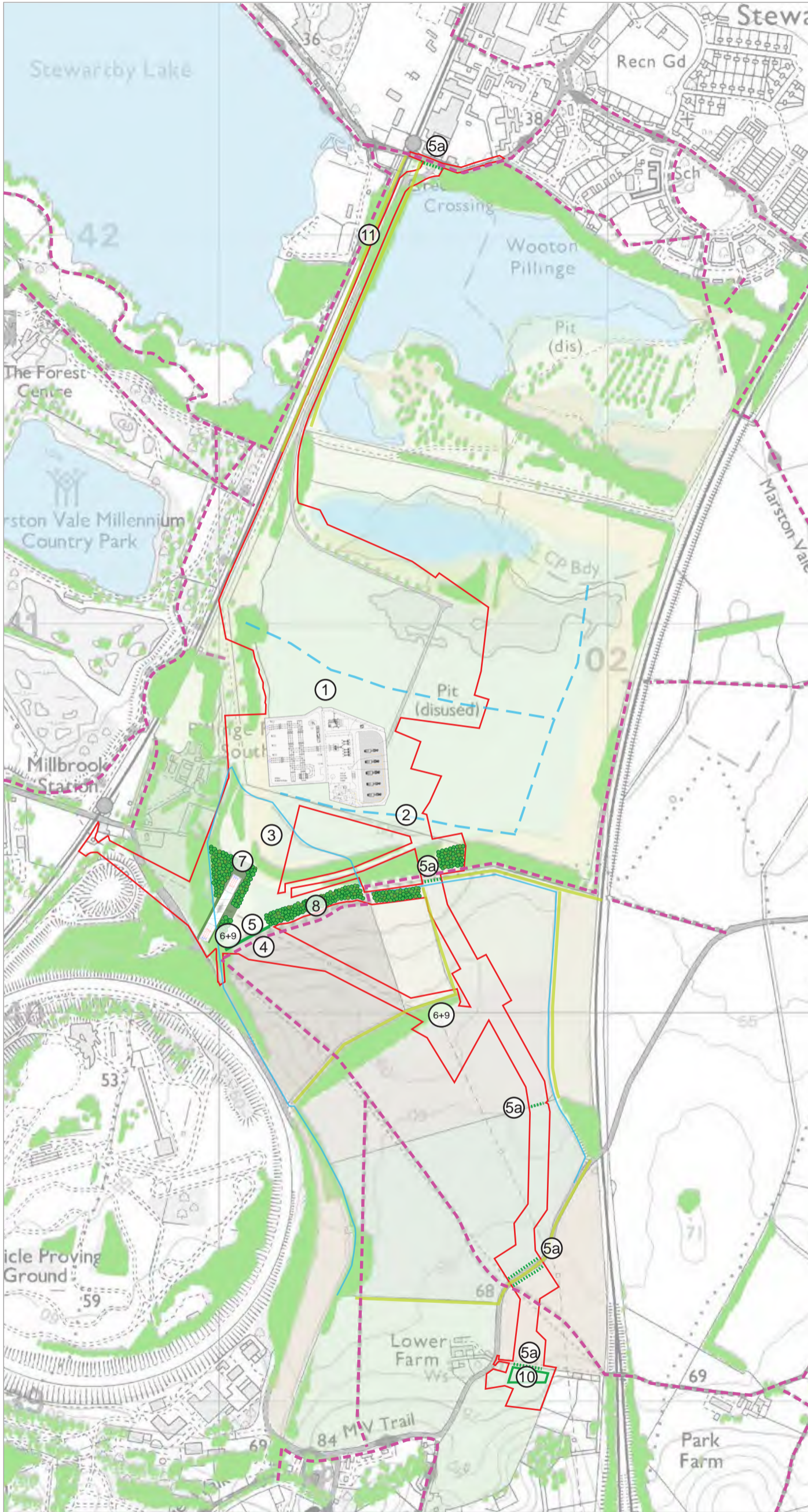
- Prunus spinosa (blackthorn)
- Rubus fruticosus (bramble)
- Crataegus monogyna (hawthorn)

Grassland seeding












Meadow Mix - Grasses

- 15% Red fescue Festuca rubra
- 20% Cock's-foot Dactylis glomerata
- 20% Meadow foxtail Alopecurus pratensis
- 15% Tufted hair-grass Deschampsia cespitosa
- 10% Meadow fescue Festuca pratensis
- 10% Yorkshire Fog Holcus lanatus

Appendix 2 Landscape & Ecology Strategy Plan



LEGEND:

-  Project Site
-  Existing woodland
-  Proposed woodland belt
-  Existing hedgerow
-  Proposed hedgerow
-  Replacement hedgerow
-  Proposed scrub and grass matrix
-  Existing watercourse
-  Realigned watercourse
-  Public right of way
-  Site access road

NOTES:

1. Generating Equipment and Substation located to the south of LLRS drainage ditch.
2. LLRS drainage ditch to be re-aligned south of Generating Equipment and Substation and adjacent landform re-profiled.
3. Location of the ponds to be determined through consultation prior to construction.
4. Footpath retained on existing line.
5. Proposed hedgerow planted with hawthorn and blackthorn across easement where appropriate, in accordance with current guidance.
- 5a. Hedgerow replanted with hawthorn and blackthorn across easement in accordance with current guidance.
6. Any existing woodland lost to electrical connection work following installation to be replanted with appropriate native species.
7. Scrub and grassland matrix.
8. Proposed belts of woodland planting linking to existing plantations to filter views from the south and south-east.
9. Retained existing woodland protected during construction. Area lost to development to be replanted in accordance with restrictions.
10. Proposed hedgerow planted around Above Ground Installation.
11. Existing hedgerows retained as important bat corridor. Any lengths of hedgerow lost to be replanted with appropriate native species.

Proposals based on implementation of The Rookery Low Level Restoration Scheme in accordance with WYG drawing 8.7, May 2009

0 100 200 300 400 500m

MILLBROOK POWER PROJECT

LANDSCAPE AND ECOLOGY STRATEGY PLAN

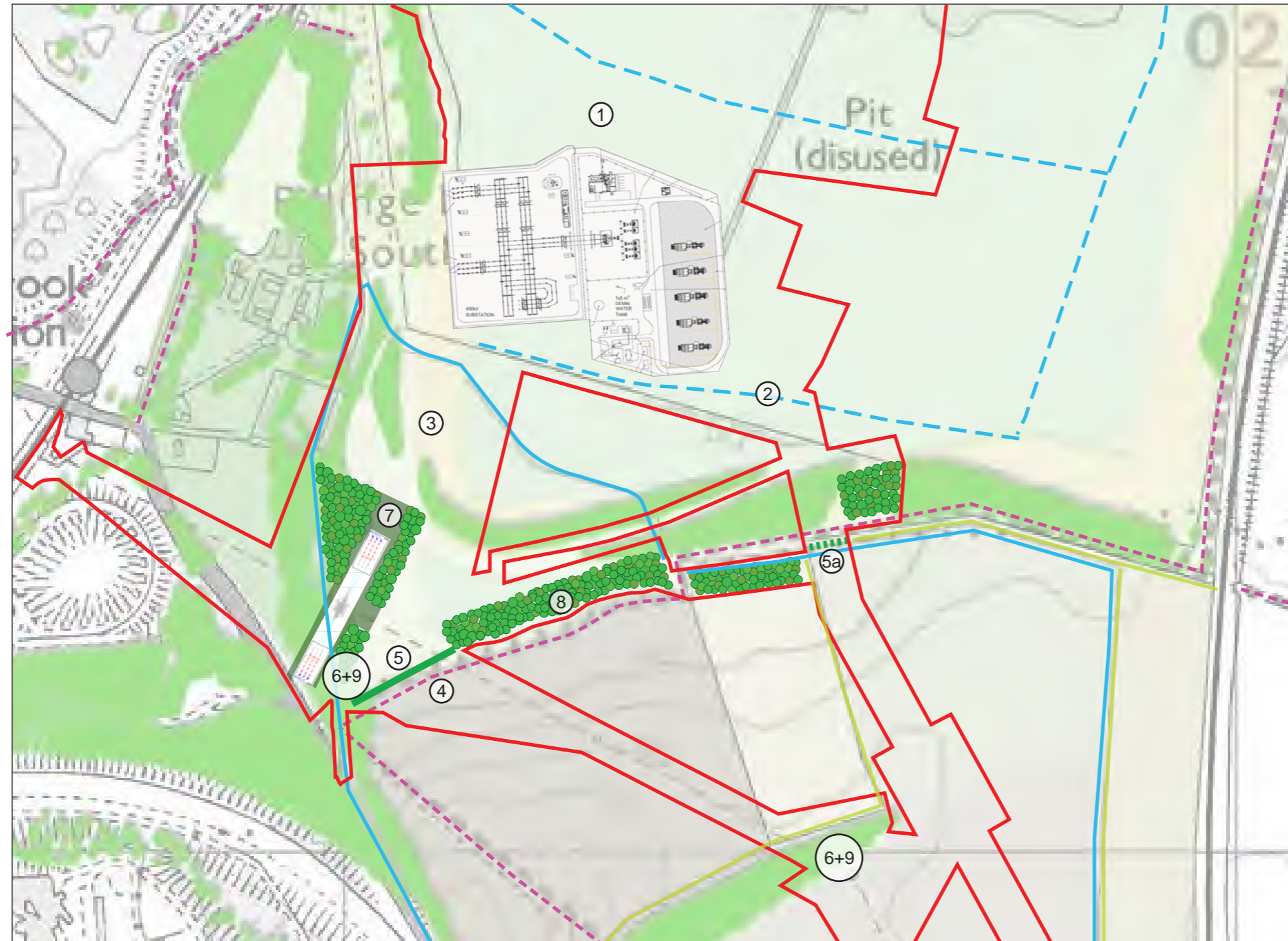


MILLBROOK POWER LIMITED











F	Amendment to hedgerows	09 03 15
E	Amendment to text & numbers	04 03 15
D	Amendment to text & numbers	04 03 15
C	Restoration scheme vegetation	03 03 15
B	OS base, inset drawing	13 02 15
A	Amendment to red line	05 02 15
Mark	Revision	1

Drawing No. 31116-05	REV	Date	April 2018
	F	Scale	As shown
		Drawn	RJ
		Checked	LE

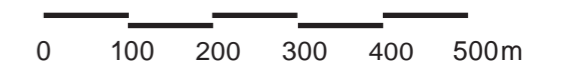
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LEGEND:

-  Project Site
-  Existing woodland
-  Proposed woodland belt
-  Existing hedgerow
-  Proposed hedgerow
-  Replacement hedgerow
-  Proposed scrub and grass matrix
-  Existing watercourse
-  Realigned watercourse
-  Public right of way
-  Site access road


Proposals based on implementation of The Rookery Low Level Restoration Scheme in accordance with WYG drawing 8.7, May 2009



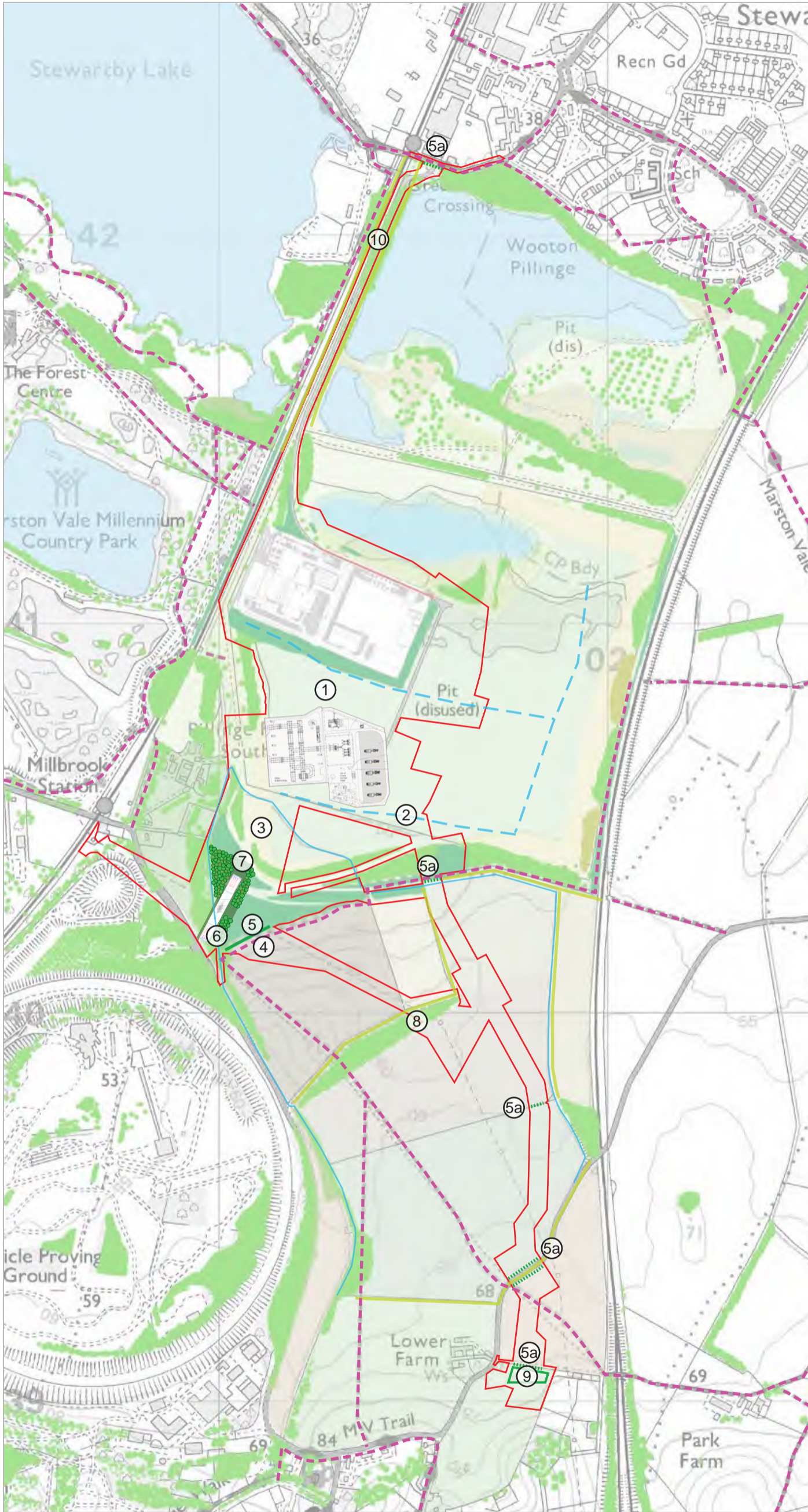
NOTES:

- | | | |
|--|--|--|
| <p>1. Generating Equipment and Substation located to the south of LLRS drainage ditch.</p> <p>2. LLRS drainage ditch to be re-aligned south of Generating Equipment and Substation and adjacent landform re-profiled.</p> <p>3. Location of the ponds to be determined through consultation prior to construction.</p> | <p>4. Footpath retained on existing line.</p> <p>5. Proposed hedgerow planted with hawthorn and blackthorn across easement where appropriate, in accordance with current guidance.</p> <p>5a. Hedgerow replanted with hawthorn and blackthorn across easement in accordance with current guidance.</p> | <p>6. Any existing woodland lost to electrical connection work following installation to be replanted with appropriate native species.</p> <p>7. Scrub and grassland matrix.</p> <p>8. Proposed belts of woodland planting linking to existing plantations to filter views from the south and south-east.</p> <p>9. Retaining existing woodland protected during construction. Area lost to development to be replanted in accordance with restrictions.</p> |
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










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MILLBROOK POWER PROJECT			
LANDSCAPE AND ECOLOGY STRATEGY PLAN - INSET			
 <small>Offices throughout the UK and Europe</small> www.peterbrett.com	MILLBROOK POWER LIMITED		
	C	Amendment to hedgerows	09/03/15
	B	Amendment to text & numbers	04/03/15
	A	Amendment to text & numbers	04/03/15
Mark	Revision		
Drawing No. 31116-07	REV C	Date April 2018	Scale AS SHOWN
	Drawn RJ	Checked LE	

Appendix 3 Landscape & Ecology Strategy Plan with Covanta



LEGEND:

-  Project Site
-  Existing woodland
-  Proposed woodland belt
-  Existing hedgerow
-  Proposed hedgerow
-  Replacement hedgerow
-  Proposed scrub and grass matrix
-  Existing watercourse
-  Realigned watercourse
-  Public right of way
-  Site access road

NOTES:

1. Generating Equipment and Substation located to the south of LLRS drainage ditch.
2. LLRS drainage ditch to be re-aligned south of Generating Equipment and Substation and adjacent landform re-profiled.
3. Location of the ponds to be determined through consultation prior to construction.
4. Footpath retained on existing line.
5. Proposed hedgerow planted with hawthorn and blackthorn across easement where appropriate, in accordance with current guidance.
- 5a. Hedgerow replanted with hawthorn and blackthorn across easement in accordance with current guidance.
6. Any existing woodland or Covanta planting lost to electrical connection work to be replanted with appropriate native species.
7. Scrub and grassland matrix.
8. Existing woodland protected during construction. Area lost to development to be replanted in accordance with restrictions.
9. Hedgerow planted around Above Ground Installation.
10. Existing hedgerows retained as important bat corridor. Any lengths of hedgerow lost to be replanted with appropriate native species.

Proposals based on implementation of The Rookery Low Level Restoration Scheme in accordance with WYG drawing 8.7, May 2009 and Covanta planting in accordance with TerraQuest drawing MPL Works Plan Key Plan v0.7, January 2015.

0 100 200 300 400 500m

MILLBROOK POWER PROJECT

LANDSCAPE AND ECOLOGY STRATEGY PLAN (WITH COVANTA)



MILLBROOK POWER LIMITED

E	Amendment to hedgerows	09 03 15
D	Amendment to text & numbers	04 03 15
C	Amendment to text & numbers	04 03 15
B	Restoration scheme vegetation	13 02 15
A	OS base, inset drawing	05 02 15
Mark	Revision	

Drawing No.
31116-06

REV E	Date	April 2018
	Scale	As shown
	Drawn	RJ
	Checked	LE

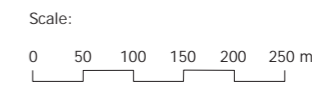
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Appendix 4 Low Level Restoration Scheme



- Key**
- Application site boundary
- Existing Features**
- Existing contours
 - Trees, scrub & woodland
 - Neutral grassland
 - Semi-improved grassland
 - Grassland and bare ground
 - Lake
 - Watercourse
 - Public footpath
 - Long distance footpath
 - Cycle route
- Proposed Features**
- Restoration contours
 - Base of pit levelled, graded and grassed
 - Neutral grassland established on regraded / restored areas
 - Amenity grassland
 - Natural regeneration on regraded slopes
 - Marsh, marginal aquatics
 - Pond, open water
 - Proposed tree, scrub planting
 - Proposed hedgerow
 - Proposed grass verge with tree avenue
 - Proposed new footpaths



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The Rookery Low Level Restoration Scheme

Restoration Strategy

Date	May 2009
A3 Scale	1:7,500
Drawn by	MA
Checked by	MOC
Figure Number	8.7
WYG Ref	WT05569 8-7.cdr

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Appendix 5 Location of Existing Ponds



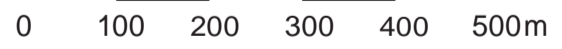
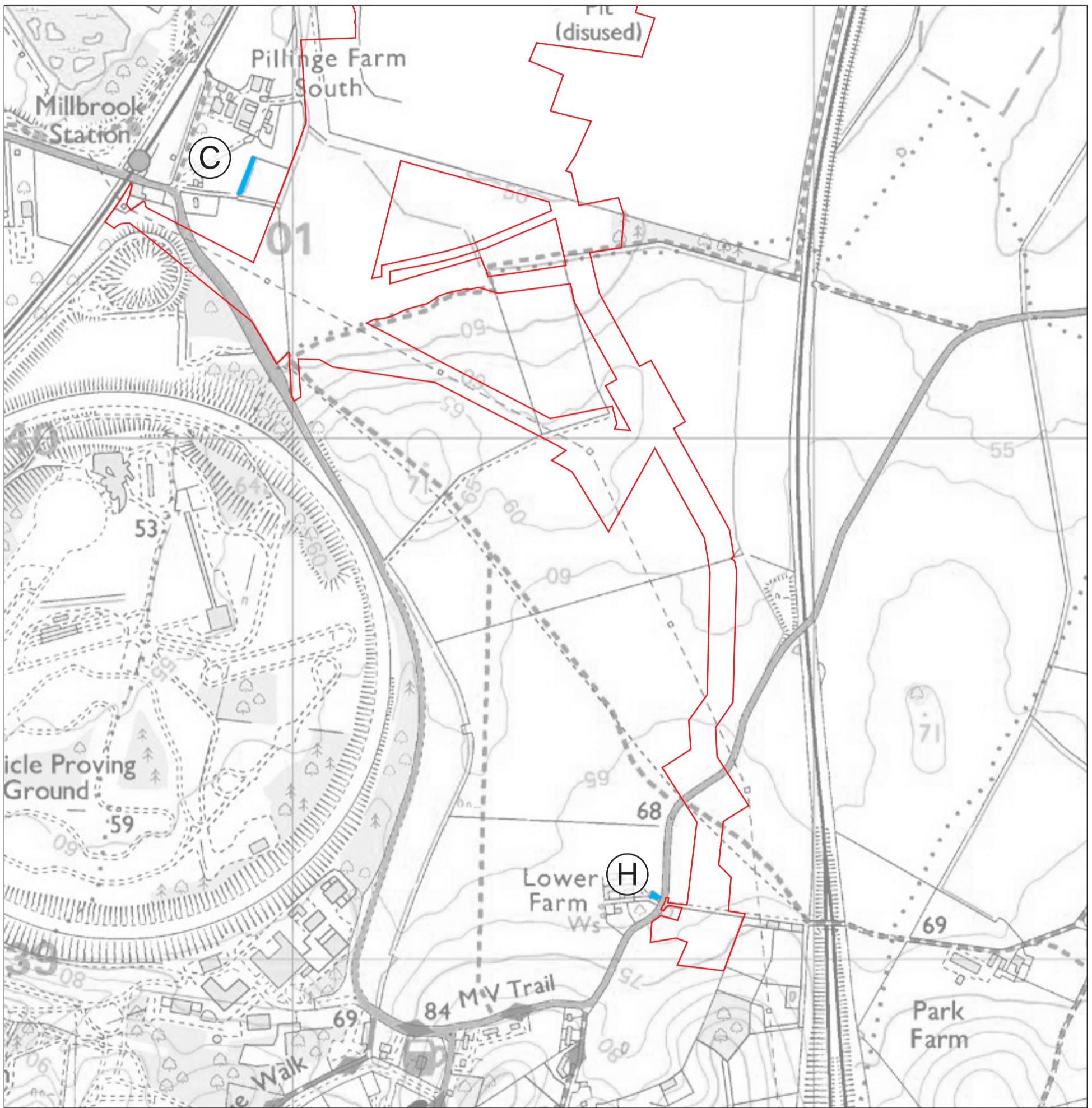
LEGEND:



Project Site




Existing pond



APPENDIX 5 MILLBROOK POWER PROJECT

LOCATION OF EXISTING PONDS REFERRED TO IN LEMMS

 <p>Offices throughout the UK and Europe www.peterbrett.com</p>		MILLBROOK POWER LIMITED	
		Mark	Revision
Drawing No.	REV	Date	09.03.15
31116-09	-	Scale	As shown
		Drawn	RJ
		Checked	LE

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