# **Neilston Greener Grid Park S.36 Application**

784-B042549

# Landscape and Ecology Management Plan (LEMP)

TNEI (on behalf of Statkraft UK Ltd.)

August 2024

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# 1.0 INTRODUCTION

# 1.1 BACKGROUND

Tetra Tech Ltd was commissioned by TNEI Group (on behalf of Statkraft UK Ltd.) to prepare a Landscape and Ecological Management Plan (LEMP) of the Neilston Greener Grid Park, part of the Neilston Greener Grid Park S.36 Application, hereafter referred to as "the site".

This report has been prepared by Senior Ecologist Gabrielle Cruttenden MSc BSc (Hons) ACIEEM and the conditions pertinent to it are provided in Appendix A.

It should be noted that this report is to be read in conjunction with the Biodiversity Enhancement Management Plan (BEMP) for the site (Tetra Tech, 2024a).

The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.

Scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

# 1.2 SITE DESCRIPTION

The site is located off the B775 Gleniffer Road in Renfrewshire, 3.9km northwest of Neilston and 15.3km southeast of the centre of Glasgow (Northing: 659853 Easting: 245060 / Ordnance Survey National Grid Reference NS 45060 59853) (Figure 1). The site comprises mainly grassland and scrub habitat with a small number of semi-mature coniferous trees. The surrounding landscape is rural, with pastoral fields surrounding the site and a small woodland with well-used car park to the east.

#### 1.3 DEVELOPMENT PROPOSALS

The proposed development is the formation of an up to 750MW Battery Storage Facility, comprising up to 88 battery storage container blocks and associated infrastructure, storage containers, welfare, diesel generators, CCTV and lighting columns and associated access, internal access roads, hard and soft landscaping, SuDS basin, perimeter fence and underground grid connection cable.

#### 1.4 PURPOSE OF REPORT

This LEMP has been produced with reference to existing ecological data for the site (see Section 2.1) and the site landscaping plan (Figure 2). The aim of the proposed LEMP is to reduce impacts to retained habitats on site and to detail post-construction habitat creation measures to secure biodiversity enhancement for the site. The aims of LEMP are as follows:

- To detail measures for the establishment, enhancement, and management of all habitats (existing and proposed) within the site, including planting schedules and details of ongoing management.
- Provide a programme and timetable for the implementation of the works and for subsequent management activities as well as a monitoring schedule for habitats and species, post completion.



All measures and works shall be completed in accordance with the approved details and programme.

 Full details of ecological enhancements proposed for the site and timings for their implementation.

The following principles and hierarchy (CIEEM, 2018) are used when determining mitigation and management measures:

- Prevention to avoid adverse effects as far as possible by designing out or using preventative measures during works.
- Reduction to minimise adverse effects as far as possible.
- Compensation involves measures of the same value to offset the impact.
- **Enhancement** to identify opportunities where enhancement measures can be incorporated into the scheme.

Similarly, a distinction is made between types of mitigation measures and how they can be incorporated as follows:

- **Inherent Mitigation** this is prevention through design, i.e., the design of the site is altered to accommodate an important feature or changed to prevent or reduce a predicted impact.
- Additional Mitigation mitigation measures which are required to reduce the scheme's environmental impact further. This forms the focus of the mitigation description below.

# 1.5 RESPONSIBILITIES

A mitigation strategy that will negate or minimise the risk of any potential impacts on habitats and contravention of the relevant legislation that has been outlined within this LEMP. It is the responsibility of the developer, Statkraft, the principal contractor and any associated sub-contractors to carry out the works in a manner which will not contravene the legislation (see Appendix B), will not endanger protected species, and with due care to any other wildlife on site.

# 1.5.1 Construction Phase

#### **Biodiversity Champion**

A Biodiversity Champion will be nominated by the client to influence site activities during the **construction phase** in line with the recommendations of this report. The Biodiversity Champion does not need to be the same individual throughout the life of the project; but the responsibility will be passed on as required to maintain a consistent approach.

The Biodiversity Champion does not need to be an ecologist but will be familiar with this report and have sufficient authority and presence on site to influence activities. Usually, a member of the lead contractor team takes this role during the site construction phase. The Biodiversity Champion nominated during the construction phase may not have regular site presence during the entire construction life of the project; therefore, the role of Biodiversity Champion can be transferred to a new individual.

During the construction phase, the role of a Biodiversity Champion is to provide advice to the construction teams on all pertinent ecological issues as highlighted by this LEMP and to check that the ecological protection and mitigation measures, as specified in this document, are correctly implemented. This is for

general ecological oversight of the project, and where complex ecological issues arise, advice should be sought from a suitably qualified ecologist. General responsibilities of the Biodiversity Champion during the Construction Phase are:

- Contacting a suitably qualified ecologist in the event of uncertainties about ecological issues surrounding the development;
- Ensuring that all site contractors know to report any ecological concerns/issues;
- Check and document that an overview of the site's ecological constraints is included within the contractor inductions as appropriate;
- Ensuring that contractors, vehicles and equipment do not impact areas to be retained adjacent to the site;
- Supervising and monitoring the implementation and habitat creation measures as set out in this document;
- If site preparation works are scheduled during the nesting bird season (generally considered to be March-September inclusive), to organise for an Ecological Clerk of Works (ECoW) to undertake a nesting bird check in advance of works that could impact an active nest. If a nesting bird is identified, to implement suitable working methods as advised by the ECoW; and
- The Biodiversity Champion will take photographs, log the dates and times of inspections, and produce progress reports as appropriate to evidence that the above responsibilities are being upheld.

#### **Contractor**

The contractor responsibilities include the following:

- To adhere to the relevant provisions made within this document, and to comply with the advice of the project ecologist and/or Biodiversity Champion; and
- To contact the Biodiversity Champion and/or, if necessary, the project ecologist regarding any uncertainties or activities that may impact on ecological features on site.

#### Client

The client responsibilities include the following:

- Ensuring that the contractors employed are suitably qualified and experienced to undertake the habitat creation works, whilst maintaining the ecological value of the site;
- Providing to the contractor all information required to allow them to carry out appropriate
  habitat and landscape management during the construction phase. This includes any updated
  versions of this LEMP and other related management plans, which will be circulated as soon as
  possible after being received.

# 1.5.2 Operational Phase

The following details the roles and responsibilities of the client and contractor during the operational phases of the development, following handover of the project. The LEMP will be distributed to all relevant personnel involved in the management and maintenance of the site following handover, to include:

- Biodiversity Champion;
- · Contractor; and



Client.

# **Biodiversity Champion**

A Biodiversity Champion will be nominated by the client, from within the grounds maintenance team, to influence site activities during **the operational phase of the project (i.e. for at least 10 years following project handover)** in line with the recommendations of this report. The Biodiversity Champion does not need to be the same individual throughout this time; but the responsibility should be passed on as required to maintain a consistent approach.

The champion does not need to be an ecologist but should be familiar with this report and have sufficient authority and presence on site to influence activities. The Biodiversity Champion nominated following completion of the construction phase may not have regular site presence during the entire operational life of the project; therefore, the role of Biodiversity Champion can be transferred to a new individual as required, for at least the first ten years of the operational life of the project.

During the Operational Phase the role of a Biodiversity Champion is to provide advice to the site management teams on all pertinent ecological issues as highlighted by this LEMP and to check that the ecological protection and mitigation measures, as specified in this document, are correctly implemented. This is for general ecological oversight of the project, and where complex ecological issues arise, advice should be sought from a suitably qualified ecologist. General responsibilities of the Biodiversity Champion during the Operational Phase are:

- Contacting an ecologist in the event of uncertainties about ecological issues surrounding the development;
- Ensuring that all site contractors/grounds maintenance workers know to report any ecological concerns/issues;
- Check and document that an overview of the site's ecological constraints is included within the ground maintenance staff inductions as appropriate;
- Supervising and monitoring the management of newly created habitat as set out in this document;

Where additional issues are identified that are not currently covered in this management plan, or where it is considered that revised maintenance regimes are needed to maximise the ecological value of the site, the Biodiversity Champion should contact a suitably qualified ecologist who can make changes to management prescriptions as appropriate.

The Biodiversity Champion will take photographs, make logbook entries of inspections, and produce progress reports as appropriate to evidence that the above responsibilities are being upheld. This monitoring and review process will be carried out as an integral part of this LEMP.

#### **Contractor**

The landscape/ground maintenance contractor responsibilities include the following:

- Providing staff members who are suitably qualified and experienced, and able to carry out the required tasks as per the LEMP.
- The contractor is responsible for alerting the client should there be any tasks for which they do not have the appropriate resources or capability.



- Ensuring that they have received and understood all appropriate information prior to works commencing on site during the operational phase.
- The contractor is equally responsible for ensuring that they carefully study any updated documents which are produced, ensuring that they are fully understood, and any changes are communicated across the whole team.
- Providing to the client, where appropriate, evidence of compliance with the management plan.
- Alerting the client and/or appointed ecologist to any potential ecological issues arising, and for ceasing any works which may cause ecological disturbance or harm until further notice.
- The contractor will endeavour to monitor the success of the new and retained plants on site and will apply remedial measures where required.
- Carrying out maintenance and monitoring on the ecological features installed on site.
- The contractor is responsible for reporting back to the client, should any remedial action be required on any ecological features.

# 1.6 KEY CONTACT DETAILS

In the event of ecological queries or assistance being required, please contact:

- Principal Ecologist, Elaine Anderson 07970 777 024
  - Elaine.Anderson@tetratech.com
- UK Tetra Tech Ecology Team <u>Ecology.uk@tetratech.com</u>

# 1.7 TIMESCALES

Details of timescales of the implementation of all proposed works are provided in Appendix C.



# 2.0 BASELINE INFORMATION

# 2.1 PREVIOUS REPORTS

The following reports were reviewed to inform this LEMP:

- Tree Survey and Arboricultural Impact Assessment Land at Neilston Greener Grid Park, Renfrewshire (Caledon Tree Surveys, 2022).
- Main BESS Site Preliminary Ecological Appraisal (Tetra Tech, 2022)
- Cable route Preliminary Ecological Appraisal (Tetra Tech, 2023).
- Breeding Bird Survey Report (Tetra Tech, 2024b).
- Phase 2 and Phase 3 Update Preliminary Ecological Appraisal (Tetra Tech, 2024c).

### 2.2 DESK STUDY RESULTS

As identified in the ecological appraisal reports (Tetra Tech, 2022, 2023), there are two designated sites of conservation value within 10km: Sergeantlaw Moss Site of Importance for Nature Conservation (SINC) which is located directly adjacent to the site, and Black Cart Special Protection Area (SPA), 6.9km north. Sergeantlaw Moss is known to support a population of large heath butterfly *Coenonympha tullia*, and Black Cart SPA is designated due to regularly supporting a wintering population of whooper swan *Cygnus cygnus*.

#### 2.3 HABITATS

The habitats on site were predominantly grassland, with occasional areas of raised bog/mire. A line of trees and scrub habitat was also present along the roadside. For a full Phase 1 Habitat Plan and habitat assessment, please refer to the associated Preliminary Ecological Appraisals (Tetra Tech, 2022, 2023 and 2024c).

#### 2.4 PROTECTED OR NOTABLE SPECIES

# **Badger**

No direct evidence of badger *Meles meles* was recorded during the survey, however, mammal paths through the grassland at the north of the site was observed, suggesting the site may be used by large mammals for commuting. Nearby woodland areas are considered suitable for sett creation, foraging, and commuting by badger.

#### **Bats**

Mature trees on the site were considered to provide suitability for foraging bats, with woodland edge habitat within the buffer areas to the east and west also providing foraging resources.

#### **Nesting Birds**

Swallow *Hirondo rustica* were confirmed to be breeding on site, with breeding meadow pipit *Anthus pratensis* and willow warbler *Phylloscopus trochilus* also considered probable.

#### Reptiles



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Stone dykes and areas of grassland and scrub habitat, particularly at the north of the site where some ground is exposed, are considered likely to support reptiles such as common lizard.

# 3.0 PRE- AND MID-CONSTRUCTION HABITAT MANAGEMENT STRATEGY

The below habitats are to be retained and protected from impacts by the proposed development (see Figure 2 for Landscaping Plan):

- Existing broadleaved woodland and areas of coniferous woodland at the north and east of the site.
- Existing grassland is to be retained around the cable route area at the north of the site and to the south and west of the proposed BESS.
- Existing dry heath/bog/fen/mire.
- Existing watercourses.
- Sergeantlaw Moss SINC will be retained within its entirety.

These areas will be protected during the construction phase of the development from direct and indirect impacts. Potential direct impacts as a result of the proposed development could include land take or damage of these area from construction practises. Indirect impacts include hydrological pollution events (such as oil/fuel spills) and construction dust deposition.

Habitats to be cleared are predominantly limited to the pastoral grassland within the site.

In addition, the landscape to the northwest of the site is characterised by the B775 transport corridor and the existing electricity substation on the opposite side of the road. Existing habitat along this edge of the site is limited to isolated, small-scale scrub along the roadside verge and a line of Sitka spruce *Picea sitchensis* (Tetra Tech, 2022, 2023 and 2024c). This existing small-scale scrub will be cleared.

### 3.1 HABITATS

Groundcover within the site and surrounding area typically comprises open pastoral farmland, demarcated by low stone walls and post-and-wire fencing as shown in the associated PEA (Tetra Tech, 2022, 2023 and 2024c). This accounts for the vast majority of the site.

In addition to this, the southwestern edge of the site incorporates a localised area of species-rich wet grassland. This abuts an area of mixed scrub / tree cover that extends out across the adjoining landscape, widening out towards the northwest. This habitat area (including the wet grassland and mixed scrub / trees) will be protected during the course of the works via temporary fencing and retained.

The landscape to the northeast of the site comprises an established belt of coniferous plantation, which will also be retained in situ. These trees are located outside the site and demarcated from it by an intervening stone wall and wire fence. In addition, Sergeantlaw Moss SINC will be retained throughout the works, with a minimum 30m buffer maintained from this SINC.

All areas of retained vegetation are shown in Figure 2.

#### **Direct Impacts**

To prevent direct damage to these habitats, temporary fencing will be used to safeguard their protection during the works.

In all cases, the temporary tree protection fencing will observe the theoretical root protection area. These areas are illustrated within drawing 2161/L02: Vegetation Management, with reference to the areas defined in the Tree Survey and Arboricultural Impact Assessment (Caledon Tree Surveys, 2022). The root

protection areas encompass the theoretical extents of the likely areas within which tree roots may be encountered, based upon calculations relating to the girth of the tree trunk at 1.5m above ground level (in accordance with BS 5837:2012).

Clear warning signs will be erected on any temporary fencing stating that no entry or works are permitted within the ecological protection area.

There will be no construction works, vehicular over-run, or storage of materials within the extents of the tree protection fencing area. Similarly, there are to be no canopy works to existing (retained) trees.

During construction, the site will be subject to spot checks every 3 months throughout construction from the an Ecological Clerk of Works to monitor that these measures are adhered to.

# **Indirect Impacts**

Additionally, dust suppression construction techniques and appropriate pollution prevention measures will be adhered to. These measures include, but are not limited to:

- The use of water sprays and / or sprinklers to control some types of dust spreading.
- Ensure there are adequate spill kits and drip trays in the event of a pollution incident on site.
- Store all fuel / chemicals on level and impermeable surfaces.
- Ensure fuel / chemical storage areas are secure and locate fuel / chemical storage away from sensitive receptors (such as the watercourses) on site.
- Consider the requirement for the use of silt traps.

Pollution prevention guidance is also available from the Construction Industry Research and Information Association (CIRIA) C736F (CIRIA, 2014).

Furthermore, the below pollution prevention for engineering in freshwater environments, below, will be followed to prevent groundwater hydrological impacts upon Sergeantlaw Moss SINC.

#### 3.2 WATERCOURSES

The watercourses on site will be retained within the proposals. As such, it is recommended that a minimum 10 m buffer from the watercourses on site will be maintained as per the Scottish Environment Protection Agency (SEPA) guidance throughout the development to retain the riparian zones of these watercourses. A 30m buffer will also be maintained from the western site boundary, to prevent indirect groundwater impacts to Sergeantlaw Moss SINC as per recommendations from NatureScot (2021).

As such, prior to construction, these areas will be fenced off with clear warning signs stating that entrance into these ecological areas are not permitted.

During construction, the site will be subject to spot checks every 3 months from the Ecological Clerk of Works to audit that these measures are adhered to, as per the habitat retention above. Additionally, pollution prevention measures will be adhered to, as detailed in Section 3.1 above.

In addition, SEPA has published series of Good Practice Guides for engineering in freshwater environments, including:

- WAT-SG-23 Good Practice Guide Bank Protection
- WAT-SG-25 Good Practice Guide River Crossings

- WAT-SG-26 Good Practice Guide Sediment Management
- WAT-SG-28 Good Practice Guide Intakes and Outfalls
- WAT-SG-29 Good Practice Guide Construction Methods

As such, the construction of the proposed road crossing will adhere to the principles set out within these guidance documents, with reference to WAT-SG-29 Good Practice Guide – Construction Methods. Further detailed guidance for good practice, as well as the full documents listed above, are available from SEPA, Engineering Guidance (SEPA, 2024).

# 4.0 POST-CONSTRUCTION HABITAT CREATION AND MANAGEMENT STRATEGY

Proposed planting measures are focused on mixed native species, that will extend and enhance the range of habitat types within the site. The proposals are illustrated in drawing 2161/L01: Landscape Layout (Figure 2) and are described below.

# 4.1 GENERAL MAINTENANCE REQUIREMENTS

#### **Maintenance Operations**

Maintenance operations shall include watering; pruning; localised application of fertiliser; weeding and cultivation as necessary; use of chemical weed / pest control only where essential; wildflower meadow cutting; adjustment of tree ties; removal of stakes as necessary and removal of litter / debris trapped in branches. Operations shall be based on the Landscape Maintenance Schedule.

#### **Climatic Conditions**

All maintenance works shall be carried out while soil and weather conditions are suitable for the relevant operations.

#### **Machines and Tools**

Only machinery and tools suitable for the site conditions and the work to be carried out shall be used. Hand tools shall be used around trees / plants and in confined spaces where it is impracticable to use machinery. Cutting tools must be sharp and caution should be exercised to prevent the transmission of plant disease via tools.

#### **Litter Clearance**

All types of litter, debris and rubbish that has become trapped in tree branches and hedgerows should be removed on a periodic basis.

#### **Bark Mulch**

For all areas of native mixed hedgerow and tree planting, a layer of bark mulch shall be applied to 75mm depth after settling. Bark mulch shall be of chunky texture; individual bark strips or shavings shall be up to 50mm gauge and bulk of material shall be between 50mm and 25mm gauge (50% or over). Mulch shall be composted to allow resinous toxins to be leached, fungi and fungal spores killed, and it shall have reached a neutral pH. Fresh uncomposted mulch is not acceptable.

Where bark mulch is unavoidably disturbed or broken down, replacement bark mulch shall be installed to reduce weed growth.

# **Chemical Fertilisers, Weedkillers and Sprays**

Chemical Fertilisers, weedkillers and sprays are to be avoided where possible, or used sparingly and only where specified and measured by qualified personnel, ensuring no run-off or spray drift to adjoining areas. They shall conform in every respect to the mixture required and be applied strictly in accordance with the manufacturer's instructions. All chemicals are to be used and distributed by an appropriately trained contractor.

All chemicals to be used must have been approved for the use specified by MAFF in accordance with Control of Pesticides Regulations, 1980. All chemicals used will be non-toxic to human beings, birds, and animals under normal use and only chemicals on the "Agricultural Chemicals Approved Scheme" current list of approved products may be used. The appropriate sections of the Health and Safety at Work Act of 1974, the Food and Environment Protection Act of 1985 and the control of Substances Hazardous to Health Regulations 1988, shall be adhered to in full.

# **Pruning Operations**

Pruning, shaping, and trimming of trees, woodland edge, and hedges shall be carried out in accordance with BS 3998; 1989. Dead, dying, or diseased wood, stumps or branches, unwanted epicormic shoots, climbing plants and rubbish accumulated in branch forks should be removed.

Pruning cuts should be made at a fork or at the main stem and wounds shall be kept as small as possible. The final cut should be just outside the branch or collar or at an angle, which is the mirror image of the branch bark ridge. Treatment of wounds shall only take place where the risk of infection is high.

Formative pruning should produce a plant which is fair and symmetrical and which will be free from major physical weaknesses.

Damaged roots or those that have to be pruned should be cut so that the final wound will be as small as possible and free from ragged and torn ends. Exposed roots should be cut back to clean wood and covered with the indigenous soil.

#### Weeding

Trees and hedgerows shall be inspected and maintained accordingly to make sure that they can develop without unnecessary competition. Weeding around the base of the plants shall be by hand or by machine (strimming).

#### **Damage of Stock**

Special care shall be taken when working in planting areas not to cause damage to plants by trampling, careless mechanical weeding, or in any other way.

#### **Watering**

During long dry spells, particularly during initial establishment, all plants shall be watered using a fine hose or a sprinkler until full depth of topsoil is saturated.

#### **Pesticides**

Pesticides shall not be used unless in the case of heavy infestation of insects, fungi or other pests, the plants shall be treated with an approved pesticide.

#### **Frost Lift**

All plants that have been lifted by frost, or have exposed roots, and plants not standing upright shall be lifted and replanted.

#### 4.2 NATIVE MIXED HEDGEROW

New areas of mixed native species hedgerow will be introduced along the lengths of the site's northwestern and southeastern boundaries (as shown on Figure 2). In total, this equates to approximately 770m of new hedgerow habitat in place of existing post-and-wire fencing.

The proposed species have been chosen based on their potential to attract wildlife and are also consistent with species found in the locality, hence also reflect local landscape character. These species comprise:

- Hawthorn Crataegus monogyna
- Hazel Corylus avellana
- Holly Ilex aquifolium
- Dog Rose Rosa canina
- Rowan Sorbus aucuparia
- Elder Sambucus nigra

It is envisaged that the new sections of hedgerow will enrich and improve biodiversity present on the site. This habitat type will improve habitat connectivity across the site and the adjoining area, including the retained areas of existing scrub / tree cover to the northeast and southwest of the site (as described in Section 4.1 of this report). The hedgerows will also create habitat buffers and provide foraging and sheltering opportunities for a range of species including bats, birds and reptiles. Furthermore, the native species selected will benefit a range of invertebrates, including pollinators such as bumblebees.

The hedgerows will consist of a double staggered row of bare root transplants, with five plants per linear metre. All plants shall be of local provenance where practicable.

Plant species indicative of nutrient enrichment will be kept below 20% of the hedgerow understory. As such, hand pulling and/or spot treatment of undesirable species with herbicide, such as nettles *Urtica diocia* and thistles *Cirsium sp.*, may be required.

Early management of the hedgerows will be limited to replacement of dead saplings and removal of protective sheaths. Initially, to encourage dense and bushy growth, the newly planted hedges should be pruned during the winter for the first couple of years. After the first 5 years, management will include cutting into an 'A' shape to maintain a minimum 1.5m height and width. In addition, 'gapping up' will be undertaken to prevent gaps within the canopy where required.

The hedgerows will also be monitored for the presence of invasive or other undesirable non-native species and, where these are observed, will be removed appropriately.

Where any diseased and dead trees / shrubs are identified, these should be removed by an appropriately skilled contractor, and replaced accordingly.

There will be no hedgerow management over the period March-August inclusive, to safeguard nesting birds.

# 4.3 NATIVE TREES

Native trees will be incorporated along the length of the new hedgerows to provide additional foraging and shelter for wildlife, including nesting opportunities for birds, whilst also contributing to local landscape character. In total, this amounts to 88 new trees.

The Woodland Trust's Position Statement on tree provenance choice (The Woodland Trust, 2020) concluded that there is no need to import southerly provenances of native tree species to support adaptation to climate change, and that this practice carries significant tree health and survival risks. The evidence indicates that native trees have a high capacity to adapt to change. As such, the selected mix incorporates a mix of flowering / fruiting species, and larger long-lived trees. These comprise:

- Field maple Acer campestre
- Silver birch Betula pendula
- Wild cherry Prunus avium
- Oak Quercus robur
- Beech Fagus sylvatica
- Rowan

The trees will be introduced as 1.5-1.75m high feathers, which will be individually pit planted and secured via softwood stake and biodegradable buckle ties. Trees will be planted in winter, when the ground is wettest to allow bare roots to establish before the spring.

Management of the trees will include the following:

- Removal and replacement of dead saplings within the first five years of planting.
- Removal of the protective sheaths once the trees have established.
- Seek to retain leaf litter beneath trees, to allow it to decompose naturally. If removal is required for aesthetic purposes, composting on site is encouraged to provide further habitat areas.
- New planting may require watering in times of drought and replacement where new stock has failed to take.
- All tree planting areas are to be covered using coarse bark mulch 50-75 mm depth.

If significant pruning of older trees is undertaken for any reason, an ecologist should be contacted before any work starts to prevent an offence relating to roosting bats or nesting birds. Any material taken from trees and shrubs will be added to the log and brash piles adjacent to the Sustainable Urban Drainage (SUDS) pond.

# 4.4 NATIVE WOODLAND EDGE MIX (MIXED SCRUB)

Areas of new native woodland edge will be planted within the southwestern part of the site. In total, this equates to an area of approximately 4,400m<sup>2</sup> in place of existing semi-improved pastoral grassland. As above, the selected species seek to attract wildlife and reflect local landscape character. The species comprise:

- Silver birch
- Hornbeam Carpinus betulus
- Hawthorn
- Blackthorn Prunus spinosa
- Goat willow Salix caprea
- Elder

This habitat type will directly connect with the retained area of existing scrub / tree cover in the adjoining area, as well as the new section of hedgerow along the site boundary. This will extend the spread of

existing woodland edge habitat at this side of the site, providing additional undisturbed foraging and sheltering opportunities for wildlife.

Where any diseased and dead shrubs are identified, these should be removed by an appropriately skilled contractor, and replaced accordingly.

If any invasive non-native species, or species of suboptimal condition, are identified within the scrub as it establishes, these will be removed appropriately and disposed of as controlled waste where necessary. Examples of non-native invasive species and those of suboptimal condition include, but are not limited to:

- Non-native conifers
- Tree of heaven Alianthus altissima
- Holm oak *Quercus ilex*
- European turkey oak Quercus cerris
- Cherry laurel Prunus laurocerasus
- Snowberry Symphoricarpos spp.
- Shallon Gaultheria shallon
- American skunk cabbage Lysichiton americanus
- Buddleja Buddleja spp.
- Cotoneaster Cotoneaster spp.
- Spanish bluebell Hyacinthoides hispanica and hybrid bluebells Hyacinthoides x massartiana

The scrub areas will be rotationally coppiced in quarter sections on a seven-year rotational basis, to create clearings / glades within the scrub areas. This will also allow for natural regeneration of the scrub habitat and diversify the structure and age of this habitat.

# 4.5 NATIVE WILDFLOWER GRASSLAND

Wildflower grassland will form the primary ground cover across all other non-developed parts of the site. This approach seeks to further enhance local landscape amenity and wildlife value at the site, providing seasonal wildflowers that will attract invertebrates / pollinators, and associated wildlife.

These grassland areas will be sown with Scotia Seeds Hedgerow Meadow Mix, or another suitable equivalent. The seed will be locally sourced and comprise 20% flora within the mix. In total, this equates to an area of approximately 18,000m<sup>2</sup> in place of existing semi-improved pastoral grassland.

Prior to sowing, the ground shall be cultivated to depth of 50 mm, and scarified to produce c.50% bare ground, reducing upper soil to fine tilth. The Hedgerow Meadow Mix will be sown at a rate of 3 g per m2, 12 kg per acre, or 30 kg per ha, during either Spring or Autumn. In addition, seed from the surrounding retained grassland can also be incorporated into the seed mix, as well as yellow rattle *Rhinanthus minor*. Yellow rattle should be seeded via scarification at a rate of 1 g per m2 during years 1-5 throughout the autumn (prior to November) in an aim to reduce the grass abundance and allow for natural colonisation of wildflower species (Plantlife, 2024).

In the first year of establishment with the new seed mix, the grassland will be cut regularly throughout the year to encourage maximum plant diversity by helping to maintain a balance between faster growing grasses, and wildflowers which are slower to develop. The grass will cut to a height of 30-50 mm and all arisings must be removed (e.g. bailing and removed from site) to reduce and maintain low nutrient levels

in order to inhibit the growth of coarse, aggressive grasses and increase diversity. This area should be subject to a cut in March-April, with further cuts over the summer where required, followed by a final hay cut in late August. The grassland should be left uncut between October – mid-February unless the growth of grass species is vigorous. Mowing during or shortly after periods of wet weather should be avoided as this can damage the sward.

In the second to fifth year from sowing, the grassland will have a bi-annual cut, completed in March-April and September-October, after seed heads have disbursed and all arisings should be left in situ for 1-7 days to allow for seed dispersal, before being removed.

From the sixth year of establishment with the new seed mix, the grassland can be left uncut to flower for the majority of the year, with an annual cut taken in September-October. All arisings should be left in situ for 1-7 days to allow for seed dispersal, before being removed.

Patches of scrub and bracken may be present within the grassland, and this adds to the structural diversity of the sward, however, these should be maintained below 5% (for scrub) and 20% (for bracken) total coverage of the grassland area.

Any large areas of undesirable species, such as nettle and dock *Rumex sp.*, should be spot treated with a broad-spectrum herbicide, where required. However, natural management (such as hand pulling or cutting) is preferred. If any invasive non-native species, or species of suboptimal condition, are identified within the grassland as it establishes, these will be removed appropriately and disposed of as contaminated waste where necessary. Undesirable species cover should be kept below 5% of the total grassland area, and these include (but are not limited to):

- Creeping thistle Cirsium arvense
- Spear thistle Cirsiu vulgare
- Curled dock Rumex crispus
- Broad-leaved dock Rumex obtusifolius
- Common nettle
- Creeping buttercup Ranunculus repens
- Greater plantain Plantago major
- White clover Trifolium repens
- Cow parsley Anthriscus sylvestris

# 4.6 SUSTAINABLE URBAN DRAINAGE SYSTEM (SUDS)

The proposed strategy for the site includes the use of SUDS within the development. A SUDS basin will be created in the southwest corner of the site and will collect storm water run-off from hard surface areas across the site. If planted sympathetically, these can provide significant ecological enhancement to site. Areas of permanent wet waterbodies and associated vegetation can provide important invertebrate habitat area and increasing the foraging capacity for fauna.

The following instructions will be followed when creating and enhancing the SUDS basin:

• Stone sourced from the removal of dykes around the site will be used to create two rubble piles adjacent to the SUDS, providing new refugia for reptiles and amphibians. For further information, please refer to the associated BEMP (Tetra Tech, 2024a).

- Any brash cleared from the site will be retained and piled near the SUDS, creating additional habitat suitable for reptiles and amphibians.
- Should regular vegetation removal be required for SUDS access, the cuttings will be removed and
  placed in a pile at the southwest corner of the site to form a compost heap, creating new habitat
  suitable for a number of species including invertebrates and reptiles. Leaves and twigs cleared
  from the site during regular maintenance may also be added to this pile.
- If vegetation spreads across areas of standing water (for example, after storm events), this will be removed by hand clearing or raking, with care taken not to damage the SUDS liner.

Where SUDS are designed to hold some degree of standing water, these will be planted with native marginal plug planting species and with marginal vegetation, such as Naturescapes N8 Water's Edge Meadow Mixture, or similar. The species in this mix will tolerate flooding once established. This will be sown and managed in line with recommendations for the Wildflower Grassland area, detailed in Section 4.5.

If any invasive non-native species, or species of suboptimal condition, are identified within the SUDS, these will be removed appropriately and disposed of as contaminated waste where necessary.

# 4.7 MONITORING

Adaptive management is a systematic approach to natural resource management that involves monitoring and evaluating the effectiveness of management actions then adjusting as necessary to improve outcomes over time. It is an iterative process in which management actions are followed by targeted monitoring outcomes. These, in turn, inform the ongoing management.

The table below (Table 1) identifies the perceived risks associated with the above prescriptions. Where applicable, suggested initial remedial measures are outlined.

Table 1: Risks and Remedial Measures

Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
Wildflower grassland (including wetland meadow mixture for SUDs)	Reduced species diversity and sward dominated by coarse / aggressive grasses	Monitoring survey identifies coarse / aggressive grass species as dominant throughout sward.  Target seed mix species composition not identifiable.	Additional years of nutrient stripping  Additional sowing of seeds  Plug planting of additional species  Alteration to mowing regime
	Cover of bracken is more than 20%	Monitoring survey identifies excess of bracken	Removal of bracken

Habitat Type	Risk Factor	Trigger for Action	Remedial Measure				
	Cover of scrub is more than 5%	Monitoring survey identifies excess of scrub	Removal of scrub				
	Species indicative of suboptimal condition more than 5%	Monitoring survey identifies suboptimal species	Removal of suboptimal species  Additional years of nutrient stripping				
	Invasive non-native species present	Monitoring survey identifies invasive non-native species	Removal of invasive non- native species				
Species-rich native hedgerow	Failure of saplings	Dead saplings	Replacement of saplings				
neugerow	Species indicative of suboptimal condition more than 20%	Monitoring survey identifies suboptimal species	Removal of suboptimal species				
	Invasive non-native species present	Monitoring survey identifies invasive non-native species	Removal of invasive non- native species				
Tree planting	Failure of saplings	Dead saplings	Replacement of saplings				
Native woodland edge mixture (scrub)	Invasive non-native and / or suboptimal species present	Monitoring survey identifies invasive non-native and / or suboptimal species	Removal of invasive non- native and / or suboptimal species				
	Failure of saplings	Dead saplings	Replacement of saplings				
SUDS	Invasive non-native species present	Monitoring survey identifies invasive non-native species	Removal of invasive non- native species				
	Reduced species diversity	Target seed mix species composition not identifiable.	Additional sowing of seeds Plug planting of additional species				

Neilston Greener Grid Park S.36 Application Landscape and Ecology Management Plan (LEMP) In consideration of the risks identified in Table 1, these will be evaluated within subsequent monitoring surveys. Monitoring surveys will be undertaken annually for the first five years, and bi-annually for the next five years by a suitably qualified ecologist.

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# **FIGURES**

Figure 1 - Site Location Plan

Figure 2 - Landscaping Plan



# Site Location Plan

# Legend

Site boundary

Drawn by: HANNAH.HAMILTON

Checked by: AR

Office: Southampton

440 Meters Scale 1:10,000 @A3

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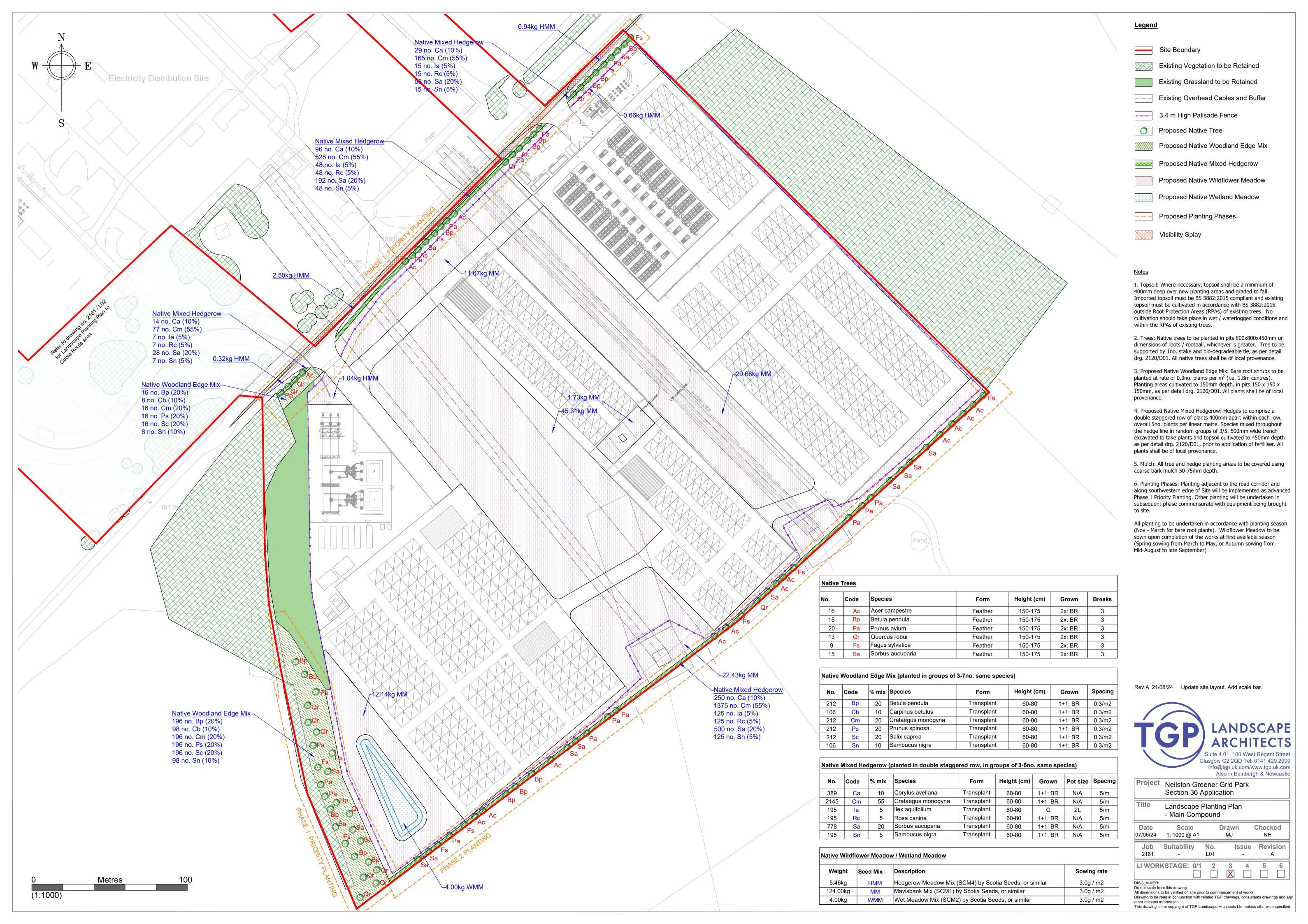
The Pavilion, 1st Floor Botleigh Grange Office Campus Hedge End Southampton Hampshire, SO30 2AF

Figure No. 1 Revision No. A

02 July 2024

British National Grid

NGR: 245101E 659849N



# **APPENDICES**

APPENDIX A: REPORT CONDITIONS

APPENDIX B: KEY LEGISLATION

APPENDIX C: HABITAT MANAGEMENT AND MONITORING TIMETABLE

# **APPENDIX A: REPORT CONDITIONS**

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

Tetra Tech reserves the right to share this Report and any related materials, surveys, drawings and/or documents at any time with the relevant Local Ecological Records Centre (LERC), any relevant statutory body or any equivalent organisation as Tetra Tech may reasonably require from time-to-time.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

# **APPENDIX B: KEY LEGISLATION**

#### **Habitats Directive**

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the 'Habitats Directive', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes.

In the UK, the Habitats Directive is transposed into national law via the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, via the Conservation (Natural Habitats, &c) Regulations 1994 (as amended) in Scotland, and via the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.

#### Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the 'Bern Convention' and the Birds Directive are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use; or
- take or destroy an egg of any wild bird.

Or to intentionally do the following to a wild bird listed in Schedule 1:

- disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird.

In addition, the Act makes it an offence (subject to exceptions) to:

- intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5;
- interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places; and
- the Act also prohibits certain methods of killing, injuring, or taking wild animals.

Finally, the Act also makes it an offence (subject to exceptions) to: intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant; unless an authorised person, intentionally uproot any wild plant not included in Schedule 8; or sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

# Environmental Protection Act 1990

The Act imposes a classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed *Reynoutria japonica*, with the result that waste containing this species must be disposed of in accordance with the duty of care set out in section 34 of the Act.

#### Global IUCN Red List

The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe.

The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

#### Local Biodiversity Action Plan (LBAP)

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level) and are usually drawn up by a consortium of local Government organisations and conservation charities.

Some LBAP's may also include Habitat Action Plans (HAP) and/or Species Action Plans (SAP), which are used to guide and inform the local decision making process.

# Neilston Greener Grid Park S.36 Application Landscape and Ecology Management Plan (LEMP)

#### National Planning Framework 4

National Planning Framework 4 (NPF4) is the top tier of planning policy. The Framework provides guidance to local authorities and other agencies on planning policy and the operation of the planning system.

"Policy 1 gives significant weight to the nature crisis to ensure that it is recognised as a priority in all plans and decisions. Policy 4 protects and enhances natural heritage, and this is further supported by Policy 5 on soils and Policy 6 on forests, woodland and trees. Policy 20 also promotes the expansion and connectivity of blue and green infrastructure, whilst Policy 10 recognises the particular sensitivities of coastal areas.

Protection of the natural features of brownfield land is also highlighted in Policy 9, and protection of the green belt in Policy 8 will ensure that biodiversity in these locations is conserved and accessible to communities, bringing nature into the design and layout of our cities, towns, streets and spaces in Policy 14.

Most significantly, Policy 3 plays a critical role in ensuring that development will secure positive effects for biodiversity. It rebalances the planning system in favour of conserving, restoring and enhancing biodiversity and promotes investment in nature-based solutions, benefiting people and nature. The policy ensures that Local Development Plans (LDPs) protect, conserve, restore and enhance biodiversity and promote nature recovery and nature restoration. Proposals will be required to contribute to the enhancement of biodiversity, including by restoring degraded habitats and building and strengthening nature networks. Adverse impacts, including cumulative impacts, of development proposals on the natural environment will be minimised through careful planning and design, taking into account the need to reverse biodiversity loss. Development proposals for national, major or Environmental Impact Assessment (EIA) development will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks, so they are in a demonstrably better state than without intervention. Proposals for local development will include appropriate measures to conserve, restore and enhance biodiversity."

See here for full details: https://www.gov.scot/publications/national-planning-framework-4/

#### Renfrewshire Local Development Plan 2021 (Renfrewshire Council, 2021)

"Development proposals will consider the potential impacts on natural heritage. Development proposals should protect and restore degraded habitats, enhance and promote access to Renfrewshire's natural environment and minimise any adverse impacts on habitats, species, network connectivity or landscape character. Developments must not have an adverse effect on the integrity of sites protected for their natural conservation interest or the wider biodiversity and geo-diversity of the area. All proposals will be assessed in terms of the mitigation hierarchy of Avoid/Reduce/Compensate, the cumulative impact of development based on the precautionary principle and should protect, and where possible enhance:

- Natura 2000 and Ramsar Sites;
- Protected Species;SSSIs;
- Wild land:
- LNRs, SINCs and wildlife corridors;
- Biodiversity;
- Landscape character and setting;
- Clyde Muirshiel Regional Park;
- Trees Ancient and semi- natural woodland in line with the Scottish Government's Control of Woodland Removal Policy and Clydeplan's Forestry and Woodland Strategy, significant trees including those covered by Tree Preservation Orders, hedgerows and trees within Conservation Areas."

# APPENDIX C: HABITAT MANAGEMENT AND MONITORING TIMETABLE

	Action	Timing					Y	ear					
			0	1	2	3	4	5	6	7	8	9	10
Retained Habitats	Erection of protective fencing	Pre-construction	Х										
	Removal of protective fencing	Post-construction	Х										
	Adherence to dust suppression and pollution prevention techniques	Throughout construction	Х										
	Ecologist spot-checks	Throughout construction (every 3 months)	X										
Native Tree Planting	Planting of stock	Winter	Х										
ridiitiiig	Water newly planted specimens where required until established	As required		X	Х	Х	X	Х					
	Replacement of failed specimens and guards where necessary	Winter		X	Х	Х	X	Х					
	Removal / adjustment of stakes and ties	As required		Х	Х	Х	Х	Х					
	Apply fertiliser	Spring		Х	Х	Х	Х	Х					

	Action	Timing	Year										
			0	1	2	3	4	5	6	7	8	9	10
	Pruning and repair of wounds	October – February As required											
	Removal of debris / litter trapped in branches	As required		Х	Х	Х	Х	Х	Х	Х	Х	Х	X
Native Woodland Edge Mix Planting	Planting of stock	Winter	X										
Edge mixt tarteing	Water newly planted specimens where required until established	As required		Х	Х	Х	Х	Х					
	Replacement of failed specimens and guards where necessary	Winter		Х	Х	Х	X	Х					
	Removal / adjustment of stakes and ties	As required		Х	Х	Х	Х	Х					
	Manual weed control by hand or machine (strimming)	Monthly		Х	Х	Х	Х	X	Х	Х	X	Х	X
	Watering in times of drought	As required		Х	Х	Х	Х	Х	Х	Х	Х	Х	X
	Removal of debris / litter trapped in branches	As required		Х	X	X	X	X	X	X	X	Х	X

	Action	Timing					Y	ear					
			0	1	2	3	4	5	6	7	8	9	10
	Targeted rotational clearance of 10% of the scrub area	Winter (alternate years)						х		Х		Х	
	Removal of invasive / neophyte species	As required		Х	Х	X	Х	X	X	X	X	X	X
Hedgerow Planting	Planting of stock	Winter	Х										
, tanting	Water newly planted specimens where required until established	As required		Х	Х	X	X	X					
	Replacement of failed specimens and guards where necessary	Winter			Х		Х						
	Removal of debris / litter trapped in branches	As required		X	Х	Х	X	Х	Х	Х	Х	Х	X
	Apply fertiliser	Spring		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
	Pruning	Winter		Х	Х	Х	Х	Х					
	Cutting into an 'A' shape	Winter							Х	Х	Х	Х	Х
	Watering in times of drought	As required		Х	Х	Х	Х	Х	Х	Х	Х	Х	X

	Action	Timing					Y	ear					
			0	1	2	3	4	5	6	7	8	9	10
	Manual weed control by hand or machine (strimming)	Monthly		Х	Х	Х	Х	х	Х	Х	Х	Х	Х
	Removal of invasive / neophyte species	As required		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Wildflower Grassland Planting (including SUDs	Prepare ground by cultivating to depth of 50mm and scarifying to c.50% bare ground	March OR August		Х									
wetland meadow mixture)	Sow yellow rattle	Mid-August – October		Х	X	Х	Х	Х					
mixture)	Sow seed mix	March – May  OR  Mid-August – Late  September		х									
	Mow grassland regularly during first year of seeding to a height of 30-50 mm. All arisings will be immediately removed from site.	March-April AND late August Further cuts throughout the summer may be required where vigorous grasses are dominating		X									

	Action	Timing	Year										
			0	1	2	3	4	5	6	7	8	9	10
	Following the first year of establishment, a bi-annual hay cut will be taken. Arisings will remain in situ for 1-7 days before being removed.	Bi-annually March – April AND September – October			Х	Х	Х	Х					
	Following the initial 5 years of establishment, an annual hay cut will be taken. Arisings will remain in situ for 1-7 days before being removed.	Annually September – October							Х	Х	X	Х	X
	Removal of debris / litter	As required		X	Х	Х	Х	Х	Х	Х	Х	X	Х
SUDs	Removal of debris / litter	As required		X	Х	Х	Х	Х	Х	Х	Х	Х	X
	Mowing of spillways and access routes	Monthly March – September		х	Х	Х	Х	Х	Х	Х	Х	Х	X
	Removal of invasive / neophyte species	As required		X	Х	Х	Х	X	Х	Х	Х	Х	X
Monitoring	Monitoring surveys	Annually for first 5 years, then biannually April – September		X	Х	Х	Х	Х	Х		Х		X