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Red John Pumped Storage Hydro Scheme

Volume 5, Appendix 3.2: Outline Landscape and Ecology Management Plan

ILI (Highlands PSH) Ltd.

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Quality information

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Appendix 3.2 Outline Landscape and Ecology Management Plan

3.1 Introduction

3.1.1 This document describes the landscape and ecology mitigation and management measures that will be implemented prior to and during the construction phase of the Development, as well as the outline management and monitoring measures to be implemented once the Development is operational.

3.1.2 This document should be read in conjunction with Chapter 6: Terrestrial Ecology, Chapter 8: Ornithology, Chapter 11: Landscape and Visual Assessment, Chapter 12: Forestry (Volume 2), and Appendix 14.1: Outline Access Management Plan. This strategy also refers to the Construction Environmental Management Plan (CEMP) (Appendix 3.1) and the Woodland Restructuring Plan (Figure 12.6, Volume 3) to demonstrate a holistic approach to embedded mitigation.

3.1.3 This appendix is supported by the following figures available at the end of the document:

- Figure 3.2.1: Outline Landscape and Ecology Management Plan;
- Figure 3.2.2: Outline Landscape and Ecology Management Plan, Tailpond Inset; and
- Figure 3.2.3: Outline Landscape and Ecology Management Plan, Indicative Sections.

3.1.4 The nature of proposed felling required within the Development Site presents an opportunity to enhance the structure and diversity of the reinstated woodland and the appearance and management on the lochside vegetation. These landscape enhancement opportunities are specifically identified within the Loch Ness and Loch Duntelchaig SLA citation (Ref 3.1) and have been used to inform the approach to woodland restructuring and reinstatement planting.

3.1.5 The proposed landscape and ecological measures are summarised below. These proposals have been designed to be delivered entirely within the Development Site boundary. New habitat creation and landscaping have been accommodated, alongside the protection and enhancement of existing habitats where feasible.

3.1.6 The key measures proposed by this Landscape and Ecology Management Plan (LEMP) are:

- Biodiversity mitigation by the provision of newly created replacement habitats;
- Reinstatement woodland planting within the Development Site boundary to integrate the various Development components, and reduce the scale of Development within the landscape;
- Reinstate areas of productive woodland;
- Secure environmental net gain; and
- Secure the management of newly created replacement habitats.

3.1.7 The proposed landscape and ecological measures are illustrated in Figure 3.2.1 and show the primary mitigation measures embedded in the Development as well as the opportunities for new habitat creation. Combined with this LEMP they outline the proposed mitigation measures for the Development in relation to landscape and ecology using a holistic and integrated approach.

3.1.8 This LEMP also outlines the long-term management principles that would run concurrently with the operational lifetime of the Development. The final plan and execution of these works will be the subject to planning conditions and would be the responsibility of the appointed Construction Contractor.

The Purpose and Structure of this LEMP

3.1.9 The purpose of this LEMP is to set out the proposed strategy to mitigate potentially adverse effects of the Development on the biodiversity features within the Development Site boundary and on the landscape and visual resource. It provides a clear landscape and ecological rationale, which responds to the Development Site and the assessments prepared in Chapter 6: Terrestrial Ecology, Chapter 8: Ornithology and Chapter 11: Landscape and Visual (Volume 2).

3.1.10 The Development has been designed, as far as is practicable, to avoid or reduce effects on landscape and biodiversity features through design development and impact avoidance. Opportunities to secure net gains for landscape and biodiversity as a consequence of the Development have also been considered.

3.1.11 The document has been structured as follows:

- The Development Site and Existing features;
- Long-term Landscape and Ecological Proposals; and
- Management Aims and Objectives.

3.2 The Development Site and Existing Features

3.2.1 The Development is located approximately 14 km south-west of Inverness on a moorland plateau between Loch Duntelchaig and Loch Ness and within the Loch Ness and Loch Duntelchaig Special Landscape Area (SLA). The Development Site occupies an area of 950 hectares and is comprised of varied landform rising from the western bank of Loch Ness up through pasture fields and plantation woodland to approximately 276 m above ordnance datum (AOD).

3.2.2 The existing landscape and biodiversity features within the Development Site have informed the mitigation commitments and are summarised below. Full details of the baseline ecology, ornithology and landscape can be found in Chapters 6, 8 and 11 respectively (Volume 2).

Existing Landscape Features

Landcover

3.2.3 The Development Site is comprised of a mix of commercial coniferous plantation, semi-natural broadleaf woodland including belts of ancient woodland at the shore of Loch Ness, agricultural pasture land, local roads and small rocky hills. Pastoral land and coniferous plantation are the predominant land uses within the Development Site. The Development Site and surrounding context also contain a series of lochs and lochans which influence the overall balance and character of the landscape.

Pattern and Landform

3.2.4 The steep sided glen extending up from Loch Ness is an important feature that contributes to the character and quality of the SLA. The Development Site also sits within the undulating moorland plateau of rocky knolls and small-scale woods which is another special quality of

the SLA. Overall this landscape pattern contributes to the intimate mix and visual interest which is characteristic of the landscape.

Movement and Connectivity

3.2.5 The B852 is the main transport corridor that runs along the western boundary of the Development Site. The Development Site itself can be accessed via a minor road (C1064) off the B862. Also within the Development Site there are a number of core paths and recognised recreational trails including the Trail of the Seven Lochs and the South Loch Ness Trail. Loch Ness itself is used by recreational users including pleasure craft, private boats and canoeists on The Great Glen Canoe Trail.

Existing Biodiversity Features

Habitats

3.2.6 There is a diversity of habitats within the Development Site boundary. An extensive area of semi-natural broadleaved woodland on the slopes above Loch Ness is considered to be ancient, while a large part of the coniferous woodland is also long-established of plantation origin. Within the footprint of the Headpond there are areas of blanket bog and wet heath. In the vicinity of proposed infrastructure there are a range of other notable habitats including, in particular, large areas of juniper *Juniperus communis* scrub, blanket bog, flushes (including examples of basic flush) and waterbodies.

Protected and Notable Species

3.2.7 The following protected and / or notable species have all been recorded within the Development Site boundary and may be present during the construction and/or operational phases:

- Bats *Chiroptera*, including four trees supporting single roosting bats;
- Badger *Meles meles*;
- Otter *Lutra lutra*;
- Pine marten *Martes martes*;
- Red squirrel *Sciurus vulgaris*;
- Great crested newt *Triturus cristatus*;
- Common lizard *Zootoca vivipara*;
- A range of butterfly, dragonfly and damselfly species;
- A range of breeding bird species, including several which are of conservation concern;
- Red-throated diver *Gavia stellata*, black-throated diver *Gavia arctica* and Slavonian grebe *Podiceps auritus*, which are all specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (the 'WCA');
- Black grouse *Tetrao tetrix*; and,
- Specially protected raptor species listed on Schedule 1 of the WCA, including osprey *Pandion haliaeetus* and barn owl *Tyto alba*.

3.2.8 In addition, rhododendron *Rhododendron ponticum* and sika deer *Cervus nippon*, which are both invasive non-native species (INNS), are also present within the Development Site.

Development Components

3.2.9 The key above ground components of the Development and how they are constructed have the potential to affect these existing features. A detailed description of the Development and

the component parts is provided in Chapter 2: Project and Site Description (Volume 2). The above ground component parts can be summarised as:

- Headpond and its associated Embankment and Landscape Embankment and Headpond Inlet / Outlet Structure;
- Tailpond Inlet / Outlet Structure and associated buildings;
- Compounds (Temporary and Permanent), Battery House and Substation;
- Permanent and Temporary Access tracks; and
- C1064 Realignment

3.2.10 Mitigation commitments consider how the existing ecology and landscape features can be protected, reinstated and where possible enhanced as well as how the Development can be best integrated into the landscape as a whole.

3.3 Construction Mitigation

3.3.1 The overall construction working methods to be implemented during the construction phase are outlined in the Construction Environmental Management Plan (CEMP) (Appendix 3.1), and therefore these are not repeated here.

3.4 Long-term Landscape and Ecological Proposals

Overview

3.4.1 The primary focus of the LEMP is to best assimilate the Development into the host landscape and habitats. This will be achieved through bespoke landscape earthwork creation along with reinstatement woodland planting and associated habitat creation which will be accommodated within the Development Site boundary whilst ensuring the protection and enhancement of existing habitats.

3.4.2 It is anticipated that existing forest planting within the Development Site boundary would be largely cleared (refer to Woodland Restructuring Plan, Figure 12.6, Volume 3), but where possible, along keyholes and construction corridors, trees will be retained and protected (refer to measures in the CEMP, Appendix 3.1).

Management of Existing Woodland

3.4.3 The management and maintenance of the existing woodland which is not to be felled during the construction phase shall be of upmost importance. Specific techniques related to the protection of existing woodland are covered in the CEMP (Appendix 3.1). General management shall include fencing of existing broadleaved woodland to control browsing herbivories and removal of invasive species and maintenance operations such as selective thinning. Selective thinning of existing mature Scots pine within the existing planting would enhance the integration with the new planting scheme.

Species-specific Mitigation Measures

3.4.4 Where adverse effects were identified by the Environmental Impact Assessment, specific mitigation measures were developed, where necessary, for protected and / or notable species. These will include:

- Two pine marten den boxes will be installed, one in each of the areas of retained semi-natural broadleaved and mature coniferous woodland;

- Although installed as a mitigation measure for the construction phase of the Development, the red squirrel rope bridge over the B852 will be retained during the operational phase to reduce the risk of collision mortality resulting from public use of the road;
- One artificial reptile hibernation refuge and one reptile basking bank will be constructed within the Landscape Embankment to mitigate for the permanent loss of reptile habitat within the footprint of the Headpond;
- The design of the Headpond Embankment and the Landscape Embankment will consider butterfly, dragonfly and damselfly species. Re-seeding of the Headpond Embankment will include a mixture of plants suitable for use by these species, whilst open areas and glades will be incorporated into the woodland planted on the Landscape Embankment;
- A total of 30 nest boxes will be installed in the retained woodland on-site (including retained plantation and ancient semi-natural broadleaved woodland). This will provide short-term compensation for loss of nesting habitat to passerine species;
- An artificial raft will be installed prior to the commencement of construction in Loch nan Geadas, approximately 1.5 km to the south-south-west of Loch na Curra. This feature will be suitable for use by red-throated divers; and
- Loss of the one recorded barn owl roost will be compensated by provision of a barn owl box in a suitable location. The location will be determined by inspection of available trees outside felling zones in the area near the roost site, and the box will be erected as far in advance of tree felling as possible.
- Access tracks will be micro-sited as far as possible to minimise damage to flushed wet heath with grass-of-parnassus. This habitat occurs in the unmanaged area north of Park farm. Areas of more species-poor and drier bracken and acid grassland will be prioritised for access track creation in this area.

Species-specific Enhancement Measures

- A total of 25 bat boxes will be installed in retained mature woodland within the Development Site boundary to compensate for the potential loss of roosting habitat. The will include 20 typical summer roost models, three which are designed to be used by maternity colonies and two which are aimed at providing a suitable hibernation sites;
- To prevent the influx of sika deer during construction and felling works, a deer fence will be installed around the ancient semi-natural woodland on-site. In addition, control of those deer within the woodland will also be undertaken to ensure that individuals are not left within the enclosure. Much of the ground flora within the woodland has been suppressed by over-grazing and the exclusion of sika deer (and other deer species) would likely lead to increased floral diversity;
- An artificial diver raft will also be installed in Lochan an Eoin Ruadha with the aim of benefitting nesting black-throated diver; and
- An artificial osprey nest will be erected either in a suitable tree or on a pole in a suitable location. The precise location will be determined following completion of construction but will likely be in the vicinity of the retained but thinned area of Dirr Wood.

3.5 Reinstatement

3.5.1 Reinstatement of Temporary Compounds and Temporary Access Tracks including all areas of hard standing and disturbed ground will be undertaken as soon as reasonably practical once construction has ceased. Prompt implementation of reinstatement and restoration measures aim to reduce the effects of:

- Compaction of subsoil, which can lead to inhibited drainage and root growth;
- Exposed ground, which can cause loss of topsoil, dust and water pollution through wind blow and erosion; and
- Visual intrusion.

3.5.2 Planned reinstatement at the Development Site will be informed by further consultation with stakeholders, pre-construction surveys and site conditions. These details will be included and confirmed in the finalised LEMP, but are likely to comprise the following considerations and measures:

- Land reinstatement should normally take place in the autumn following the construction phase. The length of the Temporary Access Track from the Tailpond to Permanent Compound 1 will be reinstated, with seeding along the 30 m Spillway maintenance corridor and native woodland and scrub planting in all other areas. All Temporary Compounds will be reinstated to their original condition and returned to their previous use. Land reinstatement would also take place at the edge of the C1064 Realignment, Permanent Access Track and around Permanent Compounds where the overall footprint will have been reduced at the end of the construction phase;
- Where compaction may have occurred a 'sub-soiler', which lifts and shatters the subsoil will be used before the topsoil is reinstated;
- Topsoil that has been stored in the Compounds will be spread and levelled across the width of the strip, using hydraulic excavators or bulldozers. In areas where stones have been brought to the surface, stone picking will be carried out mechanically;
- The finish in which the soil is left will be agreed with the relevant land occupier. Land to be reinstated as grassland will either be reseeded in the autumn or the following spring;
- Confirmation of permanent culverts and reinstatement of drainage;
- Areas of compound reinstatement including those hardstanding areas to be retained and those to be reinstated with the appropriate landscaping details included;
- Location and composition of proposed earth bunds used for screening sensitive receptors;
- Potential for and feasibility of translocation of juniper;
- Timing and potential for any early reinstatement works in advance of the conclusion of construction;
- The reinstatement of any temporary diversion to recreational routes or formalisation of permanent diversions details of signage and reinstatement of tracks will be confirmed with the Outline Access Management Plan (Appendix 14.3).
- All woodland planting will be reinstated in the first planting season following the completion of construction and land reinstatement work.

3.5.3 The following general reinstatement good practice measures will be adopted:

- Reinstatement will be carried out as soon as reasonably possible to ensure integrity of the vegetation seed bank and Landscape Embankment is maintained;
- The reinstatement of the construction areas will be undertaken to the standard to be agreed with THC, using the existing soil and vegetation wherever possible;
- Stripped soil will be reinstated as close to where it was removed as possible;
- Subsoil and topsoil and turf will be replaced in the same order as removed;
- Restoration works will be carried out in suitable weather conditions noting that wet ground conditions can be difficult, as can hot, dry and windy spells; and
- Natural regeneration of habitats will be promoted in all appropriate areas as advised by the Environmental Manager or Ecological Clerk of Works (ECoW).

Habitat Replacement

3.5.4 Loss of the MG5 lowland meadow beside Loch Ness will be compensated by creation of similar meadow at a suitable location nearby. The precise location has not included within this LEMP and will be determined at a later stage. An appropriate MG5 seed mix will be sourced from a Scottish supplier for this purpose.

Access to Recreational Routes

3.5.5 The reinstatement of the landscape within the Development Site will largely comprise of planting as described above. However the Development Site includes a number of recreational routes through or adjacent to the reinstated areas of planting. The reinstatement of the recreational routes will be considered in conjunction with the planting and woodland restructuring proposals to ensure the safety and quality of these routes. Details on the reinstatement of recreational routes are contained within the Outline Access Management Plan (Appendix 14.3).

3.6 Planting Proposals

Overview

3.6.1 Extensive planting is proposed across the Development Site boundary. Forest re-stocking and woodland restructuring areas are identified on Figure 12.6 (Volume 3) and wider habitat and landscape reinstatement planting on Figure 3.2.1 (at the end of this appendix). The function of the planting is primarily to help integrate the various components of the Development into the landscape and views whilst providing biodiversity value by enhancing existing habitats and creating new habitats underpinned by the need to re-stock areas of forestry. A palette of native tree, shrub and seeding has been compiled alongside the management and enhancement of areas of existing woodland to meet the various planting proposals identified below.

Productive Native Woodland

3.6.2 Productive native woodland is proposed across much of the clear felled area of forestry between the realigned C1064 and Compound 1. Within this area of productive native woodland, the ride network will be enhanced to provide improved recreational use of the forest area.

3.6.3 Key species would include:

- Scots pine *Pinus sylvestris*;

- Downy birch *Betula pubescens*;
- Aspen *Populus Tremula*; and
- Rowan *Sorbus aucuparia*.

3.6.4 In areas where ground flora is absent or restricted, ericoids including heather *Calluna vulgaris*, bilberry *Vaccinium myrtillus*, bell heather *Erica cinerea* and cowberry *Vaccinium vitis-idaea* will be seeded. If possible, heather seed will be gathered from adjacent or nearby heaths by mechanically harvesting it from those areas, thus ensuring the most local provenance and preservation of local genetic stock.

Mixed Native Woodland Planting

3.6.5 Mixed native woodland is proposed in various areas of the Development Site boundary but principally across the Landscape Embankment around the Headpond and to the north-east of Compound 1.

3.6.6 Key species would include:

- Scots pine;
- Downy birch;
- Rowan; and
- Juniper *Juniper communis*.

3.6.7 Around the Headpond, the following species will also be introduced to increase the diversity of habitat: oak *Quercus* sp., elder *Sambucus nigra*, holly *Ilex aquifolium* and bird cherry *Prunus padus* or wild cherry *Prunus avium*. In wetter areas some grey willow *Salix cinerea* or eared willow *Salix aurita* will be planted.

3.6.8 Woodland planting around the upper sections of the Landscape Embankment will be carefully designed with a lower density upper edge to improve the landscape integration and avoid hard planted edges.

Native Broadleaved Planting

3.6.9 Native broadleaved planting is proposed around areas of moorland where peat depth is not prohibitive, reinstatement areas around the loch edge and along the Temporary Access Track corridor as well as re-stocking of areas of existing woodland to provide ecological enhancement. Native broadleaf planting is also concentrated in areas where Juniper habitat can be enhanced whilst retaining the existing field network on the lower slopes, maintaining landscape characteristics.

3.6.10 Key species would include:

- Juniper
- Downy birch
- Aspen
- Rowan

Woodland Edge and Scrub Planting

3.6.11 Woodland edge and scrub planting is proposed around the mitigation earth bunds to the north and north-west of the Ach-Na-Sidhe B&B, the reinstated Compound areas 1 and 4 and the realigned public road (C1064).

3.6.12 Key species would include:

- Downy birch

- Oak
- Elder
- Holly
- Wild cherry

Highland Grassland Mix

3.6.13 This will be seeded along the corridor of the Temporary Access Track and the Headpond Embankment. Additional translocated seed would seek to establish heather on the Headpond Embankment.

Table 3.1 Highland Grassland Mix

Common name	Scientific name
Wildflower (20 %)	
Yarrow	*Achillea millefolium*
Alpine Lady's Mantle	*Alchemilla alpina*
Heather	*Calluna vulgaris*
Bell heather	*Erica cinerea*
Heath Bedstraw	*Galium saxatile*
Lady's Bedstraw	*Galium verum*
Birdsfoot Trefoil	*Lotus corniculatus*
Ribwort Plantain	*Plantago lanceolata*
Tormentil	*Potentilla erecta*
Selfheal	*Prunella vulgaris*
Meadow Buttercup	*Ranunculus acris*
Sheep's Sorrel	*Rumex acetosella*
Lesser Stitchwort	*Stellaria graminea*
Devils-bit Scabious	*Succisa pratensis*
Germander Speedwell	*Veronica chamaedrys*
Common Speedwell	*Veronica officinalis*
Common Dog Violet	*Viola riviniana*
Grasses and Rushes (80 %)	
Common Bent	*Agrostis capillaris*
Brown Bent	*Agrostis vinealis*
Sweet Vernal Grass	*Anthoxanthum odoratum*
Crested Dogs Tail	*Cynosurus cristatus*
Wavy Hair Grass	*Deschampsia flexuosa*
Sheeps Fescue	*Festuca ovina*
Heath Wood Rush	*Luzula multiflora*
Purple Moor Grass	*Molinia caerulea*

Common name	Scientific name
Mat Grass	*Nardus stricta*

3.7 Summary of LEMP Features

3.7.1 The table below outlines the key mitigation measures, their main elements and associated function.

Table 3.2 Summary of LEMP features

LEMP Measure	Key Elements
Protection of Existing Features	
Management of existing woodland	• Fencing of existing broadleaf woodland to control browsing herbivores and removal of invasive species. • General woodland maintenance operations
Reinstatement	
Planting Proposals	• Re-stocking of productive woodland • Establishment of mixed native woodland
Creation of grassland meadow (Highland Grassland Mix)	Reinstatement of Headpond Embankment and along the corridor of the Temporary Access Track.
Habitat replacement	Use of appropriate MG5 seed mix to replace lowland meadow at the shore of Loch Ness
Access	Access to local recreational routes would be reinstated and maintained (Appendix 14.3 Outline Access Management Plan).
Enhancement	
Native Woodland enhancement	Planted and infilled areas of native woodland enhance the structure and diversity of the existing woodland and improve the appearance of lochside vegetation.
Species-specific enhancement	• Introduction of Bat Boxes to enhance bat roosts and maternity colonies; • Deer fencing to enhance ground flora protect areas of semi-natural and ancient woodland; • Introduction of an artificial diver raft installed on Lochan an Eoin Ruadha to enhance nesting black-throated diver; and • Introduction of an artificial osprey nest in suitable location in Dirr Wood.

3.8 Environmental Net Gain

3.8.1 Scottish Planning Policy seeks to ensure that biodiversity is enhanced by development activity where possible. Biodiversity Net Gain, which forms a part of overall Environmental Net Gain, is defined by the Chartered Institute of Ecology and Environmental Management (CIEEM) and others as "*development that leaves biodiversity in a better state than before*" (CIEEM *et al*, 2016). Measurement of net gain can be achieved quantitatively by using a metric system developed by the Department for Environment, Food and Rural Affairs (DEFRA) which utilises the results of Phase 1 habitat survey to compare the baseline environment at a site with that which will be left on completion of development. Taking into

consideration a range of factors, including the quality of the habitat which will be lost and / or created, this tool can be used to provide evidence of biodiversity net gain.

3.8.1 The LEMP proposals also offer the opportunity for Embedded Environmental Net Gain through the holistic incorporation of biodiversity enhancement measures, improved management of the ancient woodland, increased native woodland creation and improved amenity value for recreational routes included educational signage and improved condition and connectivity of recreational access.

3.8.2 There are no formal measurement systems within Scottish policy. However the Applicant is working on calculations using the DEFRA metric system and these will be incorporated into the finalised LEMP once detailed design has been confirmed.

3.9 Management Aims and Objectives

Management Aims

3.9.1 This section sets out the management and maintenance objectives for the protection and enhancement of the landscape and biodiversity fabric of the Development. A detailed landscape management and maintenance plan will be developed alongside the detailed landscape and ecological design. The maintenance and management plan is likely to cover the first 25 year period of operation of the Development. Within the first five years after planting, all plants found to be dead or dying will be replaced within the first available planting season.

3.9.2 In general terms the landscape and ecological management aims for the Development Site are to:

- Secure the long-term future of the landscape;
- Enhance local landscape character, particularly in the context of the Special Qualities of the SLA;
- Integrate the Development Site into the surrounding landscape and local views;
- Retain and manage existing native woodland areas in combination with the new areas of native woodland planting to maintain their screening function, provide ecological habitat and an amenity resource which can be used by local people and visitors;
- Manage the areas of productive native woodland to create a sustainable crop;
- Create, maintain and enhance habitats of value to wildlife to provide benefits for the local environment and biodiversity; and
- Establish a flexible management and maintenance regime able to respond to changing needs or objectives.

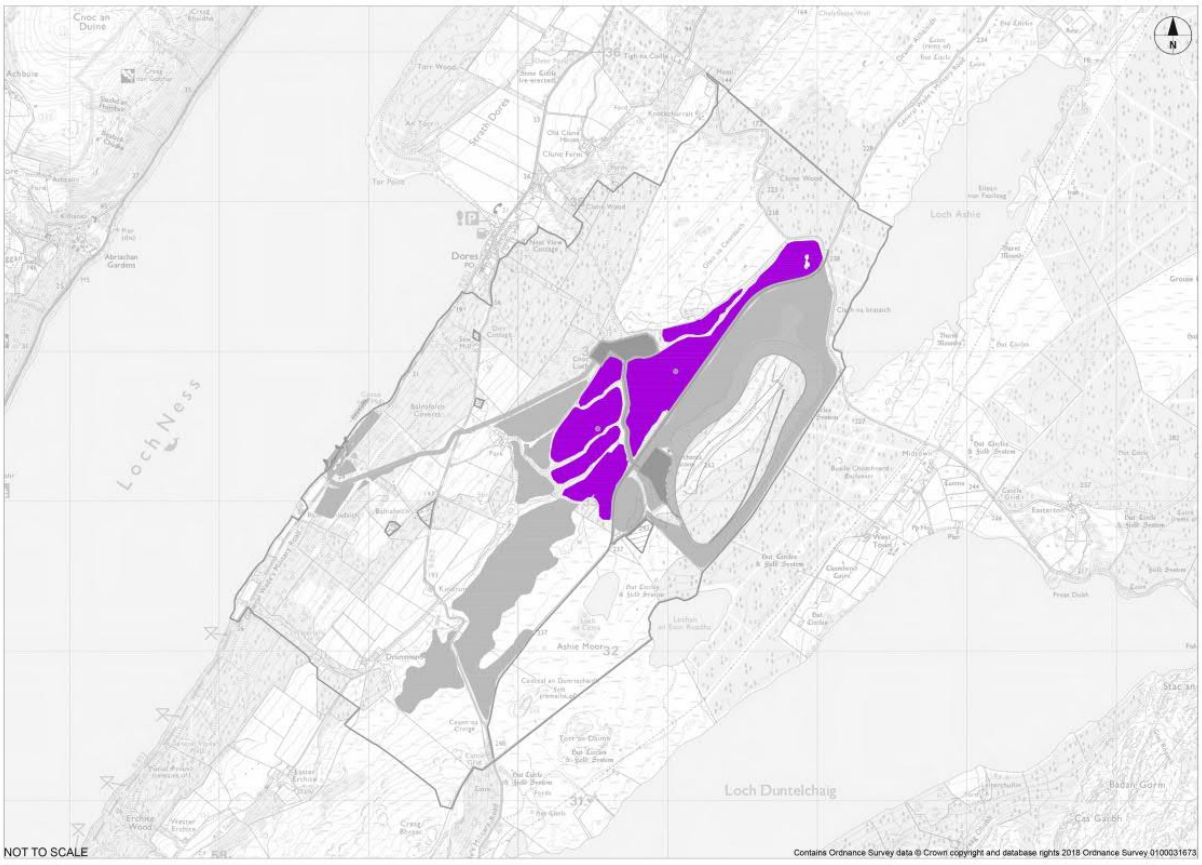
Key Management Areas and Objectives

3.9.3 Each management area will have particular long-term objectives achieved through detailed maintenance operations and monitoring. The key objectives of each area are considered below.

Productive Native Woodland

- Establish and maintain a fused woodland canopy that would ensure successful commercial crop of both conifer and broadleaf trees which would form part of a long-term felling cycle;
- Establish a diverse ground flora of ecological value; and

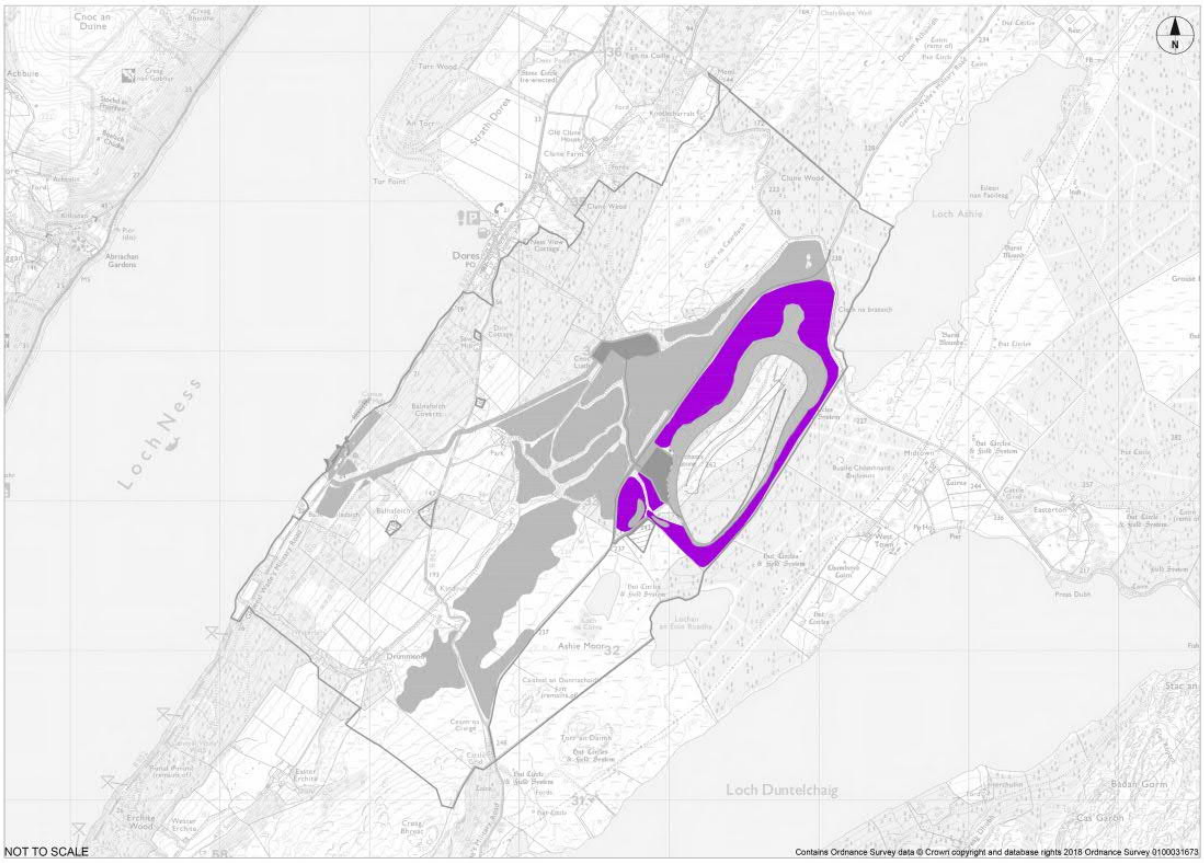
- Maintain safe access to the network of recreational routes within Dirr Wood.



Insert 3.1 Productive Native Woodland

Mixed Broadleaved Planting

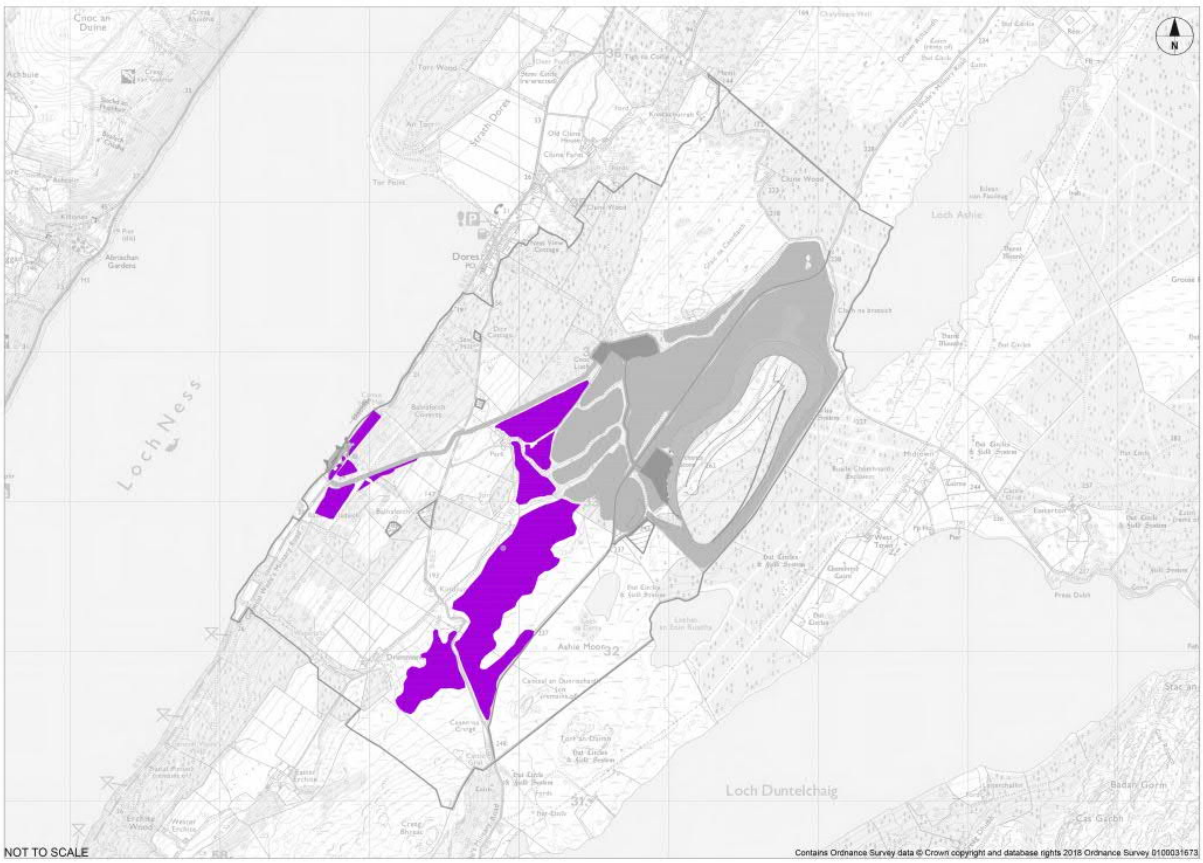
- Establish and maintain healthy mixed native woodland canopy particularly on the Landscape Embankment;
- Maintain a diverse habitat of tree species; and
- Integrate the woodland edges with adjacent Embankment and woodland edge and scrub planting.



Insert 3.2 Mixed Broadleaved Planting

Native Broadleaved Planting

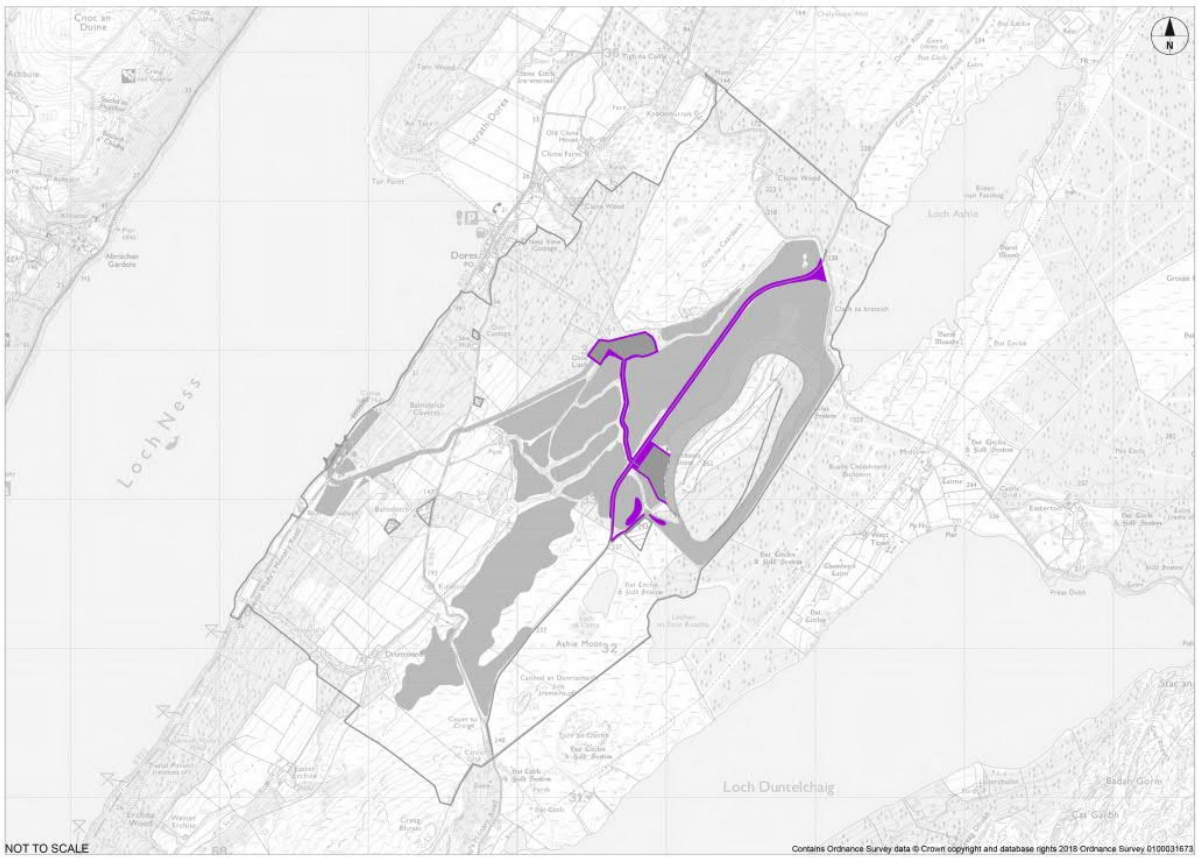
- Establish and maintain a healthy canopy of Native Broadleaved woodland including the new areas of native broadleaved woodland in existing areas of pasture and moorland;
- Enhance the structure of existing pockets of native woodland and improve the lochside vegetation;
- Enhance identified juniper habitat; and
- Maintain access to the local network of local recreational routes.



Insert 3.3 Native Broadleaved Woodland

Woodland Edge and Scrub Planting

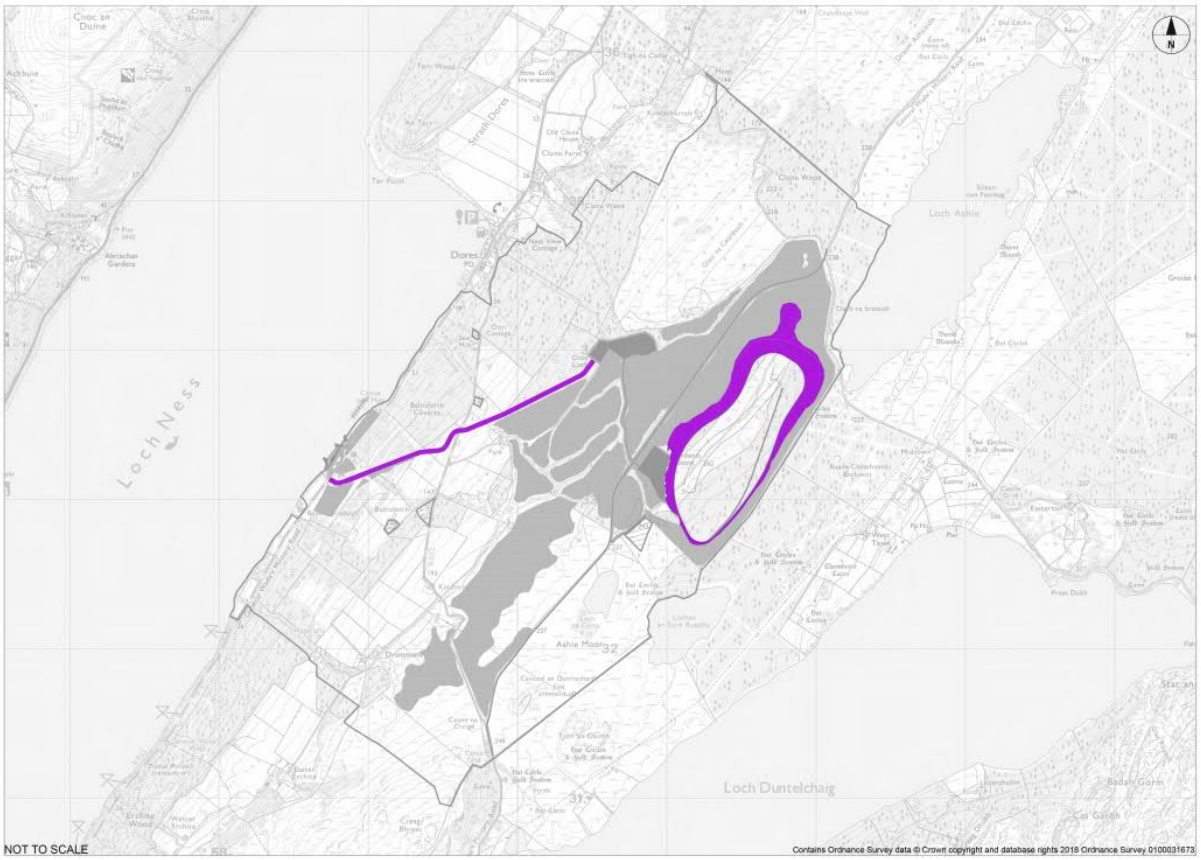
- Maintain a transitional edge between Mixed Broadleaved Woodland and the realigned C1064 and Permanent Compounds 1 and 4;
- Establish and maintain a dense band of planting and fused canopy on the permanent mitigation earth bunds adjacent to the Ach-Na-Sidhe B & B such that views towards the Embankment are screened; and
- Maintain clear and safe access to the recreational route along the realigned C1064 (See Appendix 14.3 for details and locations of recreational routes).



Insert 3.4 Woodland Edge and Scrub Planting

Highland Grassland Mix

- Establish a moorland grass community of grasses and wild flowers on the Embankment and Spillway corridor; and
- Ensure no deep rooting tree species are allowed to establish on the Embankment to maintain its structural integrity.



Insert 3.5 Highland Grassland Mix

Species-specific Mitigation Measures

3.9.4 Monitoring of the success of all mitigation measures should be carried out for a period following implementation. The results of monitoring should be reported upon in order to inform future Development and associated mitigation proposals. The precise details of the monitoring programme will be developed in the final LEMP but will likely require annual surveys for the first five years following their implementation to confirm, for example, uptake of nest / den boxes.

3.9.5 The bat boxes, pine marten den boxes and bird boxes installed as long-term mitigation measures will require regular regimes of inspection and maintenance. The precise details will be developed and contained within the final LEMP.

3.9.6 Similarly, the artificial diver rafts and osprey nest platform will also require a regime of maintenance, to be contained within the final LEMP.

3.9.7 The red squirrel rope bridge over the B852, which will be retained post-construction, will also need to be regularly inspected and maintained, where necessary.

3.10 Roles and Responsibilities

3.10.1 Roles and responsibilities for implementation of the landscape and ecological mitigation measures during the construction phase are identified in the outline CEMP (Appendix 3.1).

3.10.2 Responsibility for the long-term management of the Development Site will be agreed at a later stage between the landowner and site operator.

3.11 Future Steps

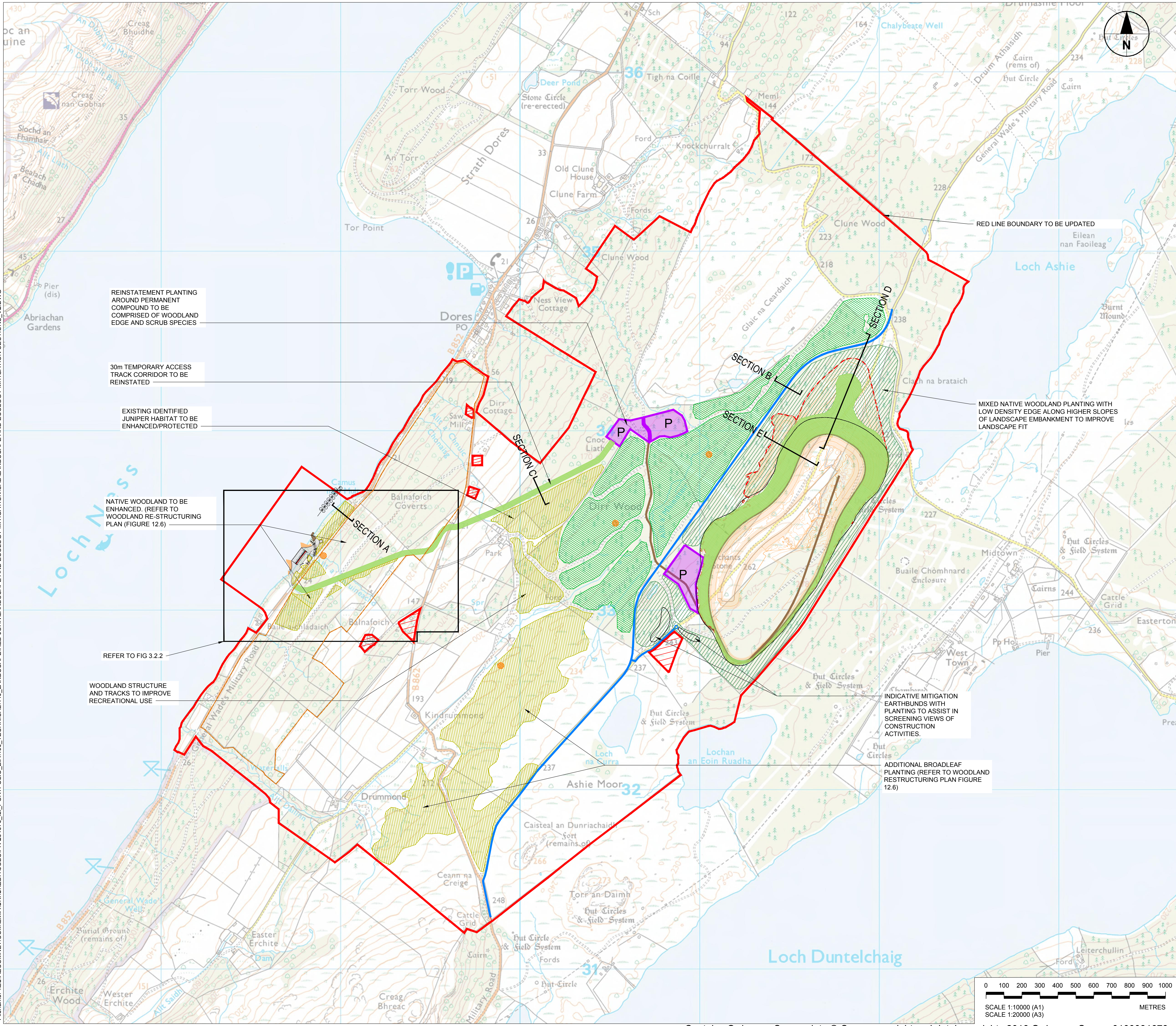
3.11.1 In order for this outline LEMP to be developed into an implementable document that will deliver the identified aims and objectives, the following activities will be required to be delivered prior to construction commencing:

- Finalised contractual roles and responsibilities for long-term management;
- Develop a detailed landscape and ecology design for the Development Site, inclusive of specifications, schedules and the precise locations of ecological measures;
- Develop a detailed management and maintenance plan based on the objectives set out in this outline LEMP accompanied by prescriptions and performance standards for operations; and
- Consider future proofing of the management plan – allow flexibility to adapt to future changes and trends regard to planting, species selection and maintenance operations.

3.12 References

CIEEM, CIRIA, IEMA (2016). Biodiversity Net Gain: Good practice principles for development.

Horner and Maclennan with Mike Wood (2011). Assessment of Highland Special Landscape Areas.



Project Management Initials: CA Designer: PT Checked: RH Approved: RM

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AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY

PROJECT COMPONENTS
- DEVELOPMENT SITE BOUNDARY
- REALIGNED C1064
- PERMANENT ACCESS TRACK
- PERMANENT COMPOUND
- SECURITY FENCE AND TOE OF HEADPOND EMBANKMENT
- HEADPOND AND LANDSCAPE EMBANKMENT BOUNDARY
- SPECIAL ECOLOGICAL FEATURE. (INDICATIVE LOCATIONS)
- INDICATIVE AREA OF DEER FENCING FOR MANAGEMENT OF EXISTING WOODLAND

PROPOSED PLANTING
- PROPOSED MIXED NATIVE WOODLAND
- PROPOSED PRODUCTIVE NATIVE WOODLAND
- PROPOSED NATIVE BROADLEAVES
- PROPOSED HIGHLAND GRASSLAND MIX

NOTE:
FOR ADDITIONAL DETAILS ON SPECIES MIXES REFER TO OUTLINE LEMP, APPENDIX 3.2

TITLE
FIGURE 3.2.1
OUTLINE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

REFERENCE
RJ_180931_EIA3.2.1_v1

SHEET NUMBER
1 of 1

DATE
25/10/18

Project Management Initials: CA Designer: PT Checked: RH Approved: RM

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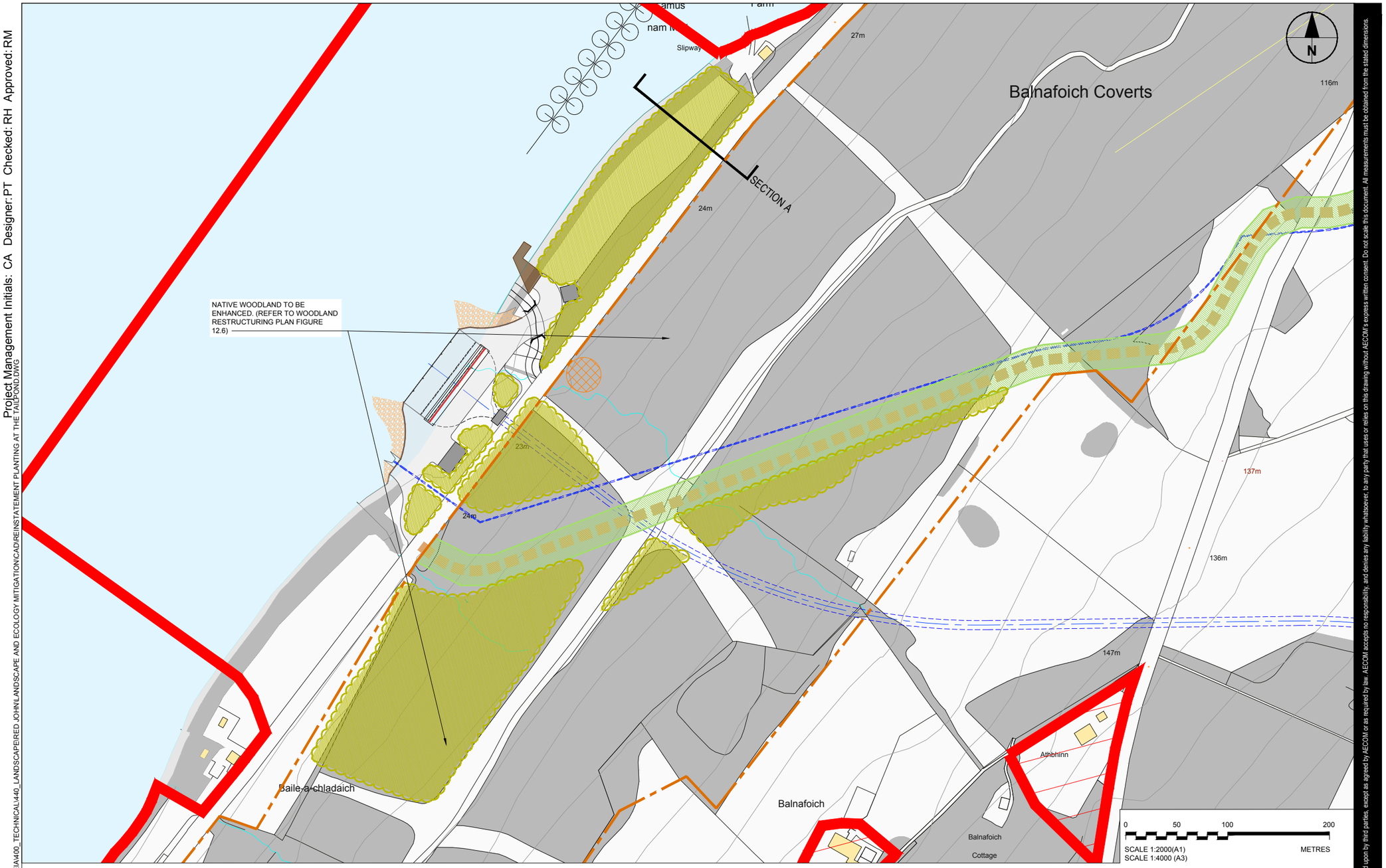

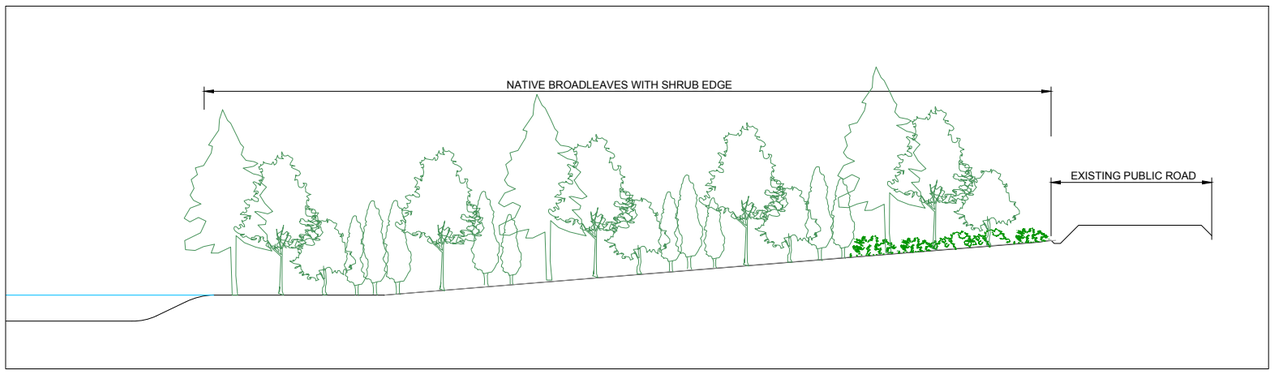

SECTION A: INDICATIVE REINSTATEMENT TAILPOND
Scale 1:250(mm)@A1

AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY

PROJECT COMPONENTS

- DEVELOPMENT SITE BOUNDARY
- SPILLWAY PIPELINE (UNDERGROUND)
- REINSTATED TEMPORARY ACCESS TRACK
- SPECIAL ECOLOGICAL FEATURE. (INDICATIVE LOCATIONS)
- INDICATIVE AREA OF DEER FENCING FOR MANAGEMENT OF EXISTING WOODLAND

PROPOSED PLANTING

- PROPOSED NATIVE BROADLEAVES
- PROPOSED HIGHLAND GRASSLAND MIX

NOTE:
FOR ADDITIONAL DETAILS ON SPECIES MIXES REFER TO OUTLINE LEMP, APPENDIX 3.2

TITLE
FIGURE 3.2.2
OUTLINE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN- TAILPOND INSET

REFERENCE
RJ_180931_EIA3.2.2_v1

SHEET NUMBER	DATE
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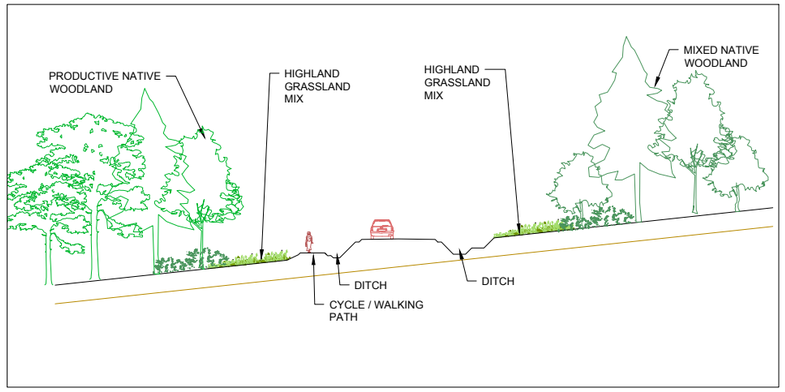
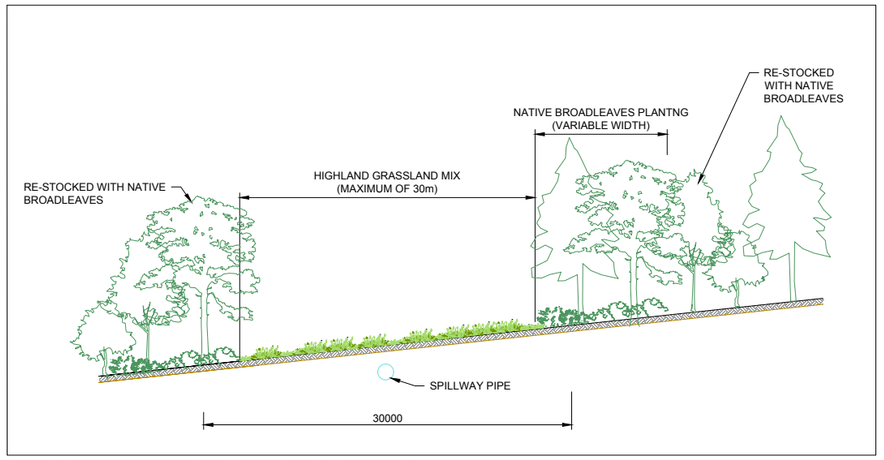
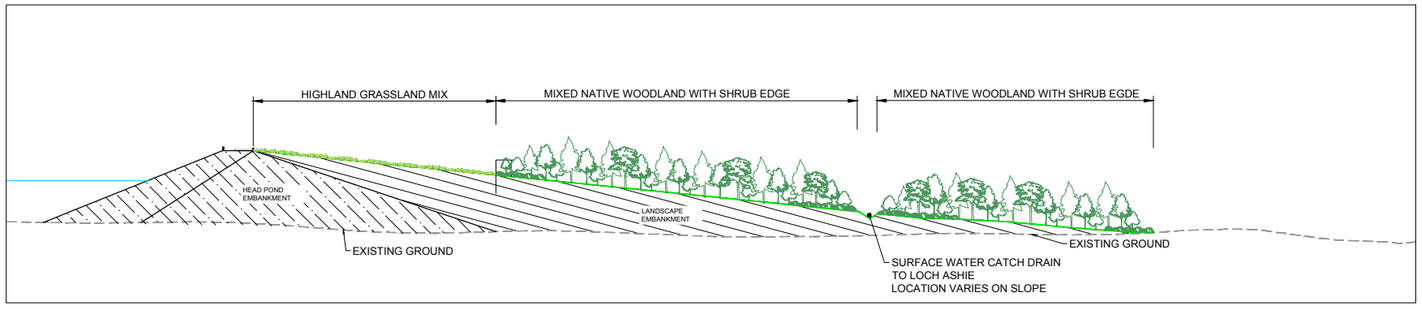


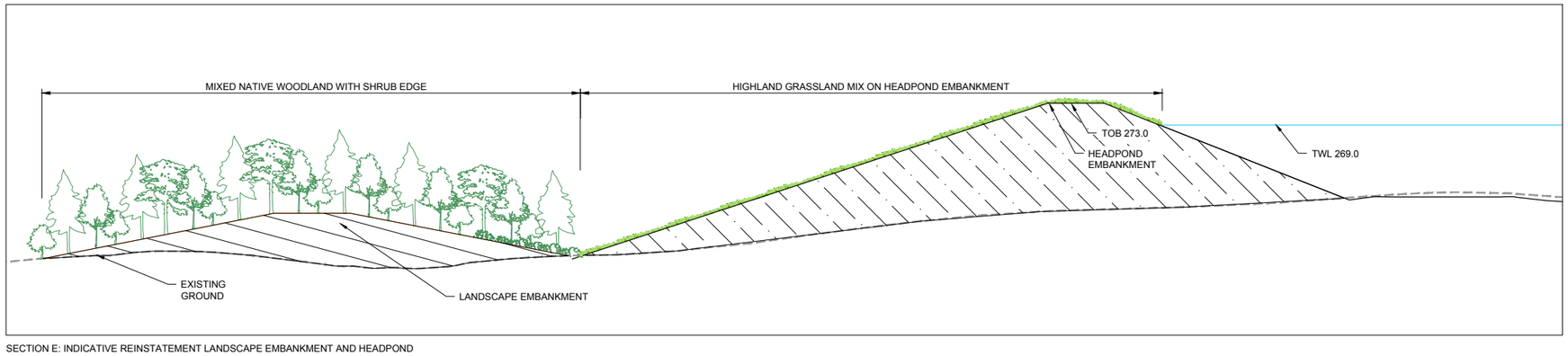
SECTION B: INDICATIVE REINSTATEMENT ALONG REALIGNED PUBLIC ROAD (CC1064)
Scale 1:250(mm)@ A1



SECTION C: INDICATIVE REINSTATEMENT ALONG TEMPORARY ACCESS ROAD
Scale 1:250(mm)@ A1



SECTION D: INDICATIVE REINSTATEMENT LANDSCAPE EMBANKMENT
Scale 1:1000(mm)@A1



SECTION E: INDICATIVE REINSTATEMENT LANDSCAPE EMBANKMENT AND HEADPOND
Scale 1:500(mm)@ A1

AECOM

PROJECT
RED JOHN PUMPED STORAGE HYDRO

CLIENT
ILI (Highlands PSH) Ltd.

KEY

NOTE:
INDICATIVE SECTIONS TO BE READ IN CONSTRUCTION WITH FIG.3.2.1, 3.2.2 AND APPX 3.2

TITLE
FIGURE 3.2.3
OUTLINE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN - INDICATIVE SECTIONS

REFERENCE
RJ_180931_EIA3.2.3_v1

SHEET NUMBER	DATE
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