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NYMNP

01/09/2023

**Date:** 1 September 2023  
**Our ref:** 50303/04/HS/JCx/26918672v1

Dear Rob

## **North York Moors: Application to Partially Discharge Condition 57 of NYM/2017/0505/MEIA**

On behalf our client, Anglo American (Woodsmith) Ltd, Lichfields is pleased to submit this application to discharge planning condition 57 (Landscape & Ecological Management Plan) of NYM/2017/0505/MEIA.

### **Condition 57**

Condition 57 of NYM/2017/0505/MEIA states that:


*Prior to the commencement of each Phase of Construction, at either Doves Nest Farm or Lady Cross Plantation, Landscape and Ecological Management Plans for each site should be submitted to the MPA and approved in writing by the MPA and works should subsequently be undertaken in accordance with them. These plans should relate to land within the two development sites. The plans should set out the means by which the sites will be managed for landscape, ecology and biodiversity throughout the construction and operational phases of the mine. Construction and operational phases shall be dealt with in separate parts of the plans. The plans should cover the matters referred to in the York Potash Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) and the Supplementary Environmental Statement dated July 2017 (updated by further information dated October and November 2017) as relevant, and the Design and Access Statements included in their Appendices and indicate how the designs and mitigation set out in those documents shall be achieved. At the Doves Nest Farm site objectives should include establishment of heathland communities on restored spoil mounds The details at both sites shall include Arboricultural Method Statements and Tree Protection Plans. The Landscape and Ecological Management Plans shall include provision for reporting to the MPA and set out the process by which remedial measures that the MPA may require should the plans not be fulfilling their objectives are undertaken. The operational phases of the Landscape and Ecological Management Plans shall include long term management proposals throughout the operational life of the mine which will be reviewed on a regular basis, at least every two years.*

The enclosed "Landscape & Ecological Management Plan" (ref. AA-WS-PEPE-PL-0001) has been prepared to address Condition 57. It provides an update to an earlier version of the LEMP which was submitted and approved as part of the Phase 3 works (ref. 40-RHD-WS-70-EN-PL-0008) under application ref. NYM/2017/0258/CVC. That document was also partly updated as part of the Phase 11 Construction Environmental Management Plan (ref. 40-RHD-WS-70-EN-PL-0041).

Further updates to the LEMP will be submitted as part of future discharge of condition applications, including for the operational phases of development.

We trust that this document provides you with the necessary information to be able to partially discharge condition 57 but should you wish to discuss further, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read "James Cox".

**James Cox**  
Associate Director  
BA (Hons) MA MRTPI



NYMNPA  
 01/09/2023

# WOODSMITH MINE LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

Document Number: AA-WS-PEPE-PL-0001

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REVIEW	POSITION	NAME	ACTION
ORIGINATOR:	Section Manager Environment and Permitting	Charlie Bell	Review in Aconex
APPROVER:	Environment, Permitting & SHE Way Manager	Robert Staniland	Review and Approval in Aconex

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**ACONEX APPROVALS AND STAMP:**

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Step	Participant	Step Outcome	Step Status	Online Markups Added	File Replaced	Comments	Date
Originator 1	Charlie Bell Anglo American Woodsmith Limited	Approved	Completed				31/08/2023
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Final Approver	Rob Staniland Anglo American Woodsmith Limited	Approved	Completed				31/08/2023

**AA WS CONTROLLED DOCUMENT – APPROVED**

Note: Document FINAL STATUS is being issued due to the ACONEX approval process.  
Participants and outcomes are included in the transmittal. This STAMP guarantees the document's legitimacy.

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# WOODSMITH MINE

## LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

### 1 INTRODUCTION

In 2014 a planning application (reference NYM/2014/0676/MEIA) was submitted to North York Moors National Park Authority (NYMNP) for permission to develop a polyhalite mine and underground Mineral Transport System (MTS). Planning consent was granted in 2015 subject to conditions and subsequently varied in February 2018 by NYM/2017/0505/MEIA.

This document has been prepared on behalf of Anglo American and details a Landscape and Ecological Management Plan (LEMP) for Woodsmith Mine required to partially discharge the requirements of Condition 57 of NYMNP planning permission NYM/2017/0505/MEIA, and provides an update on the Phase 3 LEMP (40-RHD-WS-70-EN-PL-0008) and the Phase 11 Construction Environmental Management Plan (CEMP; 40-RHD-WS-70-EN-PL-0041) which provided an update on Condition 57. It has been prepared in accordance with current good practice and in line with all relevant environmental legislation. This planning condition states that:

**Table 1: Condition NYMNP-57 Landscape & Ecological Management Plan**

Condition	Compliance with Condition NYMNP-57
Prior to the commencement of each Phase of Construction, at either Doves Nest Farm or Lady Cross Plantation, Landscape and Ecological Management Plans for each site should be submitted to the MPA and approved in writing by the MPA and works should subsequently be undertaken in accordance with them.	This document is for the Woodsmith Mine site only.
These plans should relate to land within the two development sites. The plans should set out the means by which the sites will be managed for landscape, ecology and biodiversity throughout the construction and operational phases of the mine.	This document is for the Woodsmith Mine site only.
Construction and operational phases shall be dealt with in separate parts of the plans. The plans should cover the matters referred to in the York Potash Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) and the Supplementary Environmental Statement dated July 2017 (updated by further information dated October and November 2017) as relevant, and the Design and Access Statements including their Appendices and indicate how the designs and mitigation set out in those documents shall be achieved.	No operational information is included in this plan at this stage. Sections 3 and 5 identify management objectives based on the ES and SES. Sections 6 and 7 then identify management prescriptions that will be used to achieve these objectives.
At the Doves Nest Farm site objectives should include establishment of heathland communities on restored spoil mounds.	Development of heathland areas discussed in Section 4.
The details at both sites shall include Arboricultural Method Statements and Tree Protection Plans. The Landscape and	Refer to separately submitted documents for Arboriculture Method

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Ecological Management Plans shall include provision for reporting to the MPA and set out the process by which remedial measures that the MPA may require should the plans not be fulfilling their objectives are undertaken.	Statements and Tree Protection Plans to discharge NYMNP Condition 70. Refer to Section 9 for review process.
The operational phases of the Landscape and Ecological Management Plans shall include long term management proposals throughout the operational life of the mine which will be reviewed on a regular basis, at least every two years.	No operational information is included in this plan at this stage.

This document only details the works at Woodsmith Mine. It does not include any activities at Lady Cross Plantation. This Plan has been produced to discharge Condition 57 in respect to the restoration of the landscape bunds and surface water management areas at Woodsmith Mine. It provides the necessary information to guide landscape and ecological management working practices on site through construction. As there are additional construction phases to be completed, no operational information has been included in this plan. Updates to this plan will be prepared for subsequent construction phases and following any design or method change. A set of design principles for the wider Site is set out in the Environmental Statement (ES) and Supplementary Environmental Statement (SES), which accompanied the planning application.

The works undertaken to date comprise:

- general site clearance including demolition of all farm buildings and sheds;
- localised tree and scrub clearance;
- construction of the site access road;
- construction of the shaft working platform, Welfare Facility, Parking Area, Concrete Batching Plant, LNG and generator platform; Workshops and warehousing
- construction of temporary soil storage mounds;
- construction of temporary and permanent surface water management facilities;
- construction of shaft sinking infrastructure and commencement of shaft excavation works;
- construction and restoration of Bund A and partial construction of Bund F.

The following landscape works will be undertaken as part of the environmental mitigation for the project and will therefore form the focus of this document:

- construction, restoration and management of future Bunds at Woodsmith Mine;
- management of previously established Bund A;
- management of previously established fringing areas and the surface water management area;
- construction, restoration and management of additional surface water management areas.

## 2 MANAGEMENT PLAN METHODOLOGY, SCOPE AND RESPONSIBILITIES

### 2.1 Methodology

This Plan has been prepared using the following approach:

- identification of the context of the Site and the existing and proposed content of the site (i.e. habitats and features);
- identification of the management objectives for the Site;
- an evaluation of the Site restoration to date

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- Management proposals in relation to objectives;
- preparation of the management prescriptions for the identified habitats and features to enable the management objectives to be met; and
- an outline of the review requirements for future phases of development of the Site in response to any changing site conditions and opportunities (should they arise).

## 2.2 Extent of the Site

The construction boundary is shown on Drawing 1 and these are the areas to which this Plan applies. Areas outside the extent of this boundary, but within the management plan boundary will not be affected. In addition to works within the construction boundary, the Belt Plantations will be managed in accordance with the current version of this Plan and the Scheme for Maintaining and Managing the Haxby & Belt Plantations (40-SMP-WS-8323-PA-PL-00001 Rev0A).

## 2.3 Responsibilities

Responsibility for the implementation of the Plan lies with Anglo American. All managers, contractors, sub-contractors, and third party organisations carrying out work within the Site will adhere to the Plan. All parties have a statutory responsibility to comply with the requirements of wildlife legislation but must also comply with the aims of the Plan in relation to the protection and encouragement of legally protected species within the Site.

The landscape and ecological design of the Site seeks to achieve a balance between visual screening and landscape integration of the Site and biodiversity protection and enhancement objectives. Should a conflict arise between these objectives, the landscape objectives will take precedence unless legally protected species will be affected, in which case the legislation afforded to the species in question will take precedence.

# 3 MANAGEMENT OBJECTIVES

The primary landscape and ecological objectives for the works, as determined during the environmental impact assessment process and set out in the Design and Access Statement, are as follows:

**Objective 1** - Assist in the mitigation of construction works including protection of soil resources, water management and visual mitigation;

**Objective 2** - Protect and retain existing mature woodland cover where possible to provide visual screening during the mine construction phase;

# 4 EVALUATION OF SITE RESTORATION TO DATE

Site restoration to date has consisted of seeding and planting of Bund A, Wetland A and the area surrounding the surface water management ponds, as described below.

## 4.1 Bund A

Under the plans provided in the Phase 11 CEMP to address Condition 57, restoration objectives for Bund A (and Bund F) were:

- Creation and management of a dynamic habitat mosaic targeted at 50/50 scrub and open areas. Establishment of an Oak-Birch woodland planting mix on the lower slopes and lower lying areas of the mounds, with an open habitat of birch, willow, hawthorn scrub across upper parts of the mounds with patches of acid grassland; and



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- Establishment of heathland communities on restored mounds.

However, soil testing from Bund A (and the other soils across the site) has indicated that both the topsoil and subsoils used in the restoration, and originating from the previous agricultural farmland, classify as neutral to slightly alkaline (pH 7.8 to 8.2), and as such are not ideal for the development of heathland communities and acid grasslands. As such a neutral grassland mix, Emorsgate EM4 Wildflower grass mix for clay soils was sown on Bund A (Table 4). This variation from the seed mix specified in Appendix B of the Phase 11 CEMP was agreed with the NYMNPA. Scrub tree planting of Bund A (Table 2) was in accordance with the specification detailed in Appendix B of the Phase 11 CEMP, while the southern extent of Bund A (0.07Ha) received a broad leaf native tree mix (Table 3).

Topsoil was reinstated in areas where scrub woodland was to be planted however grassland areas were not reinstated with topsoil and the subsoil was sown directly with a wildflower grassland mix to replicate the poorer, less nutrient rich soils generally favoured by wildflower communities (Appendix B of the Phase 11 CEMP).

Construction work on Bund A was completed in 2019, and seeding was undertaken in Q3 2019. Tree planting was undertaken in Q1 2020. Additional tree planting was undertaken along the western toe of Bund A in Q1 2023.

**Table 2: Bund A Open scrub planting**

Common Name	Botanical Name	No. of Trees Planted
Silver birch	<i>Betula pendula</i>	556
Goat willow	<i>Salix caprea</i>	371
Downy birch	<i>Betula pubescens</i>	279
Hawthorn	<i>Crataegus monogyna</i>	279
Grey willow	<i>Salix cinerea</i>	185
Rowan	<i>Sorbus aucuparia</i>	94
Holly	<i>Ilex aquifolium</i>	94

**Table 3: Bund A Broadleaf Planting**

Common Name	Botanical Name	No. of Trees Planted
Pedunculate oak	<i>Quercus robur</i>	44
Silver birch	<i>Betula pendula</i>	35
Sessile oak	<i>Quercus petraea</i>	27
Downy birch	<i>Betula pubescens</i>	18
Hawthorn	<i>Crataegus monogyna</i>	18
Hazel	<i>Corylus avellana</i>	18
Rowan	<i>Sorbus aucuparia</i>	9
Holly	<i>Ilex aquifolium</i>	9

**Table 4: Wildflower Seed Mix Bund A and Pond Area**

EM4 - Meadow Mixture for Clay soils		
Common Name	Botanical Name	%
<b>Grasses</b>		
Crested Dog's-tail	<i>Cynosurus cristatus</i>	36.0%
Slender Creeping Red Fescue	<i>Festuca rubra litoralis</i>	24.0%
Common Bent	<i>Agrostis capillaris</i>	10.0%
Smaller Cat's-tail	<i>Phleum bertolonii</i>	4.0%
Sweet Vernal-grass (w)	<i>Anthoxanthum odoratum</i>	2.0%
Meadow Foxtail (w)	<i>Alopecurus pratensis</i>	2.0%
Quaking Grass (w)	<i>Briza media</i>	1.0%
Meadow Barley (w)	<i>Hordeum brachyantherum</i>	1.0%
<b>Wildflowers</b>		
Common Knapweed	<i>Centaurea nigra</i>	3.50%
Lady's Bedstraw	<i>Galium verum</i>	2.50%
Meadow Buttercup	<i>Ranunculus acris</i>	2.00%
Yellow Rattle	<i>Rhinanthus minor</i>	2.00%
Betony	<i>Betonica officinalis</i>	2.00%
Common Sorrel	<i>Rumex acetosa</i>	1.40%
Ribwort Plantain	<i>Plantago lanceolata</i>	1.00%
Selfheal	<i>Prunella vulgaris</i>	1.00%
Meadow Sweet	<i>Filipendula ulmaria</i>	1.00%
Cowslip	<i>Primula veris</i>	1.00%
Devil's Bit Scabious	<i>Succisa pratensis</i>	0.60%
Yarrow	<i>Achillea millefolium</i>	0.50%
Birdsfoot Trefoil	<i>Lotus corniculatus</i>	0.50%
Oxeye Daisy	<i>Leucanthemum vulgare</i>	0.50%
Meadow Vetchling	<i>Lathyrus pratensis</i>	0.40%
Pepper Saxifrage	<i>Silaum silaus</i>	0.40%
Ragged Robin	<i>Lychnis flos-cuculi</i>	0.20%
Wild Red Clover	<i>Trifolium pratense</i>	0.10%

Whilst the areas that have been reinstated with topsoil have typically seen excellent grassland establishment, growth in areas with just subsoil has been slower. This has resulted in variation in the two areas.

Within those areas with topsoil, the reinstated grassland is relatively species-rich. A number of species associated with the seed mix are evident along with others which have established from the natural seedbank. White Clover *Trifolium repens* is often the most abundant species with frequent Red Fescue and locally frequent Common Bent, Crested Dog's-tail, Meadow Barley, Perennial Rye-grass *Lolium perenne*, Smaller Cat's-tail, Yellow-rattle and Yorkshire-fog *Holcus lanatus*. More occasional or rarely occurring species include Black Medick *Medicago lupulina*, Common Bird's-foot-trefoil, Common Knapweed, Common Mouse-ear *Cerastium fontanum*, Common Sorrel, Creeping Buttercup *Ranunculus*

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*repens*, Daisy *Bellis perennis*, Lady's bedstraw, Lesser Trefoil *Trifolium dubium*, Meadow Fescue *Festuca pratensis*, Meadow Foxtail, Oxeye Daisy, Red Clover, Ribwort Plantain, Rough Meadow-grass *Poa trivialis*, Self-heal, Sweet Vernal-grass, Timothy *Phleum pratense*, Weld *Reseda luteola*, Wild Carrot *Daucus carota subsp. Carota* and Yarrow. Ruderals are scattered through the sward and include Broad-leaved Dock *Rumex obtusifolius*, Curled Dock *Rumex crispus*, Marsh Thistle *Cirsium palustre* and Spear Thistle *Cirsium vulgare*. Whilst rare, Gorse *Ulex europaeus* is a naturally establishing shrub.

In contrast, the areas which have not received topsoil have seen slower vegetation growth. In any 2m x 2m sample, bare ground typically ranged from 30-60% in 2022, improving to 15 to 40% in 2023. These areas also support a more limited suite of species which are largely limited to scattered Black Medick, Bristly Oxtongue *Helminthotheca echioides*, Common Bird's-foot-trefoil, Crested Dog's-tail, Lesser Trefoil, White Clover and Yellow-rattle. These areas likewise have seen local erosion.

While some tree stock was lost to the effects of grazing by brown hare *Lepus europaeus*, re-stocking has taken place to replace those lost. Additional planting has also been undertaken along the toe of the bund in Q1 2023. Trees are starting to show good growth as they become established.

## 4.2 Surface Water Management Area Grasslands

Under the plans submitted within the Phase 3 LEMP, the areas surrounding the ponds and wetlands was designated to be wet grassland. It was sown with a grass and wildflower seed mix (Emorsgate EM4 Wildflower grass mix for clay soils -Table 4) in Q2 2018. Green Hay from Flyingthorpe Meadow was also spread and then raked to provide a local seed source.

The meadow has seen excellent establishment with a good variety of species including several that are locally rare. Grasses include abundant Yorkshire-fog with frequent Common Bent, Crested Dog's-tail, Red Fescue and more occasional Meadow Barley and Smaller Cat's-tail. More rarely occurring grasses include Annual Meadow-grass *Poa annua*, Creeping Bent, Meadow Fescue *Schedonorus pratensis*, Meadow Foxtail, Quaking-grass, Tufted Hair-grass *Deschampsia cespitosa* and Yellow Oat-grass *Trisetum flavescens*. Forbs included occasional Common Bird's-foot-trefoil, Common Knapweed, Common Sorrel, Creeping Buttercup, Daisy, Meadow Buttercup, Oxeye Daisy, Red Clover, Ribwort Plantain, White Clover, Yarrow and Yellow-rattle, with more rarely occurring Bush Vetch *Vicia sepium*, Common Mouse-ear *Cerastium fontanum*, Dandelion *Taraxacum officinale*, Eyebright *Euphrasia officinalis agg.*, Lady's Bedstraw, Lesser Trefoil, Meadow Vetchling, Meadowsweet, Ragged-Robin, Selfheal, Tufted Vetch *Vicia cracca* and Silverweed *Potentilla anserina*.

Whilst never dominant, ruderals are scattered through the sward, for example, rarely occurring Broad-leaved Dock, Curled Dock, Creeping Thistle *Cirsium arvense*, Greater Plantain *Plantago major*, Smooth Sow-thistle *Sonchus oleraceus* and Spear Thistle.



**Figure 1 : Surface Water Management Area Grasslands**

Rushes and sedges were represented by rarely occurring Compact Rush *Juncus conglomeratus*, Glaucous Sedge *Carex flacca* and Soft-rush *Juncus effusus*.

Regarding ongoing management, the meadow is now under a traditional late-summer hay cutting regime. Some spot treatment of weeds has also been undertaken and will be ongoing.

Whilst still relatively early in the establishment process, the meadow is already a valuable habitat which represents a significant biodiversity gain within a part of the site that was previously an intensively managed arable field. It is already showing significant affinities with the MG5 *Cynosurus cristatus-Centaurea nigra* (Crested Dog's-tail-Common Knapweed) National Vegetation Classification (NVC) habitat type which is the typical species-rich neutral grassland meadow community. Whilst the meadow should continue to see further year-on-year improvement for a number of years, it is already considered to be representative of the 'lowland meadow' NERC S41 Act Habitat of Principal Importance for the Conservation of Biodiversity in England.

The Phase 11 CEMP indicated tree planting around the pond areas, which at this time has not been undertaken. Due to the adverse impact this tree planting would have on the establishing meadow habitat, the proposals have been amended within this current LEMP to remove tree planting in the Surface Water Management Area (See Section 5.1).

### 4.3 Wetland A and other Ponds

Under the Phase 3 LEMP and Phase 11 CEMP, it was proposed that the wetland edge of Wetland A would be planted with a mix of emergent and marginal plants. As an alternative, pre-established coir pallets were installed into the wetland, with a standard plant mix of:

- Fools Watercress *Apium nodiflorum*
- Water Plantain *Alisma plantago-aquatica*
- Lesser Pond Sedge *Carex acutiformis*
- Blue Sedge *Carex flacca*
- Marsh Marigold *Caltha palustris*



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- Sweet Reed Grass *Glyceria maxima*
- Yellow Flag Iris *Iris pseudacorus*
- Soft Rush *Juncus effusus*
- Gypsywort *Lycopus europaeus*
- Purple Loosestrife *Lythrum salicaria*
- Water Forget Me Not *Myosotis scorpioides*
- Water Mint *Mentha aquatica*
- Reed Canary Grass *Phalaris arundinacea*
- Lesser Spearwort *Ranunculus flammula*
- Common Club Rush *Schoenoplectus lacustris*

The habitat is characterised by established stands of Common Club-rush and Reed Sweet-grass along with naturally established Bulrush *Typha latifolia*. In addition to the established flora, the wetland also supports a notable faunal assemblage.



Wetland A



Pond 3



Pond 2



Pond 1

**Figure 2 : Wetland A and Ponds 1, 2 & 3**

Three other ponds (Ponds 1, 2 and 3) are attenuation ponds that serve an important function for construction. Whilst these will be required for surface water attenuation and flood control for the life of the mine, they will see an improvement in water quality and marginal vegetation. Whilst no planting has been undertaken in these ponds, natural colonisation has occurred from Wetland A, which will be managed to retain attenuation capacity. Whilst not their primary purpose, these ponds will therefore improve as a habitat for wildlife in the future.

## 5 PROPOSALS IN RELATION TO OBJECTIVES

### 5.1 Objective 1

*Assist in the mitigation of construction works including protection of soil resources, water management and visual mitigation.*

#### Protecting Soil Resources

The objective for protecting soil resources and visually mitigating soil storage mounds will be met by establishing a dense grass sward on temporary soil storage mounds as soon as practicable after they have been formed. Some areas of existing grassland will remain within the construction boundary as the works progress. Soils within these areas will not be stripped until later phases of the project. Existing unstripped areas would be retained as grassland and managed to prevent establishment of undesirable weed species.

To prevent erosion of permanent landscape bunds during the first year following restoration and seeding, a quick growing annual ryegrass will be sown alongside the permanent seed mix, to protect the soil resource while the permanent seed mix establishes.

#### Water Management

The objective for assisting water management and providing ecological benefits along temporary watercourses has been met by establishing a grass and wildflower seed mix on banks and disturbed areas as soon as practicable after they have been formed. The vegetation within Wetland A has been inoculated with wetland planting, and in addition natural colonization occurring in the other ponds provides improvements of water quality by filtering sediments and uptaking nutrients.

#### Visual Mitigation

The objective for assisting visual mitigation was partially met by implementing mounding of Bund A and through enhancing the understorey layer of the Belt Plantations as part of Phase 3 works. These measures have reduced construction visual impact in close range views from the B1416. Seeding and planting of Bund A during Phase 11 further improved visual impact and helped to assimilate the mound into its landscape setting.

The construction and restoration of these bunds will assist in the visual mitigation of ground level construction and operations and the landscape assimilation of the Site within distant views from the east, including from the A171, minor country lanes, public rights of way and open access land. Following learnings from the restoration of Bund A, the Phase 11 restoration plans for the Landscape Bunds are to be amended by this plan. Early seeding with a mix of annual ryegrass and perennial tussock grass will 'green up' completed mounds quickly, reducing initial contrast against the surrounding landscape. Woodland and scrub planting will further soften the appearance of the screening mounds. It is anticipated that the scrub vegetation will establish across the majority of the outer slope of the Landscape Bunds over a 10 to 15 year period. The scrub planting will eventually shade out most of the underplanting over time, so rather than establishing a species rich grassland habitat as an understorey that will be later

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lost, the tussocky grassland understorey planting will focus on establishing a low maintenance grassland beneath the tree planting, forming a good habitat for insects, small mammals, bird and reptiles while the scrub develops.

Landscape and Visual Impact Assessment (LVIA) drawings showing the restored views from the B1416 and the A171 are included in Annex 2.

The meadow developing in the Surface Water Management Area is of considerable local significance. To maintain this feature, it is proposed that the Phase 11 plans for the restoration of this area will be amended to retain the developing meadow, removing planned tree planting. Due to the elevation difference between the Surface Water Management Area and the remainder of the site, the removal of tree planting in this area will have no impact on the overall screening of the development area.

The plans are designed to provide a “flow” through the habitats from the wetland in the east, up through the pond areas and surrounding meadow, and then on to the bunds with a mix of scrub woodland, which will tie into the existing Haxby Plantation.

## 5.2 Objective 2

*Protect and retain existing mature woodland cover where possible to provide visual screening during the mine construction phase.*

This objective will be met by implementing tree protection plans as required and set out in the Phase 3 Arboricultural Method Statement (40-RHD-WS-70-EN-MS-0002) produced to partially discharge Condition NYMNP-70. Management operations within the Belt Plantations will be undertaken to ensure the visual screening value of these woodlands is maintained during the construction period. For example, the removal of sycamore will only be undertaken where the remaining tree cover continues to provide effective screening. Management operations within Haxby Plantation and Whinny Wood will be undertaken as set out in the woodland management plan, Scheme for Maintaining and Managing the Haxby & Belt Plantations (40-SMP-WS-8230-PA-PL-00001) and in accordance with any future updates to the Plan.

## 6 MANAGEMENT PRESCRIPTIONS

A number of landscape features will be created. These will be subject to the management prescriptions as described below.

Existing landscape features that will be protected and retained as part of the permanent restoration proposals for the Site (for example the Belt Plantations) would be managed during the construction works in accordance with the Other Areas management prescriptions as set out in Section 7.

<b>Unstripped Grassland Areas</b>		
Area:	To include all unstripped existing grassland during construction.	
Management Prescription:	<b>CM4</b> Management of Grassland Areas Prior to Stripping	<ul style="list-style-type: none"> <li>Undertake an annual cut in early autumn, taking into account the requirements of the Protected Species Management Plans and the CEMP prepared for the Site (conditions NYMNPA 52 and 93 respectively), cuttings to be removed.</li> <li>Prevent the establishment of pernicious, invasive or notifiable weed species (e.g. Creeping Thistle, Nettle, Dock, Ragwort, Himalayan Balsam, Japanese Knotweed, Bracken) at seasonally suitable times using appropriate methods, such as spraying, topping etc.</li> <li>Kill grass cover including root systems using suitable chemical methods prior to soil stripping. This work will be undertaken by qualified personnel and undertaken in accordance with all relevant environmental, and health and safety legislation.</li> </ul>
<b>Temporary Soil Storage Mounds</b>		
Areas:	Temporary mound formation and vegetation management to be ongoing during construction.	
Management Prescription:	<b>CM1</b> Seeding and Maintenance of Temporary Soil Storage Mounds	<ul style="list-style-type: none"> <li>At the first horticulturally sound opportunity (i.e. spring or autumn sowing periods) after formation of soils storage mounds cultivate and sow with grass mix (<b>GSM1</b>) as set out at Annex 3.</li> <li>Undertake an annual cut in early autumn, taking into account the requirements of the Protected Species Management Plans and the CEMP prepared for the Site (conditions NYMNPA 52 and 93 respectively), cuttings to be removed.</li> <li>Prevent the establishment of pernicious, invasive or notifiable weed species (e.g. Creeping Thistle, Nettle, Dock, Ragwort, Himalayan Balsam, Japanese Knotweed, Bracken) at seasonally suitable times using appropriate methods, such as spraying, topping etc.</li> <li>Kill grass cover including root systems using suitable chemical methods prior to removal of mound for use in restoration. This work will be undertaken by qualified personnel and undertaken in accordance with all relevant environmental, and health and safety legislation.</li> </ul>
<b>Swale and Settling Pond Banks</b>		
Areas:	Existing Swales and attenuation ponds Additional swales and attenuation ponds	
Management Prescription:	<b>CM2</b> Seeding and Maintenance of Swale and Settling Pond Banks	<ul style="list-style-type: none"> <li>At the first horticulturally sound opportunity after formation of swales and settling ponds cultivate and sow banks and adjoining bare soils with Neutral Grassland mix (<b>GSM2</b>: Annex 3).</li> <li>Undertake annual cut in late summer/early autumn after wildflower seed has set and fallen, taking into account the requirements of the Protected Species Management Plans and the CEMP prepared for the Site (conditions NYMNPA 52 and 93 respectively). The grass/wildflower cuttings will be removed from site.</li> </ul>



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		<ul style="list-style-type: none"> <li>Prevent the establishment of pernicious, invasive or notifiable weed species (e.g. Creeping Thistle, Nettle, Dock, Ragwort, Himalayan Balsam, Japanese Knotweed, Bracken) at seasonally suitable times using appropriate methods, such as spot spraying etc.</li> </ul>
<b>Wildlife Ponds and Polishing Ponds</b>		
Areas:	Existing Wetlands Additional Wetlands	
Management Prescription:	<b>CM3</b> Inoculation and Maintenance of Wildlife Ponds and Polishing Ponds	<ul style="list-style-type: none"> <li>Allow natural colonisation of ponds to occur, supported by translocation of emergent/marginal plants from ponds and wetlands already established on site.</li> <li>Remove a proportion of the emergent / marginal habitat area as necessary to maintain open water / wetland mix in late autumn. Remove cuttings from area.</li> </ul>
<b>Meadow (Neutral Grassland)</b>		
Area:	Areas around the southern water treatment area, and southern part of the site and within fringing grassland areas.	
Management Prescription:	<b>CM5</b> Seeding and Management of Neutral Grassland Areas	<ul style="list-style-type: none"> <li>At the first horticulturally sound opportunity after formation of swales and settling ponds cultivate and sow banks and adjoining bare soils with Neutral Grassland mix (<b>GSM2:Annex 3</b>).</li> <li>Natural colonisation within neutral grassland areas shall be encouraged. During the construction period it is anticipated that no cutting back of the sward would be required. Neutral grassland areas should, however, be monitored during the construction period and a tall cut (height to be determined by project ecologist) undertaken if considered to be beneficial. Cut late summer/early autumn after wildflower seed has set and fallen, taking into account the requirements of the Protected Species Management Plans and the CEMP prepared the site (conditions NYMNP 52 and 93 respectively). The grass/wildflower cuttings will be removed from site.</li> <li>Prevent the establishment of pernicious, invasive or notifiable weed species (e.g. Creeping Thistle, Nettle, Dock, Ragwort, Himalayan Balsam, Japanese Knotweed, Bracken) at seasonally suitable times using appropriate methods, such as spot spraying etc.</li> <li>Consider the need for control/ removal of Gorse if incursion occurs during the construction period.</li> </ul>
<b>Broad Leaved Woodland and Scrub Planting</b>		
Includes areas of proposed woodland and scrub planting on Bunds in the north and east of the site. Species mixes are described at Annexes 3 & 4. New woodland and scrub planting shall be subject to Management Prescriptions M2, M3, M4, M5 and M6 during the five-year period after planting.		
Area:	Woodland and scrub planting – broad woodland planting along the toe of the eastern Landscape Bunds. Scrub planting within an initial 50/50 open scrub grassland areas on northern and eastern Landscape Bunds.	
Management Prescription:	<b>CM6</b> Undersowing	<ul style="list-style-type: none"> <li>At the first horticulturally sound opportunity after completion of soil spreading cultivate and sow with an annual Rye Grass (<b>GSM3:Annex 3</b>) to provide rapid vegetation uptake, and a perennial tussock grassland mix for longer term low maintenance coverage (<b>GSM4:Annex 3</b>).</li> </ul>

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	<ul style="list-style-type: none"> <li>Natural colonisation within scrub/woodland grassland areas shall be encouraged. During the construction period it is anticipated that no cutting back of the sward would be required. Scrub/woodland grassland areas should, however, be monitored during the construction period and a tall cut (height to be determined by project ecologist) undertaken if considered to be beneficial.</li> <li>Prevent the establishment of pernicious, invasive or notifiable weed species (e.g. Creeping Thistle, Nettle, Dock, Ragwort, Himalayan Balsam, Japanese Knotweed, Bracken) at seasonally suitable times using appropriate methods, such as spot spraying etc.</li> <li>Where available, site won seed from the neutral grasslands will be oversown.</li> </ul>
<b>CM7</b> Tree Planting	<ul style="list-style-type: none"> <li>Trees to be planted in the first winter following seeding (Broadleaved Woodland Mix = <b>TPM1</b>, Scrub Planting Mix = <b>TPM2</b>: Annex 4). Trees to be staked, with tree protectors installed (CM10).</li> </ul>
<b>CM8</b> Weed Control	<ul style="list-style-type: none"> <li>For a period of five years after planting or until the canopy closes, the ground around newly planted trees and shrubs should be kept weed free, to a diameter of 900mm at each plant. This may be by use of an approved herbicide, or approved mulch or mulching mat.</li> </ul>
<b>CM9</b> Firming and Inspection	<ul style="list-style-type: none"> <li>Check newly planted trees and shrubs for wind-rock during period after planting and firm as necessary. Consider hard cutting back to encourage bushy habit in exposed areas or where ground conditions prevent adequate firming. Inspect at beginning and mid-way through growing season for signs of disease or nutrient deficiency and correct as necessary using the minimum application of fertiliser as a spot treatment.</li> </ul>
<b>CM10</b> Beating Up	<ul style="list-style-type: none"> <li>In accordance with condition NYMNPA 71, for any new planting up to the first ten years after planting, individual trees and shrubs that have either failed or are failing to thrive will be replaced with the same species. If wholesale failure of a particular species occurs the reason for failure will be determined and the problem rectified or the species should be replaced with plants of a species which are establishing successfully in the vicinity.</li> </ul>
<b>CM11</b> Plant Protection Measures	<ul style="list-style-type: none"> <li>To prevent damage to young plants they will be established within approved type grow tubes and shelters. Plant protection measures will be regularly inspected for damage or lack of support and any problems made good with immediate effect. Consideration to remove shelters and guards at the end of year 3-5 after planting will be taken; by this time tree and shrub species should be sufficiently well-established to resist rabbit or vole damage. All removed protection and support material will be taken off site.</li> </ul>
<b>CM12</b> Establishment Pruning	<ul style="list-style-type: none"> <li>During the establishment period, pruning of tree species will be carried out as necessary during the first three years after planting to remove all weak, dead, diseased or damaged branches or those rubbing or crossing one another.</li> </ul>

## 7 MANAGEMENT PRESCRIPTIONS – OTHER AREAS

The following section describes the proposed management of the wider site areas, which are to be managed to provide mitigation of construction works as set out in the ES and SEI. Management methods are set out as a series of Management Prescriptions for each type of habitat or feature and have been developed to meet the objectives set out for the Site in Sections 5 and 6..

Prescriptions are based on knowledge of the current site and proposed restoration scheme. As identified in Section 8, these prescriptions should be viewed as flexible and should be adapted in response to changing future priorities and conditions, whilst remaining in line with the primary management objectives identified in Section 5.

<b>General Inspection, Safety and Security</b>		
Area:	All other areas.	
Management Prescription:	<b>M1</b> Site Inspection, Safety and Security	<ul style="list-style-type: none"> <li>Inspect the Site at six-month intervals to check for general condition, boundary security and for general safety hazards including dangerous trees and branches, blocked drainage routes and surface wear/ erosion.</li> </ul>
<b>Belt Plantations - New Planting</b>		
Management works within the Belt Plantations are described in the woodland management plan (Scheme for Maintaining and Managing the Haxby & Belt Plantations (40-SMP-WS-82830-PA-PL-00001). Management prescriptions are set out in this Plan.		
Understorey planting shall be subject to Management Prescriptions M2, M3, M4, M5 and M6 during the five-year period after planting.		
Area:	Belt Plantations	
Management Prescriptions for new planting in the Belt Plantations:	<b>M2</b> Weed Control	<ul style="list-style-type: none"> <li>For a period of five years after planting or until the canopy closes, the ground around newly planted trees and shrubs should be kept weed free, to a diameter of 900mm at each plant. This may be by use of an approved herbicide, or approved mulch or mulching mat.</li> </ul>
	<b>M3</b> Firming and Inspection	<ul style="list-style-type: none"> <li>Check newly planted trees and shrubs for windrock during period after planting and firm as necessary. Consider hard cutting back to encourage bushy habit in exposed areas or where ground conditions prevent adequate firming. Inspect at beginning and mid-way through growing season for signs of disease or nutrient deficiency and correct as necessary using the minimum application of fertiliser as a spot treatment.</li> </ul>
	<b>M4</b> Beating Up	<ul style="list-style-type: none"> <li>In accordance with condition NYMNPA 71, for any new planting and up to the first ten years after planting, individual trees and shrubs that have either failed or are failing to thrive will be replaced with the same species. If wholesale failure of a particular species occurs the reason for failure will be determined and the problem rectified or the species should be replaced with plants of a species which are establishing successfully in the vicinity.</li> </ul>
	<b>M5</b> Plant Protection Measures	<ul style="list-style-type: none"> <li>To prevent damage to young plants they will be established within approved type grow tubes and shelters. Plant protection measures will be regularly inspected for damage or lack of support and any problems made good with immediate effect.</li> </ul>

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		Consideration to remove shelters and guards at the end of year 3-5 after planting will be taken; by this time tree and shrub species should be sufficiently well-established to resist rabbit or vole damage. All removed protection and support material will be taken off site.
	<b>M6</b> Establishment Pruning	<ul style="list-style-type: none"> <li>During the establishment period, pruning of tree species will be carried out as necessary during the first three years after planting to remove all weak, dead, diseased or damaged branches or those rubbing or crossing one another.</li> </ul>
<b>Hedgerows</b>		
Area:	Hedgerow along northern boundary	
Management Prescriptions	<b>M7</b> Infill Hedgerow Planting	<ul style="list-style-type: none"> <li>Infill planting will be undertaken in sparse areas on the northern hedgerow at a density not less than 5 per m<sup>2</sup> with approximately 450mm between plants in the same row, and 400mm between rows (Planting Mix = <b>TPM3</b>: Annex 4). Management practices M2 to M6 will be applied while the young hedgerow develops.</li> </ul>
	<b>M8</b> Hedgerow Laying / Coppicing	<ul style="list-style-type: none"> <li>Where appropriate, tall or remnant hedgerows will be laid, alternatively, coppicing will be undertaken.</li> </ul>

## 8 REVISION CONTROL

Revision No.    Description of modification (change or deletion)

0	Start of document version
1	Amended following internal review

## 9 ANNEXES










- **Annex 1:** Drawings
- **Annex 2:** Landscape and Visual Impact Assessment
- **Annex 3:** Grass Seed Mixes
- **Annex 4:** Woodland, Scrub and Hedgerow Planting Mixes

## Annex 1: Drawings

### Drawing 1 - Woodsmith Mine Landscape And Ecological Restoration Plan





-  Building Layout and Development Platform
-  Neutral Grassland Meadow
-  Broadleaved Trees
-  Scrub Planting
-  Existing Woodland
-  Surface Water Drainage Attenuation Ponds
-  Wetlands
-  Roads and Access Tracks
-  Swales

Rev 1 August 2023

Drawing 1

Woodsmith Mine  
Landscape And Ecological  
Restoration Plan



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## **Annex 2: Landscape and Visual Impact Assessment**



# View 12: Operational Phase View With Full Bund



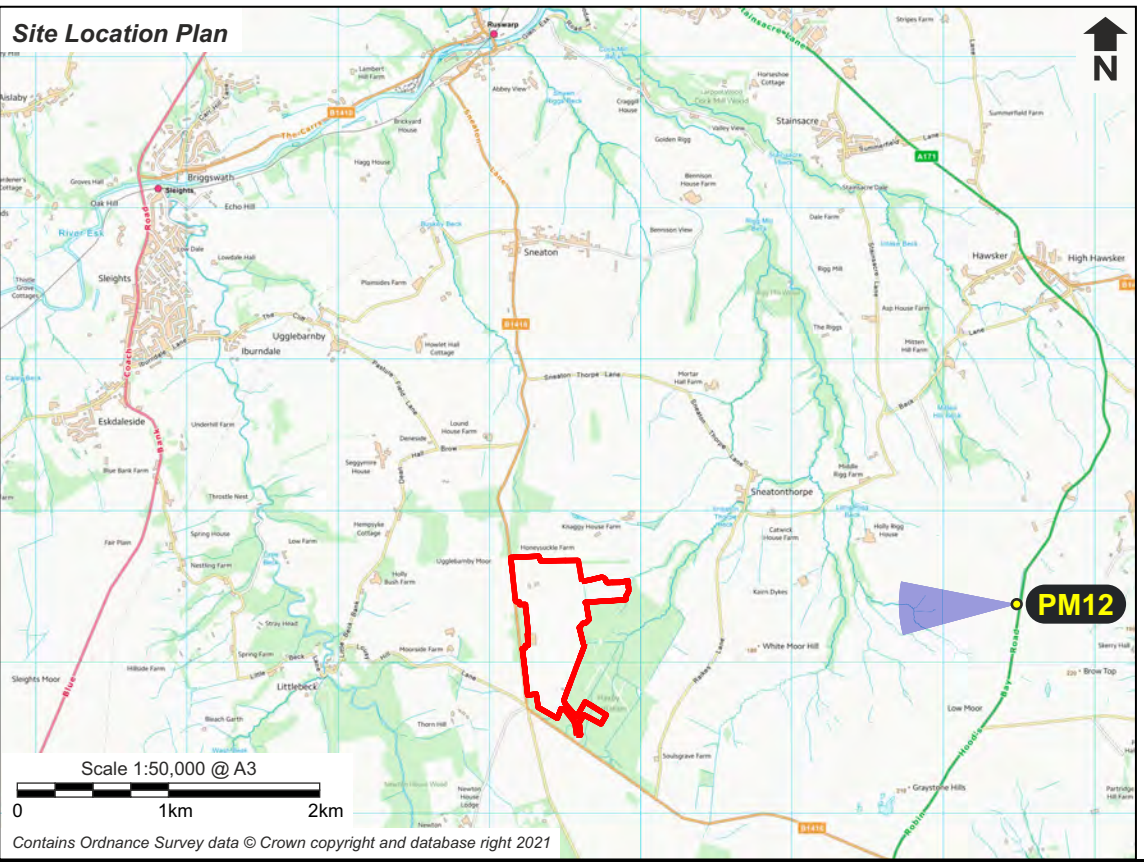
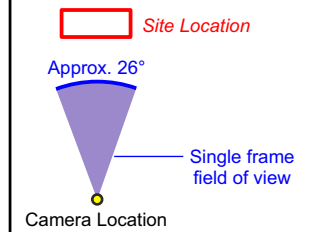
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**NOTES:**

**Grid reference:** E492500 N505394  
**Elevation:** 198m AOD  
**Direction of centre of view:** 268°  
**Horizontal field of view:** Approx. 26°  
**Distance to site boundary:** 2560m

**Camera body:** Canon 5D, Mark IV  
**Lens:** 150mm  
**Camera height above ground level:** 1.5m  
**Time and date of photo:** 4pm, 25/08/2022  
**Weather conditions:** Dry & cloudy, clear visibility

**Correct Viewing Distance**  
 Print at A3 sheet size, view with both eyes at 500mm distance to form a representation of the real scene.



WM	SME	BMA	BMA	
Rev.	Date	Revision Description		
B (PLA)	07/07/2023	PLANNING		
WM	SME	BMA	BMA	
Rev.	Date	Revision Description		
A (IFR)	16/06/2023	REVIEW		
DESIGNER	DESIGN CHECKER	ENGINEER	LEAD ENGINEER	ENGINEERING MANAGER

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**WOODSMITH PROJECT**  
 Title: LANDSCAPE BUND CONSTRUCTION  
 CONDITION NYMNP-57  
**PHOTOMONTAGE VIEW 12**  
 FROM ROBIN HOOD'S BAY ROAD

SCALE @ A3 : NTS

CONT No:



DRG No:	REV
8325-WOB-PA-31-00002	B

REFER DOCUMENT No.	REFER DOCUMENT TITLE
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### Annex 3: Grass Seed Mixes

**GSM 1** Seed Mix for Temporary Topsoil and Subsoil Storage Mounds (apply granular NPK (6:9:6) pre seeding fertiliser at a rate of 50gms/ms prior to sowing.

<b>Topsoil and subsoil storage mounds sowing mix (sowing rate 25gms/m2)</b>		
<b>Common Name</b>	<b>Botanical Name</b>	<b>% by weight</b>
Hard Fescue	<i>Festuca Trachyphylla</i>	30%
Perennial Ryegrass	<i>Lolium perenne</i>	25%
Strong Creeping Red Fescue	<i>Festuca rubra ssp rubra</i>	20%
Smooth Stalked Meadow Grass	<i>Poa pratensis</i>	10%
Browntop Bent	<i>Agrostis capillaris</i>	10%
White Clover	<i>Trifolium repens</i>	5%

**GSM 2** Seed mix for neutral grassland areas, swales and pond banks. No fertiliser to be applied.

<b>EM4 - Meadow Mixture for Clay soils (application rate 4gms/m2, increase seeding rate to 6gms/m2 on swale and pond banks.)</b>		
<b>Common Name</b>	<b>Botanical Name</b>	<b>% by weight</b>
<b>Grasses</b>		
Crested Dog's-tail	<i>Cynosurus cristatus</i>	36.0%
Slender Creeping Red Fescue	<i>Festuca rubra litoralis</i>	24.0%
Common Bent	<i>Agrostis capillaris</i>	10.0%
Smaller Cat's-tail	<i>Phleum bertolonii</i>	4.0%
Sweet Vernal-grass (w)	<i>Anthoxanthum odoratum</i>	2.0%
Meadow Foxtail (w)	<i>Alopecurus pratensis</i>	2.0%
Quaking Grass (w)	<i>Briza media</i>	1.0%
Meadow Barley (w)	<i>Hordeum brachyantherum</i>	1.0%
<b>Wildflowers</b>		
Common Knapweed	<i>Centaurea nigra</i>	3.50%
Lady's Bedstraw	<i>Galium verum</i>	2.50%
Meadow Buttercup	<i>Ranunculus acris</i>	2.00%
Yellow Rattle	<i>Rhinanthus minor</i>	2.00%
Betony	<i>Betonica officinalis</i>	2.00%
Common Sorrel	<i>Rumex acetosa</i>	1.40%
Ribwort Plantain	<i>Plantago lanceolata</i>	1.00%
Selfheal	<i>Prunella vulgaris</i>	1.00%
Meadow Sweet	<i>Filipendula ulmaria</i>	1.00%
Cowslip	<i>Primula veris</i>	1.00%
Devil's Bit Scabious	<i>Succisa pratensis</i>	0.60%
Yarrow	<i>Achillea millefolium</i>	0.50%
Birdsfoot Trefoil	<i>Lotus corniculatus</i>	0.50%

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Oxeye Daisy	<i>Leucanthemum vulgare</i>	0.50%
Meadow Vetchling	<i>Lathyrus pratensis</i>	0.40%
Pepper Saxifrage	<i>Silaum silaus</i>	0.40%
Ragged Robin	<i>Lychnis flos-cuculi</i>	0.20%
Wild Red Clover	<i>Trifolium pratense</i>	0.10%

**GSM 3** Annual Rye-grass

Annual 'Westerwolds' Rye-grass *Lolium multiflorum* at c. 2gms/m<sup>2</sup>

**GSM 4** Tussock Grassland Seed mix for Broadleaved tree planting areas and areas of Scrub tree planting. No fertiliser to be applied.

<b>EG10 - Tussock Grass Mixture (application rate 5gms/m<sup>2</sup>.)</b>		
<b>Common Name</b>	<b>Botanical Name</b>	<b>% by weight</b>
<b>Grasses</b>		
Crested Dogstail	<i>Cynosurus cristatus</i>	20.0%
Cocksfoot	<i>Dactylis glomerata</i>	20.0%
Tufted Hair-grass	<i>Deschampsia cespitosa</i>	5.0%
Red Fescue	<i>Festuca rubra</i>	30.0%
Tal Fescue	<i>Schedonorus arundinaceus</i> ( <i>Festuca arundinacea</i> )	12.0%
Yorkshire Fog	<i>Holcus lanatus</i>	1.5%
Meadow Fescue	<i>Schedonorus pratensis</i>	10.0%
Quaking Grass	<i>Briza media</i>	1.5%

## Annex 4: Woodland, Scrub and Hedgerow Planting Mixes

**TPM 1** Native broadleaved woodland planting mix.

Native Broadleaved Woodland Planting Mix (adapted from NVC W10 and W11 types), average density 2500nr plants/hectare				
Common Name	Botanical Name	%	Size (cm)	Type
Silver birch	<i>Betula pendula</i>	20	45-60	BR
Downy birch	<i>Betula pubescens</i>	10	45-60	BR
Hazel	<i>Corylus avellana</i>	10	60-90	BR
Hawthorn	<i>Crataegus monogyna</i>	10	20-40	BR
Holly	<i>Ilex aquifolium</i>	5	30-45 min 3 breaks	2L
Sessile oak	<i>Quercus petraea</i>	15	20-40	BR
Pedunculate oak	<i>Quercus robur</i>	25	20-40	BR
Rowan	<i>Sorbus aucuparia</i>	5	45-60	BR

**TPM 2** Open scrub planting mix (for 50/50 open scrub/ Tussock grassland zones)

Open Scrub Planting Mix, average density 1500nr plants/hectare				
Common Name	Botanical Name	%	Size (cm)	Type
Silver birch	<i>Betula pendula</i>	25	45-60	BR
Downy birch	<i>Betula pubescens</i>	12	45-60	BR
Hazel	<i>Corylus avellana</i>	15	60-90	BR
Hawthorn	<i>Crataegus monogyna</i>	15	20-40	BR
Holly	<i>Ilex aquifolium</i>	5	30-45 min 3 breaks	2L
Goat willow	<i>Salix caprea</i> *	5	60-90	BR
Grey willow	<i>Salix cinerea</i> *	5	60-90	BR
Rowan	<i>Sorbus aucuparia</i>	5	45-60	BR
Blackthorn	<i>Prunus spinosa</i>	4	40 - 60	BR
Bird cherry	<i>Prunus padus</i>	3	40 - 60	BR
Crab apple	<i>Malus sylvestris</i>	3	40 - 60	BR
Elder	<i>Sambucus nigra</i>	3	40 - 60	BR

\*Willow species to be cut back to 200mm above ground level at the time of planting, to encourage bushy growth. Willows to be planted in wet or damper areas of ground.

**TPM 3** Hedge planting mix.

<b>Hedge Planting Mix, average density 5 per m2</b>				
<b>Common Name</b>	<b>Botanical Name</b>	<b>%</b>	<b>Size (cm)</b>	<b>Type</b>
Blackthorn	<i>Prunus spinosa</i>	20	40 - 60	BR
Elder	<i>Sambucus nigra</i>	3.75	40 - 60	BR
Goat willow	<i>Salix caprea</i>	2.5	60-90	BR
Silver birch	<i>Betula pendula</i>	2.5	45-60	BR
Downy birch	<i>Betula pubescens</i>	2.5	45-60	BR
Hazel	<i>Corylus avellana</i>	3.75	60-90	BR
Hawthorn	<i>Crataegus monogyna</i>	50	20-40	BR
Holly	<i>Ilex aquifolium</i>	3.75	30-45	2L
Field Maple	<i>Acer campestre</i>	2.5	45-60	BR
Pedunculate Oak	<i>Quercus robur</i>	2.5	40 - 60	BR
Wych Elm	<i>Ulmus glabra</i>	2.5	40 - 60	BR
Dog Rose	<i>Rosa canina</i>	3.75	60-90	BR