BROMLEY FARM QUARRY, UPPER CUMBERWORTH

RESTORATION & LANDSCAPING REPORT

November 2025

SILKSTONE ENVIRONMENTAL
GEOTECHNICAL, PLANNING & SURVEYING CONSULTANTS
A PHENNA GROUP COMPANY

BROMLEY FARM QUARRY – RESTORATION LANDSCAPING REPORT

1. Introduction

1.1 Silkstone Environmental has prepared this report to meet the requirements of Condition 9 of planning permission 2023/62/91280/E0 at Bromley Farm Extension, Upper Cumberworth.

1.2 Condition 9 states:

Prior to the exportation of minerals from the site and notwithstanding the submitted restoration plan, a detailed restoration landscaping scheme shall be submitted to and approved in writing by the Mineral Planning Authority. The scheme shall detail the progressive restoration of the site to an agricultural use, achieving the approved levels and contouring as shown on drawing 22007/510, dated Jan 2023, titled 'Restoration Planting Scheme. Furthermore, the scheme shall include:

A) soft landscaping details for all of areas within the application red line,
B) spreading and depths of subsoil and topsoil over the areas to be restored to agricultural use;
C) materials and depth to be placed on the surface of the final waste deposit;
D) ripping of any compacted layers of subsoil to ensure adequate drainage and aeration prior to spreading topsoil;
E) details of cultivation techniques and equipment to be used;
F) grass seeding of areas to be returned to agriculture including details of proposed seed mixture, including species and seed rate, and
G) reconstruction of drystone walls, provision of gates and fences in the local style;
H) new hedgerow and tree planting (including along northern and south western boundaries) with details of species, numbers etc
I) a land drainage scheme for the restored land to be implemented after the completion of settlement
J) the removal of all plant, machinery, structures, all storage/screen mounds; and
K) A programme of works/phases and timescales for all of the above.

1.3 This report describes the details and measures to be taken to restore the land to a sustainable after use.

1.4 The site is to be restored using both overburdens and quarry wastes with the shortfall being from imported inert waste back to original ground levels.

1.5 All soils are to be kept in storage as shown on the approved phasing plans until the final restored profile is completed as they act as both a visual and acoustic barrier for mineral extraction and the waste infilling operations. For this reason, progressive restoration is not possible as the soils are required to remain in-situ until the end of the operations on site.

2. Aims and objectives

2.1 The overall aims for the Bromley Farm Quarry restoration scheme and long term management are to complete its restoration and re-integrate it within its landscape context, and to achieve long term benefit for the landscape character and nature conservation interest of the site and surrounding area.

2.2 The site shall be restored to the approved contours as detailed on Drawing No 22007/510 Rev A in Appendix A by a combination of quarry waste and imported inert materials. Where soils are to be reinstated, the final 0.3 metre depth of overburden and inert materials shall be ripped with a wing tyne subsoiler which is to alleviate compaction prior to replacing the subsoils and topsoil.

2.3 The objectives of the restoration scheme are to:

- Restore an area of minimal landscape value and habitats and restore upon completion of mineral extraction to create an area of increased biodiversity with additional tree cover.
- retain and enhance the mature tree belt by filling gaps on the northern site boundary
- establish a pastoral land use in keeping with the well-managed agricultural landscape of the surrounding area
- enhance the natural environment by providing a range of habitats such as species rich grassland, scrub and woodland.

3. General operations

3.1 The backfilling of the quarry will be in 5 phases as shown on the approved phasing plans, 22007/503 to 508. In general, the fill material will be covered by a layer of subsoil and a layer of topsoil (including any suitable soil material recovered from extraction). The composition of the topsoil layer will be varied, depending on the restoration objective for the area, whether woodland, grassland or scrub. Erosion of soiled areas will be minimised by the establishment of a grass sward as soon as possible after soil placement.

3.2 The restoration plan, 22007/510 (Rev A) in Appendix A, shows the approved restoration scheme The following principal vegetation or habitat areas are proposed to be established within the restored quarry:

- Pasture grassland in the central part of the site, covering approximately 75% of the scheme
- Native species woodland to the south of the site along with existing perimeter woodland enhancement to the north
- Species rich grassland belt to the north and east of the agricultural land
- Scrub planting between the two woodland blocks to the south/south east.

3.3 All seeds and plants are to be UK sourced and grown to comply with current biosecurity standards. Suppliers are to be agreed with the Local Planning Authority.

3.4 The measures for soiling and establishment of the vegetation types within each area are described below.

4. Initial Soil Stripping and Storage

4.1 The initial operations prior to mineral extraction will be to strip and store all available topsoil and subsoil for use in the creation of the various elements of restoration detailed in paragraph 3.2. Richer topsoils are to be stored separately from subsoils and used for restoration of areas where woodland, scrub and modified grassland habitats are to be created.

4.2 Soil storage mounds are to be seeded with an appropriate low maintenance grassland mix to prevent establishment of undesirable, ruderal species such as creeping thistle or docks which may cause problems during site restoration.

4.3 Soils will be handled as detailed in the MAFF Good Practice Guide for Handling Soils. Objects greater than150mm in any direction brought to the surface by this cultivation will be removed from the soiled area. Soils will be placed to achieve, as near as reasonably possible, the levels on the screening bund to the east as shown on Drawing 22007/510.

4.4 The aim of the sub and topsoil replacement is to utilise the stored site soils to achieve a thickness of soil suitable as a growing medium to promote the intended after-use of the land. To this end all activities in the replacement of soils are designed to ensure stability, permeability and freedom from compaction. The agricultural area shall be restored having a subsoil and topsoil profile to replicate the existing prior to quarrying operations commencing. The remainder of the site shall have subsoil and topsoil spread uniformly from the remaining reserves that were stripped and placed into storage bunds on commencement of quarrying operations.

4.5 Soils will be placed to the following depths in each restored habitat type:

Vegetation / Habitat Type	Topsoil Depth	Subsoil Depth
Pasture grassland	15cm	45cm
Native Woodland	30cm	80cm
Scrub	10cm	20cm
Wildflower Grassland	15cm	45cm

5. Soil Replacement

5.1 Prior to the replacement of soils, the soils will be tested by soil sampling for the pH, N:P:K and organic content. The results of these tests will indicate the need, if any, for soil amelioration and the application of fertiliser to correct any deficiencies, which may be present, relevant to the intended after-use of the habitat areas to be created.

5.2 Soils will only be handled when in a dry and friable condition. The criteria for determining dry and friable shall be based on a field assessment of the soils wetness in relation to its Lower Plastic Limit.

5.3 In addition, ground conditions should be such that significant damage is not caused to the ground surface.

5.4 The actual quantities of topsoil and subsoil stored from the stripping operations shall be quantified prior to re-spreading, subsoils shall be respread evenly over the loosened surface to the available thickness with minimal trafficking to prevent unnecessary compaction to the final profile.

5.5 On completion, the topsoil and subsoil will be ripped separately with a subsoiler preferably with a wing tyne suitable for agricultural operations, particularly attention shall be paid to the correct working depth in ensuring the interface with the subsoil is pierced and alleviates any compaction caused through the spreading process. It is important that there is no intermixing of subsoil with topsoil in carrying out this operation.

5.6 All works impacting soils shall be carried out when soil moisture levels are suitable to prevent compaction, the machines used in carrying out this operation shall be tracked vehicles whenever possible with low ground pressure tracks.

Modified Grassland Areas

5.7 The soils on these areas to shall be cultivated with typical operations consisting of discing, harrowing and rolling to produce a fine firm seedbed into which to sow grass seeds. Stone picking will be carried out as necessary to remove any material that would impede agricultural operations.

Woodland and Scrub Planting Areas

5.8 Prior to planting, the area should be subject to subsoiling slightly across the contours at 2 metre centres over the area in which the trees will be planted. This operation will assist tree roots to penetrate, establish and promote the movement of and retention of water along the rip lines, in all aiding the development of the plants.

Other Neutral Grassland

5.9 Topsoil with lower nutrient levels will be prioritised for spreading on areas where other neutral grassland is to be created and compaction reduced as recommended above.

6. Seeding

6.1 The specified grass seed mixes should be sown 3 days after the application of fertiliser, at the sowing rates specified below. Seed will be applied with equal quantities of seed sown in two passes at right angles to one another.

6.2 The approved seed mixes are detailed below:

Agricultural Grassland		
Perennial Ryegrass	Fenema	8.0
Perennial Ryegrass	Gilford	12.0.
Perennial Ryegrass	Glen	8.0
Timothy	Motim	3.0
White Clover	Avoca	1.0
White Clover	Menna	2.0
Creeping Red Fescue	(Festuca rubra rubra)	8.0
Seed Rate per Ha	42.0 Kg/ha	

Tree Areas	
Strong Creeping Red Fescue	21.0
Highland Browntop	**7.0**
Smooth Stalked Meadow grass	4.0
Hard Fescue	**4.0**
Seed rate per Ha	36.0 Kg/ha

Wildflower Grassland			
Wild Flowers	**%**	**Grasses**	**%**
Yarrow	0.5	Common Bent	10
Common Knapweed	1.0	Crested Dogstail	36
Tufted Vetch	2.0	Red Fescue	25
Wild Red Clover	0.5	Smaller Cat's tail	4
Yellow Rattle	1.5	Vernal-grass	1
Lady's Bedstraw	2.1	Meadow Foxtail	4
Oxeye Daisy	2.0		80
Birdsfoot Trefoil	0.5		
Ribwort Plantain	1.0		
Cowslip	1.0		
Selfheal	2.2		
Meadow Buttercup	3.5		
Common Sorrel	1.0		
Pepper Saxifrage	1.0		
Ragged robin	0.2		
	20	Sowing rate 4 grams per M^2	

7. Weed control

7.1 Areas soiled during the period beginning October to end April will be treated with herbicide to control weed growth, including docks, thistles and nettles, prior to seeding in the spring.

7.2 The storage, use, and disposal of chemicals will be strictly in accordance with the current Control of Pesticides Regulations and COSHH legislation and the manufacturer's instructions.

8. Establishment

Grassland areas:

8.1 Once the grass had germinated and was growing sufficiently strongly, it would be cut monthly during the growing season until well established. Thereafter it would be managed by conventional agricultural techniques for silage production. Applications of compound fertilizer would be made where soil analyses indicated the need.

8.2 Grass areas will receive 1 to 2 cuts during the initial growing season but outside of the main flowering and seed setting period (approximately April to July) to a height of 100mm. The minimum height of cut will be 50mm and the maximum allowable height of the grass will be 150mm.

8.3 Fertilizer applications will be undertaken, subject to soil analysis.

8.4 Management of the grassland areas would be required to prevent scattered trees and scrub encroaching on grassland areas would be removed where appropriate.

Woodland

8.5 The woodland planting aims to produce a woodland type suited to the site and the likely soil or growing medium available. The planting is of native species as detailed below.

8.6 Tree establishment will be by traditional methods of planting using forestry transplants and root trainers. Planting to be carried out in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape. Trees will have individual biodegradable guards.

8.7 Planting will be undertaken between mid-October and April and individual plants notch planted at 3.0m centres in single species blocks of 3, 5 or 7 no. per group. Typical species mixes would be:

Native trees planting at 2 metre centres		
Species	**Specification**	**% to be planted**
Silver Birch	60-90 cm Bare rooted	15
Rowan	60-90 cm Bare rooted	10
Common Alder	45-60 cm Bare rooted	10
Goat Willow	45-60 cm Bare rooted	10
Scots Pine	45-60 cm Bare rooted	15
Shrubs /trees planting at 1.5 mtre centres		
Holly	Container grown	2.5
Hawthorn	45-60 cm Bare rooted	7.5
Hazel	45-60 cm Bare rooted	5.0
Guelder Rose	45-60 cm Bare rooted	5.0
Alder	45-60 cm Bare rooted	5.0
Silver Birch	45-60 cm Bare rooted	5.0
Goat Willow	45-60 cm Bare rooted	5.0
Blackthorn	45-60 cm bare rooted	5.0

Hedgerows

8.8 To create 150m of native hedgerow with trees along the western boundary to replace those lost during the quarry operations to deliver the 0.3 biodiversity units specified in the BEMP Planning Condition. Prior to planting, remove all debris and stones over 50mm diameter along the planting length. Carry out weed control as necessary. All hedging plants are to be planted as 1+1 transplants in double staggered rows at 2 plants per linear meter with species mixed evening across the length. Hedge plants to be slit planted, carefully replacing any backfill and heel well in. Trees to grow on into hedgerow standards to be planted randomly but an at average of one plant per 5m length.

8.9 Hedgerows to be maintained at a height of 1.5m and 1.0m wide. Identified hedgerow trees allowed to develop and become established specimens. Hedge trimming to be undertaken in January- February on a two- or three-year rotation with no more than 50% of the hedgerows cut in a single year, to ensure thick nesting cover is available.

8.10 If fencing is not used to protect the hedgerow, appropriate tree shelters/guards must be used to prevent rabbit damage.

8.11 Annual monitoring in first 5 years and all dead or poorly developing hedge plants and trees to be replaced with new plants of same species at the next available planting season.

8.12 Vegetation growth will be monitored to identify any weed control measures that may be required

Mixed Scrub

8.13 The aim is to maintain a mixed age range of scrub and to maintain open areas of agricultural grassland. The long term management will include maintenance of small open glades within the planted area by removal of pioneer saplings on a rotational basis once every 5 years depending upon the degree of natural scrub establishment

8.14 Annual monitoring will be undertaken in first 5 years and all dead or poorly developing trees to be replaced with new plants of same species at the next available planting season.

8.15 Vegetation growth will be monitored to identify any weed control measures that may be required and check for appropriate time to remove tree shelters/guards if used.

9. Management of Habitats

9.1 Applications of herbicides or pesticides only to be carried out by prior agreement and where necessary to prevent the establishment of undesirable or pernicious species

9.2 Shrubs or trees which die or appear sickly, to be replaced in the autumn/winter.

- Pruning, checking of guards/shelters
- Annual aftercare meetings to review progress to date
- Invasive weeds to be removed; noxious or notifiable weeds invading the site such as thistles

9.3 In the area of the site being managed by grazing, stockproof fencing will be erected and maintained, to prevent grazing damage to the areas of woodland, hedgerows and scrub.

9.4 Maintenance operations would include:

- Planted areas to be maintained weed-free during the establishment period
- Pruning of trees and shrubs to encourage even and healthy growth
- Tree/shrub ties, stakes and rabbit-guards checked and adjusted or replaced
- Heeling-in plants suffering from frost heave.
- Boundary fences and gates to be checked during each maintenance visit and adjust posts adjusted, wires re-strained and any damage, repaired as necessary.

9.5 Any outbreaks of weeds will be controlled by the use of an appropriate herbicide in accordance with manufacturer's instructions and Environment Agency regulations.

10. Drainage

10.1 The post-restoration drainage system would incorporate filtration during runoff across vegetated surfaces, followed by settlement and aeration in the stormwater attenuation pond.

10.2 Interception ditches, such as French drains shall be constructed at strategic points, where surface flows are likely to occur, these ditches shall be of shallow cross sections and gradients to prevent erosion. During the aftercare period the drainage characteristic of the site will be assessed. At the annual aftercare meeting any additional drainage works will be reviewed and if appropriate remedial work agreed for implementation.

11. Fencing

11.1 The fencing indicated will provide stock proofing for the agricultural enclosure and protect the proposed woodland shrub areas, which will be set out in accordance with the approved plan.

11.2 Fencing will be erected on completion of the soiling operations, any initial drainage works and the creation of other physical features. The boundaries will comprise of stock proof fencing of either square or round timber posts driven to give a fence height of 1.2 metres of galvanised stock proof mesh with two strands of barbed wire above.

11.3 Access gates of suitable size to allow for the maintenance of the woodland/shrub areas, shall be installed as appropriate.

Fig 1 – Fencing Style

12. Monitoring

12.1 An annual review of the restored vegetation, drainage and other restoration features will be carried out by the Landowner and management regimes modified where necessary in response to development of the habitats, for example, should dormice become established, it will be necessary to modify the management of the woodland and scrub. The results of this monitoring will be submitted with the annual aftercare report.

12.2 The performance of the grassland swards will be monitored throughout the 5-year aftercare period and any necessary modifications to the mowing regimes required to suit the site will be agreed with the Mineral Planning Authority.

13. Aftercare programme and site records

13.1 An annual site meeting between the Landowner and the Mineral Planning Authority will be held in November of each year of the aftercare period, or at a time to be agreed. The performance of the previous year's aftercare will be reviewed, and the detailed programme will be agreed for the following year.

13.2 Detailed site records of the aftercare programme will be kept and made available to the Mineral Planning Authority two months in advance of the annual aftercare site meeting.

14. Summary Table

Item	Years				
	1	2	3	4	5
Other Neutral Grassland					
Cultivation of soils and re-seeding at the end of the site restoration	✓				
Cutting of vegetation in spring to aid sward development in Year 2	✓				
Cut of vegetation and removal of hay crop (July-August)			✓	✓	✓
Conservation grazing of aftermath with cattle		✓	✓	✓	✓
Monitoring of vegetation establishment	✓	✓	✓	✓	✓
Assessment of success of vegetation establishment			✓		✓
Tree and Shrub Planting					
Cultivation of soils and re-seeding at the end of the site restoration	✓				
Planting of trees and fencing of area or use installation of tree shelters/guards	✓				
Monitoring of tree establishment		✓	✓	✓	✓
Replacement of dead or poorly performing trees		✓	✓	✓	✓
Monitoring of ground vegetation development and assessment for management		✓	✓	✓	✓
Fence inspection and repair – checking of tree shelters/guards	✓	✓	✓	✓	✓
Hedgerow Planting					
Planting of hedgerow and fencing of area or use installation of tree shelters/guards	✓				
Monitoring of hedgerow establishment		✓	✓	✓	✓
Replacement of dead or poorly performing trees		✓	✓	✓	✓
Monitoring of ground vegetation development and assessment for management		✓	✓	✓	✓
Fence inspection and repair – checking of tree shelters/guards	✓	✓	✓	✓	✓
BEMP Monitoring and Review					
Review of Plan Aims and Objectives		✓	✓	✓	✓
Preparation of annual review to be submitted to Kirklees Council by 30 November each year.		✓	✓	✓	✓
Preparation of new 5 year rolling BEMP					✓

Silkstone Environmental
November 2025

APPENDIX A
22007/510 Rev A
RESTORATION PLAN

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Planning Application Area

Normal contour (mAOD)

225 Prominent contour (mAOD)

Rev	Description	Date	By	Chkd

Client: wavin

Project: BROMLEY FARM EXTENSION

Plan Title: Restoration Planting Scheme

Drawing No. 22007/510	Rev A
Project No. 22007	
Date: Jan 2023	
Scale: 1:2000 @ A3	
Drawn: MS	
Chkd: PS	