

The Network Rail (Buxton Sidings Extension) Order

Landscaping

Formal Submission **Planning Condition 4 (Part 2)**

Part 2 Includes:

A: 5-Year Landscape Management Plan

B: Landscape Works Specification

Document References	A: 661729\04\03 B: 661729\04.01
Author	Buckingham Group on behalf of Network Rail
Date	June 2018
Revision number	2.0



Buckingham Group Contracting Ltd.

Buxton Sidings

Five Year Landscape Management Plan

661729\04\03 Rev03

12/03/2018

RSK

RSK GENERAL NOTES

Project No.: 661729\04\03 Rev03

Title: Landscape Management Plan for initial mitigation works and ongoing maintenance of Buxton Sidings

Client: Buckingham Group Contracting Ltd.

Date: 12/03/18

Office: Manchester

Status: For Issue

Author Emily Wilkinson

Technical reviewer Lynne Houlbrooke

Signature 

Signature 

Date: 12/03/18

Date: 12/03/18

Project manager Chris Frain

Signature 

Date: 12/03/18

RSK Environment Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

CONTENTS

1	INTRODUCTION	1
1.1	Summary	1
2	LANDSCAPE APPRAISAL	2
2.1	Introduction	2
2.2	Site description	2
2.2.1	Public Access	2
2.3	Designations	2
2.4	Current condition	2
3	MAINTENANCE & MANAGEMENT STATEMENT	4
3.1	Statement	4
3.2	Aims	4
3.3	Objectives	4
3.3.1	Reinstate areas of agricultural grassland for grazing	4
3.3.2	Plant shrub belt northwest of the new sidings	4
3.3.3	Open Species Rich Grassland	4
3.3.4	Species Rich Hedgerow	4
3.3.5	Calcareous substrate for natural colonisation	5
4	MANAGEMENT PRESCRIPTIONS	6
4.1	General Principles	6
4.1.1	General Maintenance Principles	6
4.1.2	General Management Principles	7
4.2	Landscape Implementation	7
4.2.1	Landscape Implementation Timetable	7
4.3	Landscape Management for Implementation and Establishment	8
4.3.1	Existing birch woodland	8
4.3.2	Low maintenance tussock grassland and native shrub belt	8
4.3.3	Native Hedgerow	8
4.3.4	Open Species Rich grassland	8
4.3.5	Agricultural Grassland with Pollinators	9
4.4	Five Year Landscape Management	10
4.4.1	Existing birch woodland	10
4.4.2	Low maintenance tussock grassland and native shrub belt	10
4.4.3	Native Hedgerow	10
4.4.4	Open Species Rich Grassland	10
4.4.5	Agricultural Grassland with Pollinators	11
5	APPENDIX	12
5.1	Five Year Landscape Maintenance Programme	12
5.1.1	Overview	12

1 INTRODUCTION

1.1 Summary

This Five Year Landscape Management Plan has been prepared by RSK on behalf of Buckingham Group Contracting Ltd. who have commissioned a Landscape Management Plan, Implementation timetable and Landscape Maintenance Works Schedule for the extension of rail sidings North East of Buxton, on behalf of Network Rail Infrastructure Ltd.

This document has been prepared in conjunction with the Soft Landscape Design (Ref: 6617/04/02), Landscape and Ecological Mitigation (Ref: 660584_FIGURE_F1.11) and Tree Removal Plan (Ref: 6617/04/01), and alongside the Ecological Management Plan produced by NLG Ecology Ltd.

The purpose of this management plan is to provide a methodology to enforce the goals of the site design, whilst creating an ecologically diverse and functional landscape. It has been drafted in the interest of ecological mitigation and to further increase ecological value of the area, alongside informal recreational value through a low maintenance approach.

Management operations have been scheduled for five years. The new planting scheme is to integrate the proposed development into the existing landscape and encourage an increase in species diversity. Management will be undertaken in accordance with best horticultural practices.

The management of habitats and the public is an imprecise science. In order to undertake such management, assumptions must be made about the direction that a habitat will take. The management plan is a document that may change and adapt as required as conditions of the site change over time.

2 LANDSCAPE APPRAISAL

2.1 Introduction

The proposed Scheme forms part of the Peak Forest to London Freight Programme (“the Programme”) which is one element of the national Strategic Freight Network Programme. The Programme is seeking to increase freight capacity between the Peak Forest and Hope Valley terminals and London via Dore South Junction and the Midland Mainline; as part of the scheme Buxton sidings will be extended. The Site is located within a shallow valley adjacent to the existing Buxton to Edgeley Junction Passenger Line, on the northern edge of Buxton. This management plan relates to the Soft Landscape Details drawing ref: 661729/04/02 and Landscape Maintenance Specification document ref: 661729/04/04.02.

2.2 Site description

2.2.1 Public Access

The northern extents of the Site comprise an undulating area of damp, rough grazing agricultural grassland some of which is to be reinstated after completion of the works. An offshoot of the main Site area extends eastwards up the valley side, broadly following the route of a farm access track and PRow (Buxton FP4) extending through to the A6. The mid extents of the Site comprise an area of made ground associated with the former tip with scrub and mature trees and includes remnant evidence of buildings and access roads. This vegetation is to be removed due to remediation works to the former landfill site and the area landscaped to create an informal space with public access. A PRow (Buxton FP 1) connecting Brown Edge Road with the residential area of Fairfield on the opposite valley slopes passes through the Site on the southern edge of the former tip; this includes a footbridge crossing point over the existing Buxton to Edgeley Junction Passenger Line, which is to be extended over the proposed siding extension. The southernmost extents of the Site coincide with an area of mature vegetation, consists primarily of self set birch and willow, established on an area of former railway sidings. Adjacent to this is an area of allotments and sheds located outside the Site boundary.

2.3 Designations

The southern part of the site falls within the Local Wildlife Site, HP026 Railway Land Hogshaw (Former Sidings). The extent of Site boundary associated with the proposed A6 construction access track coincides with the north western extents of the Fairfield Conservation Area. No TPO's exist on the site.

2.4 Current condition

The northern part of the site is currently agricultural land used for grazing, and includes a number of poor quality dry stone walls and mature Ash trees lining an access track joining the A6. This land is to be reinstated back to agricultural use after the works.

Toward the centre of the site, a mosaic of semi-improved grassland, tall ruderal, scrub and broadleaf woodland of mainly birch and willow species, cover the former Hogshaw tip area.



The southern part of the site includes areas within Hogshaw Local Wildlife Site. Most of the area is covered by semi improved grassland with groups of semi-mature birch. There are also patches of scrub and tall ruderal vegetation. Areas of hardcore form access tracks through this part of the site. Groups of birch have been cut to ground level and with new growth now beginning to show.

3 MAINTENANCE & MANAGEMENT STATEMENT

3.1 Statement

The establishment and future success of the external landscape is largely dependent on the standard and frequency of the maintenance and management it receives. For a five year period following implementation, a maintenance and management regime will be adopted with the following aims and objectives

3.2 Aims

- To establish a landscape environment which integrates the site with its surroundings, and strengthens the character of the wider area.
- To protect and create valuable habitat and increase biodiversity and wildlife corridors.
- Promote features of the site that hold historical relevance and strengthens landscape character.
- To increase visual amenity of the area and allow informal public access.

3.3 Objectives

3.3.1 Reinstate areas of agricultural grassland for grazing

1.6 Ha of grassland is to be reinstated back to agricultural grazing north of the site. Grassland mixes to be agreed with landowners. Once implemented, land is to be returned to landowners for grazing.

3.3.2 Plant shrub belt northwest of the new sidings

The shrub belt northwest of the new sidings is to provide screening to the adjacent residential housing and any future housing schemes. The shrub belt is also to provide improved connectivity for wildlife and increased biodiversity, by including flowering and fruiting species.

3.3.3 Open Species Rich Grassland

Areas of open grassland allows for informal public access and recreation, providing space for a variety of activities. The area comprises of species-rich grassland with wildflower helping to improve the biodiversity of the open space as well as being low maintenance.

3.3.4 Species Rich Hedgerow

The addition of native species rich hedgerow aims to create a wildlife corridor from the north of the site to the Derbyshire Local Wildlife Site.

3.3.5 Calcareous substrate for natural colonisation

Throughout the southern part of the site, patches of Calcareous substrate are to be left to naturally colonise. This is to provide a mosaics of grassland habitat, improving the biodiversity the existing grassland.

4 MANAGEMENT PRESCRIPTIONS

During the five year (sixty month) maintenance period, operations are covered by the requirements set out in the landscape maintenance specification. Management objectives are focussed on achieving the objectives described in the Management and Maintenance Statement and facilitated by the maintenance operations described within the Landscape Maintenance Programme (Appendix 1).

4.1 General Principles

This management plan has proposed:

- Initial implementation timetable for landscape works through the duration of the construction period.
- Establishment of new vegetation and improvement of existing vegetation over the first year.
- Management and Maintenance of new and existing vegetation over a five year period.
- Adoption of beneficial land management practices.
- All works involving the clearance of vegetation or cutting of hedges will be carried out outside of bird nesting season, in the period of October to March.
- Throughout works, public access will be maintained along PROWs and permissive routes where possible. When this cannot be achieved, alternative routes or temporary closures will be sought.
- Notification will be provided to relevant local stakeholders prior to the commencement of works, with notices erected explaining the purpose of works.

4.1.1 General Maintenance Principles

Maintenance operations can be defined in general as short-term regular operations that are required on a day-to-day, week-to-week basis, such as weeding. However, reseeding to areas of grassland where establishment has been unsuccessful and maintenance work to the slopes of the mounds has been included as one off and in some cases provisional maintenance operations. Planting areas are to be maintained with weed free stations around the base of individual plants within a mosaic of grassland to be maintained under a range of mowing regimes. No fertiliser is required on the site during or after planting to preserve the low nutrient content in soils; however compost is to be included in planting pits of shrubs and hedgerows to aid establishment. All vegetation arisings, apart from roots, are to be kept onsite as compost heaps and hibernacula piles in suitable locations near to the eastern site boundary, close to Nunn Brook, for invertebrates and amphibians.

The maintenance schedule for the sixty month maintenance period is detailed in Landscape Maintenance Programme (Appendix 1). The frequency of such operations remains flexible in order that response can be made to any change in circumstances. The maintenance schedule will therefore need to be reviewed on an annual basis to determine the exact requirements to suit the management objectives.

4.1.2 General Management Principles

Management operations can be defined as cyclical operations over a number of years such as the establishment of a multi-storey canopy structure to planting areas. The proposed management regime draws on the sequence of maintenance operations to achieve the management objectives, and is detailed in the Landscape Maintenance and Management Programme. This sets out operations for a five year period following implementation.

4.2 Landscape Implementation

The following implementation timetable is produced on the assumption that construction works will be completed March 2019, in one complete stage with land not being ready for soft landscaping in phases.

4.2.1 Landscape Implementation Timetable

Date	Area	Activity
March 2019	All	Construction works complete including earthworks.
June/July 2019	All	Erecting of fencing and earthworks if not already completed as part of construction works. Lay calcareous substrate.
September/October 2019	All new grassland areas	Grass seeding and associated works.
November/December 2019	All	Tree, shrub and hedgerow planting.
January 2020	All	Start of 5 year maintenance plan

4.3 Landscape Management for Implementation and Establishment

4.3.1 Existing birch woodland

4.3.1.1 Birch woodland

Check the condition of birch woodland by qualified arborists to ensure safety. Deadwood and remove diseased branches November/December. Install bird and bat boxes to suitable mature or semi-mature trees.

4.3.1.2 Calcareous substrate for natural colonisation

Lay calcareous substrate in locations shown on Drawing 661729/04/02 Soft Landscape Details, and leave to colonise naturally. Inspections in spring to determine the maintenance of these areas.

4.3.2 Low maintenance tussock grassland and native shrub belt

4.3.2.1 Tussock grassland

Sow EM10 tussock grass seed with wildflower in September to areas indicated on drawing 661729/04/02 Soft Landscape Details. This is mainly on the slopes/banks of the new sidings. Cut to a height of 40-60mm three times during the first year of establishment in June, August and October. Minimal maintenance is required after the first year.

4.3.2.2 Shrub Belt

Plant native shrub species in triple staggered rows in locations shown on drawing 661729/04/02 Soft Landscape Details, mainly around the top of the bank of the new sidings, adjacent new fence line and crest drain. Shrub belt to have 1.5m buffer from fence. Add compost to planting pits, no fertiliser is required. Once established maintain as a shrub belt to provide screening and wildlife connectivity. Inspections required to determine maintenance.

4.3.3 Native Hedgerow

4.3.3.1 Hedgerow

Plant native hedgerow species in triple staggered rows in locations shown on drawing 661729/04/02 Soft Landscape Details. Add compost to planting pits. Exclude large tree species from former landfill site.

4.3.4 Open Species Rich grassland

4.3.4.1 Species Rich Grassland with Native Wildflower

Sow EM3 seed mix to areas shown as Species-Rich Grassland on Drawing 661729/04/02 Soft Landscape Details in September to specification. Cut to a height of 40-60mm three times during the first year of establishment in June, August and October.

4.3.5 Agricultural Grassland with Pollinators

4.3.5.1 *Grassland for grazing*

Grass seed mixes agreed with landowners to be sown in location of the temporary compound and access track and in all areas disturbed by works.

4.4 Five Year Landscape Management

4.4.1 Existing birch woodland

4.4.1.1 Birch woodland

Check the condition of birch woodland by qualified arborists to ensure safety, deadwood and remove diseased branches annually out of bird nesting season. Install bird and bat boxes to suitable mature or semi-mature trees.

4.4.1.2 Calcareous substrate for natural colonisation

Annual spring inspection to be carried out to determine maintenance of areas. Annual cut in September envisioned.

4.4.2 Low maintenance tussock grassland and native shrub belt

4.4.2.1 Tussock grassland

Cut lush growth regularly between August and February in Year 1. Then as and when required in October - February during Year 2 onwards. Cuts envisioned every 2-3 years. Spot treat residual weeds and docks.

4.4.2.2 Shrub Belt

During the five year period, undertake annual checks for plant defects (dead and diseased plants) in late summer/autumn. Replace defective plant material in the next available planting season (November to March). Not to be maintained as a hedge but as a shrub belt to 3m height. Regular inspections required to determine longer term maintenance. Thinning to be considered in Year 5.

4.4.3 Native Hedgerow

4.4.3.1 Hedgerow

During the five year period, undertake annual checks for plant defects (dead and diseased plants) in late summer/autumn. Replace defective plant material in the next available planting season (November to March). Once established manage as hedge to a height of 1.5m by topping and siding on a rotation every two years to allow for flowering and fruiting. Avoid cutting in bird nesting season.

4.4.4 Open Species Rich Grassland

4.4.4.1 Species Rich Grassland with Native Wildflower

Species rich grassland within the site is only to be maintained for the initial year of establishment.

4.4.5 Agricultural Grassland with Pollinators

4.4.5.1 *Grassland for grazing*

Grassland to be handed to landowners for grazing.

5 APPENDIX

5.1 Five Year Landscape Maintenance Programme

5.1.1 Overview

- Inspections by Landscape Architect twice yearly in March and August.
- Inspections by Ecologist biannually
- Removal of litter, rubbish, arising and debris to whole site four times per year.
- Weed control to all seeding and planting areas twice a year in May and August.
- Inspect fencing three times per year and repair damaged fencing when required.
- Inspect and adjust stakes, guards and ties, and re-firm plants three times per year.
- Remove stakes, guards and ties once a year in Year 3, Year 4 and Year 5.
- Removal of dead and diseased plants identified during site inspections between November and March.
- Replacement of failed plants once yearly November to March.
- Establishment watering to all new planting and seeding areas, as and when required and in periods of drought.
- Grass cutting of EM3 species rich grassland. Three times in Year 1 in June, August and October.
- Inspection once a year in April. Grass cutting to areas of calcareous substrate once a year in October.
- Grass cutting to EM10 tussock grassland, three times per year in Year 1 in June, August, October. One cut in Year 2 October/November, one cut in Year 5 in October/November. Additional cuts may be required in Year 3 or Year 4.
- Pruning of shrub belt once a year between September and November.
- Rotational topping and siding to hedgerow once a year between September and November.

Buxton Sidings Works: Landscape Maintenance and Management Programme

[illegible]



Buckingham Group Contracting Ltd.

Buxton Sidings

Landscape Works Specification

661729\04\04.01 Rev02

07/03/2018

RSK

RSK GENERAL NOTES

Document No.: 661729\04\04.01 Rev02



Title: Landscape Maintenance Specification for ongoing maintenance of Buxton Sidings

Client: Buckingham Group Contracting Ltd.


Date: 07/03/18

Office: Manchester

Status: For Issue

Author	<u>Emily Wilkinson</u>	Technical reviewer	<u>Lynne Houlbrooke</u>
Signature		Signature	
Date:	<u>07/03/18</u>	Date:	<u>07/03/18</u>

Project manager Chris Frain

Signature 

Date: 07/03/18

RSK Environment Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

Table of Contents

Title		Page
D20	Excavating and filling	1
Q28	Topsoil and soil ameliorants	3
Q30	Seeding/turfing	9
Q31	External planting	13
Q35	Landscape maintenance	19
Q40	Fencing	26
Q50	Site/street furniture/equipment	29

D20 Excavating and filling

To be read with Preliminaries/General conditions

GENERALLY/THE SITE

145 VARIATIONS IN GROUND WATER LEVEL

- Give notice: If levels encountered are significantly different from levels in the site investigation report or previously measured.

150A EXISTING SERVICES, FEATURES AND STRUCTURES

- Services: Refer to Maintenance Contract information.
- Site features to be retained: Refer to Maintenance Contract information.
- Structures: Refer to Maintenance Contract information.

CLEARANCE/EXCAVATING

164 TREE ROOTS

- Protected area: Do not cut roots within precautionary protection area.
 - Size of area: As drawing 661729.04.01 Tree Removals Plan.
- Excavation in protected area:
 - Method: By hand.
 - Backfill as soon as possible or temporarily line with polyethylene sheet to reduce evaporation.
- Outside protected area: Give notice of roots exceeding 25 mm and do not cut without approval.
- Cutting:
 - Make clean smooth cuts with no ragged edges.
 - Pare cut surfaces smooth with a sharp knife.
 - Treatment of cut roots: Not required.
- Backfill: As dug material only.

168A SITE CLEARANCE FOR SURFACING

- Timing: Before topsoil stripping, if any.
- General: Clear site of rubbish, debris and vegetation. Do not compact topsoil.
- Treatment: Apply a suitable residual herbicide to areas to receive gravel surfacing.

168B SITE CLEARANCE FOR PLANTING

- Timing: Before topsoil stripping, if any.
- General: Clear site of rubbish, debris and vegetation. Do not compact topsoil.
- Treatment: Apply a suitable non-residual herbicide to areas to receive planting.

170 REMOVING SMALL TREES, SHRUBS, HEDGES AND ROOTS

- Identification: Clearly mark trees to be removed.
- Small trees, shrubs and hedges: Cut down
- Roots: Grub up and dispose of without undue disturbance of soil and adjacent areas
- Safety: Comply with HSE/ Arboriculture and Forestry Advisory Group safety leaflets.

175 FELLING LARGE TREES

- Definition: Girth over 600 mm.
- Identification: Clearly mark trees to be removed.
- Safety: Comply with HSE/ Arboriculture and Forestry Advisory Group safety leaflets.
- Felling: As close to the ground as possible.
- Stumps: Remove by stump grinding.
- Work near retained trees: Take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained, where tree canopies overlap and in confined spaces generally.

180 CHIPPING AND SHREDDING

- General: Permitted, spread arisings on site in areas designated.

220A STRIPPING TOPSOIL

- General: Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, temporary compounds, roads, excavations and other areas shown on drawings.
- Depth:
 - Remove to an average depth of To full depth of topsoil.
 - Give notice where the depth of topsoil is difficult to determine.
- Handling: Handle topsoil for reuse or sale in accordance with clause 225.
- Around trees: Do not remove topsoil from below the spread of trees to be retained.
- Site storage: To store separate from subsoil if possible.

221A TREATING SOILS

- Treatment: Apply a suitable translocated nonresidual herbicide.
- Timing: Not less than two weeks before excavating soil.

225A HANDLING SOILS

- Standard: To BS 3882.
- Aggressive weeds:
 - Species: Included in the Weeds Act, section 2 or the appropriate Wildlife and Countryside Act for the relevant jurisdiction.
 - Give notice: Obtain instructions before moving soil.
- Contamination: Do not mix soil with:
 - Stone, hardcore, rubbish or material from demolition work.
 - Other soil or material containing aggressive weeds, sharps, plastics and non soil forming materials and notifiable animal or plant diseases.
 - Oil, fuel, cement or other substances harmful to plant growth.
- Multiple handling: Keep to a minimum.

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

SYSTEM OUTLINE

- 115 SOIL SYSTEM FOR GRASS SWARDS FOR ALL GRASSED AREAS AND WILDFLOWER
 - Composition:
 - Soil: Excavated material.
 - Ameliorants: None.
 - Accessories: None.
- 145 PLANT PIT BACKFILLING SOIL SYSTEM FOR ALL SHRUB AND HEDGEROW PLANTING
 - Composition:
 - Topsoil: Excavated material.
 - Ameliorants: Organic materials/ Compost.
 - Accessories: None.
- 155 MULCHING AND TOP DRESSING SYSTEM FOR SHRUB PLANTING
 - Composition:
 - Material: Organic materials.

PRODUCTS

- 300A PREPARATION MATERIALS GENERALLY
 - Purity: Free of pests and disease.
 - Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
 - Contamination: Do not use topsoil contaminated with rubbish or other materials that are:
 - Corrosive, explosive or flammable.
 - Hazardous to human or animal life.
 - Detrimental to healthy plant growth.
 - Objectionable odour: None.
 - Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in planting media to be imported.
- 305 PERMITTED MATERIALS
 - Materials:
 - Bark;
 - Composted bark;
 - Composted green/ food waste certified to PAS 100; and
 - Spent mushroom compost.
 - Give notice: before ordering or using.
 - Declaration of compliance in accordance with BS EN 13650: Required.

EXECUTION

610A SOIL ANALYSIS

- Soil to be analysed: Soil stockpiles.
- Soil analyst: As remediation strategy method statement.
- Samples: Collect in accordance with BS 3882.
- Submit:
 - Declaration of analysis: Nutrient content, pH value and textural classification.
 - Report detailing soil analyst's recommendations.

625 SAMPLE LOADS FOR IMPORTED COMPOST

- Deliver to site a sample load: of 5 kg.
- Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
 - Notice period: 7 days.

635 DOCUMENTATION FOR COMPOST AND COMPOSTED MATERIALS FOR COMPOST

- Timing: Submit at handover.
- Contents:
 - Full description of all compost components.
 - Record of source for all compost components.
 - Analyst's report for each test carried out.
 - Declaration of compliance: in accordance with PAS 100 and BSI PD CR 13456.
 - Quality Compost Protocol certification: Required.
- Number of copies: Two.

650 NOTICE

- Give notice before:
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
- Period of notice: 1 week.

650A PREPARATION OF AREA OVER CLAY COVER

- Do not prepare ground or dig to over a depth over 150mm or impact clay cover.

655 MECHANICAL TOOLS

- Restrictions: Do not use within 100 mm of tree and plant stems.

660A GRADING TOPSOIL/SUBSOIL

- General: Grade to smooth flowing contours to achieve specified finished levels of soil.
- Loosening in areas not over cap material:
 - Light and non-cohesive soil: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive soil: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Loosening in areas over cap material:
 - Light and non-cohesive soil: When ground conditions are reasonably dry, loosen thoroughly to a depth of 150 mm.
 - Stiff clay and cohesive soil: When ground conditions are reasonably dry, loosen thoroughly to a depth of 150 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
- Give notice: If required levels cannot be achieved by movement of existing soil.
- Avoid over compaction.

665A TOPSOIL/SUBSOIL SURFACE PREPARATION

- General: Excavate and/ or place fill to required profiles and levels, as section D20.
- Loosening in areas not over cap material:
 - Light and non-cohesive soils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive soils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Loosening in areas over cap material:
 - Light and non-cohesive soils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 150 mm.
 - Stiff clay and cohesive soils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 150 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Stones: Immediately before spreading soil, remove stones larger than 100 mm.
- Remove from site: Arisings, contaminants and debris and Builders rubble.

670 INSPECTING FORMATIONS

- Give notice: Before spreading topsoil for Landform Area Shrub planting and Grass seeding.
- Notice period: 7 days.

675 PREPARATION OF UNDISTURBED TOPSOIL

- Standard: In accordance with BS 4428.
 - Grading and cultivation: Category C.
- Hard ground: Break up thoroughly.
- Clearing: Remove visible roots and large stones with a diameter greater than 75 mm.
- Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
- Fallow period (minimum): Three months.
 - Weed control: At appropriate times treat with a suitable translocated nonresidual herbicide.

680 SURPLUS TOPSOIL TO BE RETAINED

- Generally: Spread and level on site:
 - Locations: Landform Area.
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.

685A SURPLUS MATERIALS TO BE REMOVED

- Stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, and other arisings: Remove.

705A HANDLING SOILS

- Aggressive weeds: Give notice and obtain instructions before moving soil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Contamination: Do not mix soils with:
 - Stone, hardcore, rubbish or material from demolition work.
- Multiple handling: Keep to a minimum.
- Wet conditions: Handle soils in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2.

710A SPREADING SOIL

- Temporary roads/ surfacing: Remove before spreading soils.
- Layers:
 - Depth (maximum): 100 mm.
 - Gently firm each layer before spreading the next.
- Depths after firming and settlement (minimum): As drawing 661729.04.05 Earthworks Plan.
- Crumb structure: Do not compact soil. Preserve a friable texture of separate visible crumbs wherever possible.

715A LOOSE TIPPING OF SOILS

- General: Do not firm, consolidate or compact soil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

718 FINAL CULTIVATION FOR GRASS AND WILDFLOWER SEEDING

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 75 mm.
- Particle size (maximum): 15 mm.
- Timing: After grading and within a few days before seeding.
- Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels: As drawing 661729.04.05 Earthworks Plan.
- Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones with any dimension exceeding 75 mm.

718A FINAL CULTIVATION FOR SHRUB AND HEDGEROW PLANTING

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 75 mm.
- Particle size (maximum): 15 mm.
- Timing: After grading and within a few days before planting.
- Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels: 50 mm above adjoining grassland.
- Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones with any dimension exceeding 75 mm.

720A FINISHED LEVELS OF SOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 25 mm.
- Below dpc of adjoining buildings: Not less than 100 mm.
- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
- Adjoining soil areas: Marry in.

770 SITE-MADE COMPOSTING FACILITIES .

- Material: Treated timber.
- Dimensions: Contractor's choice.
- Location: As drawing 661729.04.02 Soft Landscape Details.

775 SITE-MADE COMPOST FOR SHRUB AND HEDGEROW PITS

- Material: All biodegradable arisings apart from roots, and invasive and residual weeds.

810A APPLYING COMPOST To Tree, Shrub and Hedgerow Planting Pits

- Application rate for tree, shrubs and hedgerow plants: 1.2 m³/100 m².
 - Timing: Apply prior to cultivation.
- Other requirements: Submit 5kg sample before ordering.

815 APPLYING LIME To location shown on drawing 661729.04.02 Soft Landscape Details.

- Spread evenly.
 - Timing: Immediately before cultivation.
 - Rate: 50 g/m².

845 APPLYING LOOSE MULCH To all shrub and hedgerow planting

- Timing: Immediately after planting.
- Preparation: Ensure that soil is thoroughly moistened, applying water where necessary.
- Coverage of mulch (minimum):
 - Planting beds (depth): 75 mm depth.
 - Trees: N/A.
 - Container planting: N/A.
- Finished level of mulch: level with adjacent grassed or paved areas.

COMPLETION

920 APPLYING MULCH

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
- Planting beds: Re-mulch.
 - Depth (minimum): 75 mm.
- Trees: Remulch.
 - Depth (minimum): 100 mm.
- Container planting: Remulch.
 - Depth (minimum): N/A.

Q30 Seeding/turfing

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

115A SEEDED AREAS

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour.

120 CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.

145 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without displacing seed, seedlings or soil.
- Frequency: As necessary to ensure the establishment and continued thriving of all seeding/turfing.

150 WATER RESTRICTIONS

- Timing: If water supply is or is likely to be restricted by emergency legislation do not carry out seeding/turfing until instructed. If seeding/turfing has been carried out, obtain instructions on watering.

160 NOTICE

- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Preparing seed bed.
 - Seeding or turfing.
 - Visiting site during maintenance period.
- Period of notice: 1 week.

170 SETTING OUT

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

PREPARATION

210 HERBICIDE FOR ALL PLANTING AND SEEDING AREAS

- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.
 - Duration: As manufacturer's recommendation.

212 SEED BED CLEANING BEFORE SOWING ALL NEW GRASSLAND AREAS

- Operations: Kill pernicious weeds with selective contact herbicide.

250A SOIL REQUIREMENTS

- Type:
 - Seeded areas: Existing topsoil.

SEEDING

311 GRASS SEED To species rich grassland

- Supplier: Emorsgate Seeds.
 - Mixture reference: EM3 Special general purpose meadow mixture.
- Application rate: 4 g/m².

311A GRASS SEED Low maintenance tussock grassland

- Supplier: Emorsgate Seeds.
 - Mixture reference: EM10 Tussock Mixture.
- Application rate: 4 g/m².

319 QUALITY OF SEED FOR ALL GRASSED AREAS

- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
 - Standard: EC purity and germination regulations.
 - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
- Samples of mixtures: Submit when requested.

330 SOWING

- General: Establish good seed contact with the root zone.
- Method: To suit soil type, proposed usage, location and weather conditions during and after sowing.
 - Distribution: 2 equal sowings at right angles to each other and diagonally to main axis.

335A SPECIES RICH GRASS SOWING SEASON

- Grass seed generally: October.

335B LOW MAINTENANCE TUSOCK GRASS SOWING SEASON

- Grass seed generally: September/October.

340 PRE-EMERGENT HERBICIDE FOR ALL GRASSED AREAS

- Standard: Pesticide Safety Directorate approved.
- Application rate: In accordance with manufacturer's written recommendation.
 - Timing: Immediately after sowing.

PROTECTING/CUTTING

510 PROTECTIVE FENCING

- Fencing type: As section Q40.
 - Height: 1.2 m.
- Erection: On completion of seeding/ turfing.
- Removal: After grass is well established. Fencing will remain the property of the Contractor.

540A FIRST CUT OF Low Maintenance Tussock Grass (EM10)

- Height of initial growth: 75 mm.
- Timing: June
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 40 - 60 mm.
- Mower type: Rotary.
- Arisings: Remove and compost on site.

540C FIRST CUT OF Species Rich Grass (EM1)

- Height of initial growth: 100 mm.
- Timing: June
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 40 - 60 mm.
- Mower type: Rotary.
- Arisings: Remove and compost on site.

590 CLEANLINESS

- Soil and arisings: Remove from hard surfaces.
- General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

MAINTENANCE

610 FAILURES OF SEEDING/TURFING

- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
- Defective materials or workmanship: Areas that have failed to thrive.
 - Exclusions: Theft or malicious damage.
- Method of making good: Recultivation and reseeded/ returfing.
- Timing of making good: The next suitable planting season.

650A MAINTAINING SPECIES RICH GRASSLAND AREAS

- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the 12 month rectification period for species rich grass.
- Preparation: Before each cut remove all litter and debris.
- Height and frequency of cut in first growing season:
 - Time of first cut: June.
 - Height of first cut: 40 - 60 mm.
 - Frequency of subsequent cutting (minimum): Every 6-8 weeks until autumn.
 - Height of growth permitted (maximum): 125 mm.
- Height and frequency of cut in second growing season not required:
- Trimming: All edges.
 - Arisings: Remove and compost on site.
- Watering: Contractor's choice.

650B MAINTAINING LOW MAINTENANCE TUSsock GRASSLAND AREAS

- Duration: Carry out the following operations from completion of seeding/ turving until: the end of the rectification period.
- Preparation: Before each cut remove all litter and debris.
- Height and frequency of cut in first growing season:
 - Time of first cut: June.
 - Height of first cut: 40 - 60 mm.
 - Frequency of subsequent cutting (minimum): Every 6-8 weeks until autumn.
 - Height of growth permitted (maximum): 100 mm.
- Height and frequency of cut in second growing season:
 - Time of cut: Single cut in October if required.
 - Height of cut: 40 - 60 mm.
- Trimming: All edges.
 - Arisings: Remove and compost on site.
- Watering: Contractor's choice.

Q31 External planting

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/ REQUIREMENTS

112 SITE CLEARANCE GENERALLY

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 100 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: Retain dry stone walls and existing vegetation where possible.

118 SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

120 CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.
 - Strong winds: Do not plant.

125 TIMES OF YEAR FOR PLANTING

- Deciduous trees and shrubs: Late October to late March.
- Conifers and evergreens: September/ October or April/ May.
- Herbaceous plants (including marginal): September/ October or March/ April.
- Container grown plants: At any time if ground and weather conditions are favourable.
 - Watering and weed control: Provide as necessary.
- Dried bulbs, corms and tubers: September/ October.
- Colchicum (crocus): July/ August.
- Green bulbs: After flowering in spring.
- Wildflower plugs: Late August to mid November or March/ April.
- Aquatic plants: May/ June or September/ October.

130 MECHANICAL TOOLS

- Restrictions: Do not use within 100 mm of tree and plant stems.

145 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without damaging or displacing plants or soil.
- Frequency: As necessary to ensure establishment and continued thriving of planting.

150 WATER RESTRICTIONS

- General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions on watering.

160 NOTICE

- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Delivery of plants/ trees.
 - Planting shrubs.
 - Planting trees into previously dug pits.
 - Watering.
 - Visiting site during maintenance period.
- Period of notice: One week.

170 SOIL REQUIREMENTS

- Type
 - Planted beds: Existing soil.
 - Tree pits, shrub pits and other backfilling: Existing soil with compost.
 - External container planting: Existing soil.
 - Mulch applied after planting: Mulching and top dressing system, as section Q28.

200A PLANTS- GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
 - Standard: The National Plant Specification.
- Species: True to name.
- Origin/ Provenance: British provenance.
Definition: Origin and Provenance have the meaning given in the National Plant Specification.

215A PLANTS - SPECIFICATION CRITERIA

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification.

235A CONTAINER GROWN PLANTS

- Growing medium: With adequate nutrients for plants to thrive until permanently planted.
- Plants: Centred in containers, firmed and well watered.
- Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
- Hardiness: Grown in the open for at least two months before being supplied.
- Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

245 LABELLING AND INFORMATION

- General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - Full botanical name.
 - Total number.
 - Number of bundles.
 - Part bundles.
 - Supplier's name.
 - Employer's name and project reference.
 - Plant specification, in accordance with scheduled National Plant Specification categories.
- Additional information: Submit on request: Country of origin.

255A PLANTS RESERVED AT SUPPLIER'S PREMISES

- Types/ Species: As plant schedule.
- Predelivery inspection: Give notice.
- Labelling: Identify inspected plants as reserved for use on this project.

260A PLANT SUBSTITUTION

- Plants unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
 - Price.
 - Difference from specified plants.
- Approval: Obtain before making any substitution.

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

- Standard: To CPSE 'Handling and establishing landscape plants'.
- Frost: Protect plants from frost.
- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: Black polyethylene bags.
- Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
- Planting: Upright or well balanced with best side to front.

280 TREATMENT OF TREE WOUNDS

- Cutting: Keep wounds as small as possible.
 - Cut cleanly back to sound wood using sharp, clean tools.
 - Leave branch collars. Do not cut flush with stem or trunk.
 - Set cuts so that water will not collect on cut area.
- Fungicide/ Sealant: Do not apply unless instructed.

285 PROTECTION OF EXISTING GRASS

- General: Protect areas affected by planting operations using boards/ tarpaulins.
 - Excavated or imported material: Do not place directly on grass.
 - Duration: Minimum period.

290A SURPLUS MATERIAL

- Stones, debris, wrapping material, canes, ties, temporary labelling, rubbish and other arisings: Remove.

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

300A HERBICIDE TO CLEAR OVERGROWN PLANTING AREAS

- Locations: All planting areas.
- Type: Glyphosate based suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.
 - Duration (minimum): Three weeks.

305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS

- Locations: All planting areas.
- General: Prevent weeds from seeding and perennial weeds from becoming established, by hand weeding.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

401 REGULAR PLANT LAYOUT TO SHRUB BELTS AND HEDGEROWS

- Spacing: In regular, in tripple staggered rows.
- Density: As plant schedule.

405A SHRUB PLANTING PITS TO SHRUB BELT AND HEDGEROW

- Notch plant where possible
- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system.
- Pit bottom improvement Break up to a depth of 150 mm, incorporating 10 kg compost.

480 AFTER PLANTING

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
- Top dressing: Not required.
 - Depth: N/A.

486 SHRUB PROTECTION

- Manufacturer: Tubex/Green-tech.
 - Product reference: 160PS1142 Tubex Shrub Shelter Plus.
- Type: Round.
- Material: Polyethylene.
- Size: 0.6 m high x 200 mm diameter.
- Colour: Green.
- Support: Single timber stake.
- General: Ensure that protection methods do not impede natural movement of shrubs or restrict growth.

635 NOTCH PLANTING IN UNCULTIVATED GROUND

- Notching: Make a vertical 'I', 'L', 'T' or 'H' notch.
 - Depth: To accommodate full depth of roots.
- Planting: Plant tree, close notch with root collar at ground level and firm the soil.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
- Frequency of maintenance visits: In accordance with the agreed maintenance schedule.

720A FAILURES OF PLANTING

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ shrubs that have failed to thrive.
 - Exclusions: Theft or malicious damage after completion.
 - Rectification: Replace with equivalent plants/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: During the next suitable planting season.

730 PROTECTIVE FENCING

- Fencing type: Contractor's choice.
- Erection: On completion of planting.
- Removal: Fencing will remain the property of the Contractor. Remove and refill post holes following acceptance of rectified defects.

740 CLEANLINESS

- Soil and arisings: Remove from hard surfaces and grassed areas.
- General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

750A PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: By use of approved non-residual herbicides.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Staking: Check condition of stakes, ties, guys and guards.
 - Broken or missing items: Replace.
 - Rubbing: Prevent.
 - Ties: Adjust to accommodate growth.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: As schedule.
- Firming up: Gently firm loosened soil around shrubs. Straighten leaning shrubs.
- Watering: Contractor's choice.

760A PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: As appropriate to the species.
 - Trees: Favour a single central leading shoot.
- Arisings: Collect and use for hibernacula piles in locations shown on drawing 661729.04.02 Soft Landscape Details.

780 MAINTENANCE INSTRUCTIONS

- General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: Provide a schedule of any ongoing maintenance problems experienced during the rectification period.

790 FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.
Depth (minimum): 50 mm.
- Trees: Remulch.
Depth (minimum): 75 mm.

Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

GENERALLY

105 MAINTENANCE OBJECTIVES

- Location: Buxton Sidings Scheme Whole Site.
 - Duration: Five years.
- Aims: Improved landscape visual amenity and provide wildlife habitat and increase biodiversity.
- Restrictions: As described in the landscape maintenance manual.
- Results: Integration of the site with the surrounding landscape, increased visual amenity and biodiversity.

110A NOTICE

- Give notice before:
 - Each site maintenance visit.
- Period of notice: 7 days.

130A REINSTATEMENT

- Damage or disturbance to soil structure, planting, grass, fencing: Reinstate to original specification or condition.

155 WATERING

- Supply: No site supply available, submit proposals.
- Quantity: Wet to field capacity .
- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.
- Frequency: As necessary for the continued thriving of all planting.

170 DISPOSAL OF ARISING

- General: Unless specified otherwise, dispose of arisings as follows:
 - Biodegradable arisings: Compost on site as hibernacula piles, locations shown on drawing 661729\04\02 Soft Landscape Details.
 - Grass cuttings: Compost on site as hibernacula piles, locations shown on drawing 661729\04\02 Soft Landscape Details .
 - Tree roots and stumps: Remove from site.
 - Shrub and tree prunings: Compost on site as hibernacula piles, locations shown on drawing 661729\04\02 Soft Landscape Details.
 - Litter and nonbiodegradable arisings: Remove from site.

190 LITTER

- Extraneous rubbish not arising from the contract work: Collect and remove from site.

195 PROTECTION OF EXISTING GRASS

- General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.

197 CLEANLINESS

- Soil and arisings: Remove from hard surfaces.
- General: Leave the works in a clean, tidy condition at completion and after any maintenance operations.

GRASSED AREAS

210A GENERAL MAINTENANCE OF GRASSED AREAS

- General: Maintain grassed areas in a manner appropriate to the intended use.
- Soil and grass:
 - Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
 - Waterlogging and compaction: Prevent.
 - Damage: Repair trampling, abrasion or scalping.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.

220 GRASS CUTTING GENERALLY

- Before mowing: Remove litter, rubbish and debris.
- Finish: Neat and even, without surface rutting, compaction or damage to grass.
- Edges: Leave neat and well defined. Neatly trim around obstructions.
- Adjoining hard areas: Sweep clear and remove arisings.
- Drought or wet conditions: Obtain instructions.

226A TREE AND SHRUB STEMS

- Precautions: Do not allow nylon filament rotary cutters and other mechanical tools closer than 100 mm to the stem of any tree or shrub.
 - Operations close to stems: Complete using hand tools.

272A MAINTAINING SPECIES RICH GRASSLAND WITH NATIVE WILDFLOWER AREAS (EM3)

- Preparation: Before each cut remove litter and debris.
- Height and frequency of cut in first growing season:
 - Time of first cut: June/ July.
 - Height of first cut: 40-60mm .
 - Frequency of subsequent cutting (minimum): Every six to eight weeks until autumn.
 - Height of growth permitted (maximum): 100 mm.
- Trimming: All edges.
 - Arisings: Leave for 1-7 days then remove to compost.
- Watering: Contractor's choice.

272B MAINTAINING TUSsock GRASSLAND WITH WILDFLOWER AREAS (EM10)

- Preparation: Before each cut remove litter and debris.
- Height and frequency of cut in first growing season:
 - Time of first cut: June/ July.
 - Height of first cut: 40-60mm .
 - Frequency of subsequent cutting (minimum): Every six to eight weeks until autumn.
 - Height of growth permitted (maximum): 100 mm.
- Height and frequency of cut in subsequent growing seasons Years 2-5 inclusive:
 - Time of cut: Single cut in October every 2-3 years if required.
 - Height of cut: 40-60 mm.
- Trimming: All edges.
 - Arisings: Remove to compost.
- Watering: Contractor's choice.

340A SPOT WEEDKILLING IN SPECIES RICH GRASS AND TUSsock GRASS AREAS

- Herbicide: Glyphosate based.
- Operations: Spot treat all broad leaved weeds.

380A REINSTATEMENT OF DAMAGED GRASSLAND

- Preparation: Cultivate substrate to a fine tilth.
- Reinstatement:
 - Reseeding: Use existing topsoil on site, free from stones, debris and weeds. Reseed with a seed mix shown on drawing 661729/02/04 to original specification
- Protection and watering: Provide as necessary to promote successful germination and establishment.

SHRUBS/TREES/HEDGES

500A ESTABLISHMENT OF NEW SHRUB AND HEDGEROW PLANTING

- Duration: Five years.
- Weed control:
 - Method: Keep planting stations and hedgerow bases clear of weeds by use of suitable herbicides.
 - Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1.0m or the surface of the original planting pit or a 1m wide continuous strip along the base of hedgerows.
- Watering: When required.

510A STAKES AND TIES

- Inspection/ Maintenance times: As scheduled and immediately after strong winds.
- Stakes:
 - Replace loose, broken or decayed stakes to original specification.
 - If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
- Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
 - Where chafing has occurred, reposition or replace ties to prevent further chafing.
- Removal of stakes and ties: During spring when no longer required to support the tree/shrub.
 - Fill stake holes with lightly compacted soil.

520A REFIRMING OF HEDGEROW AND SHRUBS

- Timing: After strong winds, frost heave and other disturbances.
- Refirming: Tread around the base until firmly bedded.
- Collars in soil at base of stems, created by shrub movement: Break up by fork, avoiding damage to roots. Backfill with existing top/subsoil and refirm.

525A SHRUB GUARDS

- Loose or defective guards: Adjust, refix or replace to original specification and to prevent chafing.

540 PRUNING GENERALLY

- Pruning: In accordance with good horticultural and arboricultural practice.
 - Removing branches: Do not damage or tear the stem or bark.
 - Wounds: Keep as small as possible and cut cleanly back to sound wood.
 - Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
 - Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
- Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
- Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
- Disease or infection: Give notice if detected.
- Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

545 PRUNING OF EXCESSIVE OVERHANG

- Timing: Annually.
- Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
- Special requirements: None.

555 PRUNING TREES AND SHRUBS

- Standard: To BS 7370-4.
- Special requirements: None.

580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES

- Time of year:
 - Winter flowering shrubs: Spring.
 - Shrubs flowering between March and July: Immediately after the flowering period.
 - Shrubs flowering between July and October: Back to old wood in winter.
 - Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.

605A TRIMMING ESTABLISHING HEDGES

- Operations:
 - Timing: Cut back in June and September to encourage bushy growth.
 - Form: Allow to reach planned dimensions only by gradual degrees, depending on growth rate and habit.

620 REMOVAL OF DEAD PLANT MATERIAL

- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

630 DEAD AND DISEASED PLANTS

- Removal: Following inspection by the Contract Administrator.
- Replacement: In the next suitable planting season.

635A REINSTATEMENT OF SHRUBS AND HEDGEROW

- Dead and damaged plants: Remove.
 - Do not disturb roots of adjacent plants.
- Replacement plants:
 - Use planting method and plants: To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.

645 WEED CONTROL GENERALLY

- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high.
- Adjacent plants, trees and grass: Do not damage.

650A HAND WEEDING

- General: Remove weeds entirely, including roots. Care must be taken to adjacent planting and seeding areas. Remove weeds from all tree and shrub shelters.
- Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
- Completion: Rake area to a neat, clean condition.
- Mulch: Reinstate to original depth.

657A HERBICIDE TO KILL REGROWTH

- Type: Suitable foliar acting herbicide to kill regrowth to be agreed by Contract Administrator.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

665 WEED CONTROL WITH WINTER HERBICIDE

- Type: Suitable residual soil acting herbicide.
- Time of year: Unless otherwise agreed, complete before end of March.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

670 WEED CONTROL WITH SUMMER HERBICIDE

- Type: Suitable foliar acting herbicide.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

680 SOIL AERATION

- Compacted soil surfaces:
 - Prick up: To aerate the soil of root areas and break surface crust.
 - Size of lumps: Reduce to crumb and level off.
 - Damage: Do not damage plants and their roots.

690 MAINTENANCE OF LOOSE MULCH

- Thickness (minimum): 75 mm.
 - Top up: Twice per year.
- Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
- Weeding: Remove weeds growing on or in mulch by hand weeding.

TREE WORK

810 TREE WORK GENERALLY

- Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
- Removing branches: Cut as Arboricultural Association Leaflet 'Mature tree management'. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
- Appearance: Leave trees with a well balanced natural appearance.
- Chain saw work: Operatives must hold a Certificate of Competence.
- Tree work: To be carried out by an approved member of the Arboricultural Association.

815 ADDITIONAL WORK

- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

820 PREVENTION OF WOUND BLEEDING

- Standard: To BS 3998, clause 8.

825 PREVENTION OF DISEASE TRANSMISSION

- Standard: To BS 3998, clause 9 and Appendix B.

830 CLEANING OUT AND DEADWOODING

- Remove:
 - Dead, dying, or diseased wood, broken branches and stubs.
 - Fungal growths and fruiting bodies.
 - Rubbish, wind blown or accumulated in branch forks.
 - Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
 - Other unwanted objects, e.g. tree houses, swings.
 - Climbing plants remove if instructed by arborist.

835 CUTTING AND PRUNING GENERALLY

- Tools: Appropriate, well maintained and sharp.
- Final pruning cuts:
 - Chainsaws: Do not use on branches of less than 50 mm diameter.
 - Hand saws: Form a smooth cut surface.
 - Anvil type secateurs: Do not use.
- Removing branches: Do not damage or tear the stem.
- Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
Large branches: Remove only with prior approval.
 - Remove in small sections and lower to ground with ropes and slings.
- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

860A REMOVING TREES, SHRUBS AND HEDGES

- Standards: To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
- Existing services: Check for below and above ground services. Give notice if they may be affected.
- Shrubs and smaller trees: Cut down and grub up roots.
- Tree stumps:
 - Removal: Remove mechanically to a minimum depth of 300 mm below ground level.
 - Removal by winching: Give notice. Do not use other trees as supports or anchors.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Work near retained trees: Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
- Filling holes:
 - Material: Use as-dug material.
 - Finishing: Consolidate and grade to marry in with surrounding ground level.

WATER AREAS

895 CLEARANCE OF WATERCOURSES

- Clearance: Remove litter, debris, accumulated silt and excessive vegetation causing an obstruction.
- Frequency: As approved management plan.
- Time of year: As instructed.
- Method: By hand.
 - Access: From one bank only.
 - Position: At least 1 m from the top of the bank.
- Phasing: Not required.

HARD LANDSCAPE AREAS/FENCING

920A FENCING

- Fences: Inspect and repair to original condition and specification

Q40 Fencing

To be read with Preliminaries/ General conditions.

FENCING SYSTEMS

150 GENERAL PATTERN STRAINED WIRE FENCING

- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Standard: To BS 1722-2, type SW 135A.
- Wire: High tensile steel wire, 2.5 mm diameter.
- Posts and struts: Round wood.
 - Treatment: To provide a 25 year service life.
 - Finish: None.
- Maximum centres of posts:
 - Straining posts: 150 m in straight runs and at all ends, corners, changes of direction and acute variations in level.
 - Intermediate posts: 3.5 m.
- Method of setting posts and struts:
 - Straining posts: 450 mm square or 300 mm diameter holes, 600 mm deep filled to two thirds depth with concrete.
 - Struts: 300 x 450 mm holes, 450 mm deep filled to not less than half the depth with concrete.
 - Intermediate posts: Driven to a minimum depth of 600 mm.
- Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-2.

350A STEEL VERTICAL BAR SECURITY FENCING

- Manufacturer: Jacksons Fencing.
 - Product reference: Barbican SR1.
- Standard: To BS 1722-12, type GP18 .
- Height: 1800 mm.
- Pales: Rectangular 25mm x 25mm.
- Pale tops: Single pointed.
 - Finish: Hot dip galvanized to BS EN ISO 1461 and Powder coated to BS EN 13438.
 - Colour: Green RAL 6005.
- Fixings: Welded .
- Centres of posts (maximum): 3.00 m.
- Method of setting posts:
 - Holes: 450 mm diameter .
 - Embedded length: 700mm.
 - Completely filled to ground level with concrete.
- Bottom of fencing: Maximum ground clearance 50 mm.
- Accessories: Double vehicle entry gate, SR1 Gate.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-12.

GATES, POSTS AND STILES

EXECUTION

710 INSTALLATION GENERALLY

- Set out and erect:
 - Alignment: Straight lines or smoothly flowing curves.
 - Tops of posts: Following profile of the ground.
 - Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
 - Fixings: All components securely fixed.

715 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
 - NHSS Sector Scheme 2A sub categories: (a) and (d).
 - NHSS Sector Scheme 2C sub categories: Not required.

730 EXPOSED CONCRETE FOUNDATIONS

- Filling: Compact until air bubbles cease to appear on the upper surface.
- Finishing: Weathered to shed water and trowelled smooth.

740 SETTING POSTS IN EARTH

- Holes: Excavated neatly, with vertical sides and as small as practicable to allow refilling.
- Filling: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

750 DRIVEN POSTS

- Damage to heads: Minimize.
 - Repair: Neatly finish post tops after installation.

770 SITE CUTTING OF WOOD

- General: Kept to a minimum.
- Below or near ground level: Cutting prohibited.
- Treatment of surfaces exposed by minor cutting and drilling: Two flood coats of solution recommended for the purpose by main treatment solution manufacturer.

780 MAKING GOOD GALVANIZED SURFACES

- Treatment of minor damage (including on fasteners and fittings): Low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BS 4652.
- Thickness: Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

790 SITE PAINTING

- Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

COMPLETION

910 CLEANING

- General: Leave the works in a clean, tidy condition.
- Surfaces: Clean immediately before handover.

920 FIXINGS

- All components: Tighten.
 - Timing: Before handover.

930 GATES

- Hinges, latches and closers: Adjust to provide smooth operation. Lubricate where necessary.
 - Timing: Before handover.

Q50 Site/street furniture/equipment

To be read with Preliminaries/ General conditions.

SITE AND STREET FURNITURE

350A NESTING BOXES BIRD NESTING BOXES 5NO.

- Manufacturer: Schwegler.
 - Product reference: 1B 26mm hole.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Green.
- Accessories/ Special requirements: 26mm hole.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.

350B NESTING BOXES BIRD NESTING BOXES 5NO.

- Manufacturer: Schwegler.
 - Product reference: 1B 32mm hole.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Brown.
- Accessories/ Special requirements: 32mm hole.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.

350C NESTING BOXES WREN NESTING BOXES 3NO.

- Manufacturer: Schwegler.
 - Product reference: 1ZA.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Green.
- Accessories/ Special requirements: None.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.

350D NESTING BOXES ROBIN NESTING BOXES 3NO.

- Manufacturer: Schwegler.
 - Product reference: 2H.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Brown.
- Accessories/ Special requirements: None.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.

350E NESTING BOXES NUTHATCH NEST BOXES 1NO.

- Manufacturer: Schwegler.
 - Product reference: 5KL.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Brown.
- Accessories/ Special requirements: None.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.

350F NESTING BOXES STARLING NEST BOXES 3NO.

- Manufacturer: Schwegler.
 - Product reference: 3S.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Brown.
- Accessories/ Special requirements: None.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.

350G NESTING BOXES BAT NEST BOXES 10NO.

- Manufacturer: Schwegler.
 - Product reference: 3no. x 1FD, 3no. x 2F, 2no. x 2FN, 2no. x 1FF.
- Material: Schwegler Woodcrete.
 - Finish: N/A.
 - Colour: Black.
- Accessories/ Special requirements: 2F Bat Boxes to have a double front panel.
- Method of fixing: Tree-mounted to mature and semi-mature trees in locations shown on drawing 661029.04.02 Soft Landscape Details and to specification on Figure 2 - Bird box and bat box indicative siting plan, of the Ecological Management Plan. Boxes to face between north and east, and angled slightly down to prevent rain from entering.