

Sustainability & Environment  
Contract preparation

# **LP 120 Instructions for specifiers for LC 120 Landscape and ecology**

(formerly )

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The 'SUMMARY' field is missing from the Document Information. Please populate this field before publication.

This document incorporates specific requirements for the Department for Infrastructure Northern Ireland. Alternative versions of this document are available for other Overseeing Organisations.

## **Feedback and Enquiries**

Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated team in the Department for Infrastructure, Northern Ireland. The email address for all enquiries and feedback is: [dcu@infrastructure-ni.gov.uk](mailto:dcu@infrastructure-ni.gov.uk)

**This is a controlled document.**

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## Latest release notes

Docume nt Code	Version number	Date of publicatio n of relevant change	Changes made to	Type of change
LP 120	NI/ LIVE_2025- 02-19	Not available	Core document	Change to policy, major revision, new document development

This document replaces Series NG 3000 Landscape and Ecology

## Previous versions

Docume nt Code	Version number	Date of publication of relevant change	Changes made to	Type of change
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# Foreword

This document provides specifier instructions for the production of the works specific requirements for LC 120 Landscape and ecology.

This document does not form part of the works specification.

The works specification is made up of both the Specification for Highway Works and the works specific requirements completed by the Specifier.

This document is applicable for contracts throughout the UK, complemented by the additional specification requirements and contractual changes of each Overseeing Organisation.

Users are responsible for applying all appropriate documents applicable to their contract.

Users are responsible for archiving contract documentation in accordance with the user's quality management system.

# **1. General landscape and ecological works**

## **General requirements for landscape and ecological works**

1.1 Landscape and ecological works shall be undertaken by organisations registered to and operating in compliance with a quality management scheme in accordance with "Quality management schemes" in Section 7 of GC 101 [Ref 9.N].

1.2 Landscape and ecological works shall comply with the measures and restrictions identified, from cultural heritage assessments, Habitat Regulations Assessments and any other environmental mitigation requirements as set out in the Environmental Management Plan identified within "Environmental, cultural and habitat management" in Section 1 of GC 103 [Ref 6.N].

1.3 Planting maintenance and monitoring shall be in accordance with the Environmental Management Plan identified within "Environmental, cultural and habitat management" in Section 1 of GC 103 [Ref 6.N].

1.4 Litter and debris shall be cleared from all landscape and ecological work areas throughout the works and removed off site.

## **Peat use in landscape and ecological works**

1.5 Peat or peat-based products shall not be used as part of landscape and ecological works.

## **Establishment period for landscape and ecological works**

1.6 The landscape and ecological planting establishment period for landscape and ecological works shall be 5 years.

## **Establishment period inspection report verification requirements for landscape and ecological works**

1.7 Verification shall be undertaken for landscape and ecological works by inspection during the establishment period, including.

1. The general condition of the landscape planting and ecological works including planting and ecological works that are missing, damaged, dead, or failing to make extension growth general condition of the landscape planting and ecological works.
2. The siting of protected or rare species and their habitats.
3. The condition of any installed special ecological measures.



#### 4. The condition of diseased plants.

1.8 The frequency of landscape and ecological works inspections shall be once per year unless otherwise stated in LC 120/WSR/001.

SI.1.8 The frequency of inspections, where they are not once a year of landscape and ecological works shall be [enter free text].

1.9 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to the inspection of the landscape and ecological works.

1.10 The inspections of landscape and ecological works shall comply with the requirements set out in "Establishment maintenance for all planting works" in Section 7 of this document.

### **Documentation requirements for landscape and ecological works**

1.11 The landscape and ecological works establishment period inspection report shall be produced for every landscape and ecological works establishment period inspection.

1.12 The following Documentation shall be submitted for inspection of landscape and ecological work prior to the commencement of any remedial or replacement work: Establishment period inspection report produced to include the following details:.

1. date of inspection;
2. plot reference locations of the operations undertaken during the reporting period;
3. general condition of the landscape planting and ecological works including planting and ecological works that are missing, damaged, dead, or failing to make extension growth;
4. establishment maintenance operations carried out during the reporting period;
5. notification of the siting of protected or rare species and their habitats;
6. condition of any installed special ecological measures;
7. remedial / replacement works required for the landscape planting and ecological works to be compliant with the works requirements; and

8. condition of diseased plants and subsequent actions on disposal of diseased plants.

1.13 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to landscape and ecological works establishment period inspection report.

## **Replacement of failed or defective works**

1.14 All plants planted as part of the works that are missing, damaged, dead, or failing to make extension growth shall be recorded in the establishment period inspection report and replaced in the next planting season following the inspection.

1.15 Replacement plants shall be of the same species and plant specification as the plants being replaced, unless otherwise stated in LC 120/WSR/001.

SI.1.15 The species and plant specification of replacement plants shall be [enter free text].

1.16 Replacement planting works shall be in accordance with the requirements of "Planting works " in Section 6 of this document.

1.17 Replacement grass and wildflower seed mixes, and turf shall be of the same composition as the grass or wildflower seed mix or turf being replaced, unless otherwise stated in LC 120/WSR/001.

SI.1.17a The composition of replacement grass seed mix shall be [enter free text].

SI.1.17b The composition of replacement wildflower seed mix shall be [enter free text].

SI.1.17c The composition of replacement turf shall be [enter free text].

1.18 Replacement grass seeding, wildflower seeding and turfing works shall be carried out in accordance with the requirements of "Grass seeding, wildflower seeding and turfing works" in Section 5 of this document.

1.19 All plant material for landscape and ecological works that is dead shall be removed and disposed of off site, unless pests or diseases are present that are classified as requiring statutory control.

1.20 Maintenance of replacement works during the establishment period shall comply with "Establishment maintenance for all planting works" in Section 7 of this document.



## 2. Control of deer and rabbits for landscape and ecological works prior to seeding, turfing and planting

### Control of deer and rabbits for landscape and ecological works prior to seeding, turfing and planting

2.1 Deer and rabbit control measures for landscape and ecological works shall be undertaken as stated in LC 120/WSR/002.

<b>Deer and rabbit control measures for landscape and ecological works</b>			
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Species to be controlled</b>	<b>Control measure</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify individual locations.
- b) Enter text, to identify the drawing/model to be referenced.
- c) Enter one or more values, from options Deer, Rabbit, to identify the species to be controlled.
- d) Enter text, to identify the control measure to be deployed.

2.2 Adjacent landowner(s) shall be contacted as necessary for access, and to co-ordinate the control of deer and rabbits.

2.3 The details of adjacent landowners contacted for access and to co-ordinate the control of deer and rabbits shall be as stated in LC 120/WSR/002.

<b>The details of adjacent landowners contacted for access and to co-ordinate the control of deer and rabbits</b>			
<b>Plot reference</b>	<b>Details of adjacent landowners contacted, with agreements in place</b>	<b>Details of agreements in place</b>	<b>Details of adjacent landowners to be contacted regarding access</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify the plot reference.
- b) Enter text, to to identify landowners who have already been contacted.

- c) Enter text, to identify agreements in place with adjacent landowners.
- d) Enter text, to identify landowners to be contacted.

## **Control of rabbits for landscape and ecological works**

2.4 Control of rabbits shall be undertaken prior to landscape or ecological works being undertaken.

2.5 After initial rabbit control treatment, the ground shall be left clear of excess material, with rabbit holes filled in with topsoil material in accordance with "Ground preparation for planting and seeding works" in Section 4 of this document.

2.6 When cutting vegetation for the control of rabbits, a minimum area of vegetation that interferes with the works shall be cut to allow access to the rabbit holes.

2.7 The vegetation arisings from carrying out rabbit control activities shall be removed from site.

2.8 Effective rabbit control for landscape and ecological works shall include:.

1. no damage to verges, embankments / cuttings, site furniture or to drains;
2. no signs of bark stripping on woody plants;
3. no visible fresh droppings seen;
4. no new grazing; and
5. no complaints from adjoining landowners.

## **Control of deer and rabbits for landscape and ecological works in fenced enclosure areas**

2.9 Fencing for landscape and ecological works used to deter deer and rabbits shall comply with "Permanent fencing works" in Section 3 of LC 127 [Ref 8.N].

2.10 Any rabbit burrows located within a fenced enclosure area identified for planting works shall be cleared of all rabbits and all exit / entry holes filled in immediately after completing the fencing of each enclosure, in accordance with "Ground preparation for planting and seeding works" in Section 4 of this document.

2.11 The fenced enclosure areas for planting works shall be maintained free of deer and rabbits throughout the establishment period.

### **Replacement of plants damaged by deer or rabbits**

2.12 Any plant material found damaged by deer or rabbits after planting works have been completed shall be replaced in accordance with "Planting works " in Section 6 of this document.

### **Verification requirements for the control of deer and rabbits**

2.13 Verification shall be undertaken for areas where deer or rabbit control has been carried out to monitor the area for further presence deer or rabbit in the area to be controlled.

2.14 The frequency of monitoring areas of deer or rabbit control shall be weekly during the first month after clearance and then once a month until the end of the establishment period.

2.15 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to monitoring of areas where deer or rabbit control has been carried out.

### **Documentation requirements for the control of deer and rabbits**

2.16 The following Documentation shall be submitted for evidence of effective control of deer or rabbits prior to the commencement of landscape and ecological works: documentation containing time and location stamped photographs.

2.17 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to documentation for evidence of effective control of deer or rabbits.

### 3. Pesticide use on landscape and ecological work

#### Product requirements for pesticide use on landscape and ecological works

3.1 Pesticides used for control of landscape and ecological works prior to seeding, turfing and planting shall be compliant with HSE Pesticides Register [Ref 17.N]Health and Safety Executive.

#### Scope of works for pesticide use on landscape and ecological works prior to seeding, turfing and planting

3.2 The locations, frequencies and types of pesticide application on landscape and ecological works shall be as stated in LC 120/WSR/003.

The locations, frequencies and types of pesticide application on landscape and ecological works					
Plot reference	Drawing or model reference(s)	Control method	Pesticide use	Total treatment area	Spot treatment area
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to identify the individual locations.
- b) Enter text, to identify the drawing/model to be referenced.
- c) Enter one or more values, from options Total control, Selective control, Spot application, Hand removal, Control by cutting, Sheet mulch, Sheet mats, to identify type of control for pesticide use.
- d) Enter one or more values, from options None, Herbicides, Insecticides, to identify the type of pesticides(s) to be used within the plot reference, if any.
- e) Enter one or more values, from options All areas, Grassed areas, Low nutrient grassland, Topsoil heaps, Planting areas, Species rich grassed areas, Wildflower areas, Other locations identified not listed, to identify total treatment area to be treated within the planting plot reference.
- f) Enter one or more values, from options All areas, Grassed areas, Low nutrient grassland, Topsoil heaps, Planting areas, Species rich grassed areas, Wildflower areas, Other locations identified not listed, to identify specific target area to be treated within the planting plot reference.

<b>The locations, frequencies and types of pesticide application on landscape and ecological works (continued)</b>			
<b>Plot reference</b>	<b>'Other' locations for spot treatment</b>	<b>Target species or pest</b>	<b>Time period for pesticide application</b>
(a)	(g)	(h)	(i)

- a) Enter text, to describe the locations for spot treatment that are not listed under 'Spot treatment area'.
- b) Enter text, to identify individual species or pest to be treated within the planting plot reference.
- c) Enter text, to identify the time period for the control to take place.

### **Herbicide treatment for total weed control prior to seeding, turfing and planting**

3.3 Herbicides treatment for total weed control shall be applied as stated in LC 120/WSR/003.

<b>Herbicides treatment for total weed control</b>				
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Operation area(s)</b>	<b>Herbicide application</b>	<b>Time period for herbicide application</b>
(a)	(b)	(c)	(d)	(e)

- a) Enter a unique reference, to identify the individual location.
- b) Enter text, to identify the drawing/model to be referenced.
- c) Enter one or more values, from options Hard standings, Gravelled area, Paved area, Around street furniture, to identify individual area of operation.
- d) Enter one or more values, from options Contact, Non-residual, Residual, Translocated, to identify the individual herbicide applied to the plot reference.
- e) Enter text, to identify the time period of application to unique reference locations.

### **General requirements for pesticide use on landscape and ecological works**

3.4 Pesticide use for landscape and ecological works must comply with the requirements of Use of plant protection products, Regulation 10 of 'The



Plant Protection Products (Sustainable Use) Regulations', UKSI 2012/1657 [Ref 26.N].

3.5 A 'pesticide' shall be defined as any agent exerting biological control over living organism (pests) or disease to protect plants and includes herbicides and insecticides.

3.6 Pesticides used for landscape and ecological works shall be applied in accordance with the manufacturer's instructions.

3.7 Pesticides used, methods of application, materials and tank mixes, methods of working, transportation, storage and records must comply with UKSI 1986/1510 [Ref 4.N].

### **Pesticide user requirements**

3.8 Users of pesticides must be professional users that meet the requirements within Health and Safety Executive Control of Pesticides Regulations, UKSI 1986/1510 [Ref 4.N].

3.9 Users of pesticides must be registered as required under the Government's Official Controls (Plant Protection Products) Regulations 2020, UKSI 2020/552 [Ref 25.N].

3.10 The method of pesticide application shall not lead to the pollution of any watercourse or water supply.

### **Requirements for total control of pest and weeds**

#### **Total weed control**

3.11 Total weed control using a residual herbicide shall create an area free of all live plant growth for a period of 6 months following application of the herbicide.

#### **Herbicide treatment prior to seeding, turfing and planting**

3.12 Herbicide treatment shall result in total dieback of vegetation with no signs of regrowth in the planting or seeding area, at the time planting or seeding works are to take place.

3.13 No ground preparation for landscape and ecological works shall commence until herbicide treatment has been completed.

#### **Contact or translocated herbicide treatment**

3.14 Total weed control using a contact or translocated herbicide treatment shall achieve complete dieback of injurious weeds and non-

native, invasive plant species, including their root system to prevent regrowth.

3.15 Contact or translocated herbicides for total weed control, shall be applied to locations on hard standings, gravelled or paved areas and around street furniture in accordance with the manufacturer's instructions.

3.16 For site preparation, on topsoil heaps and in planted beds, a translocated, non-residual herbicide approved for total weed control, shall be applied in accordance with the manufacturer's instructions.

### **Insecticides**

3.17 Insecticide use shall be limited to the species, and their location, needing to be treated.

3.18 Insecticide treatment shall be repeated on the target species until they are eliminated.

### **Invasive species requirements**

NI/3.19 Non-native, invasive species, as identified in legislation must be controlled in accordance with national guidance and legislative requirements within UKSI 2019/527 [Ref 24.N].

## **Alternative methods of pest and weed control**

### **Hand removal of pests and weeds**

3.20 Removal of weeds by hand shall consist of the removal of the entire weed including its roots.

3.21 Removal of caterpillar nests shall be undertaken prior to the emergence of the moth species.

3.22 Hand weeding operations shall be undertaken prior to flowering of the weeds to be pulled.

### **Cutting requirements for weeds**

3.23 The cutting of weeds shall be carried out prior to flowering and cut to a height of between 50 and 75 mm, unless otherwise stated in LC 120/WSR/003.

SI.3.23 The height of weeds to be cut to shall be [enter free text].

### **Arisings from weed control operations**

3.24 All arisings from weed control operations shall be removed from site.

### **Documentation requirements for pesticide use on landscape and ecological works**

3.25 The following Documentation for pesticide use on landscape and ecological works shall be submitted as continuous records: COSHH Risk Assessment; and pesticide records to include:.

1. contract name;
2. date of visit;
3. location(s) of operation(s);
4. name of operative;
5. pesticide used;
6. operations carried out (where applicable) - to include total weed control, weed control near or in any water body, selective herbicide to grass areas, herbicide to cultivated planting beds, total herbicide around individual plants; other pesticide use (state purpose);
7. method(s) of application;
8. materials and tank mixes;
9. method(s) of working;
10. storage;
11. transportation of pesticide; and
12. weather conditions.

3.26 The requirements of "Records" in Section 3 of GC 101 [Ref 9.N] shall apply to the COSHH Risk Assessment and pesticides records.

3.27 The following Documentation shall be submitted for proof of professional users registration prior to the commencement of the use of pesticides on site: Certificate or proof of registration under the Government's Official Controls (Plant Protection Products) Regulations 2020 UKSI 2020/552 [Ref 25.N].

3.28 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to Certificate or proof of registration under the

Government's Official Controls (Plant Protection Products) Regulations  
2020 UKSI 2020/552 [Ref 25.N].

3.29 The following Documentation shall be submitted for evidence of competency in the use of pesticides prior to the commencement of application: Operator certificate of competence, as well as a record of application to include reason of application, location, type, quantity / volume of application.

3.30 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to evidence of competency in the use of pesticides: operator certificate of competence and record of application.

3.31 The following Documentation shall be submitted for the method for avoiding watercourse pollution with pesticide use prior to the commencement of any planting works: working method statement of pesticide application.

3.32 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to working method statement of pesticide application.

## 4. Ground preparation for planting and seeding works

4.1 No ground preparation work shall take place when the ground is either:.

1. frost bound;
2. covered by snow;
3. excessively wet or waterlogged - cumulative rainfall exceeding 100 mm, over the preceding 28 days; or
4. excessively dry - periods of very hot, dry, conditions without moisture usually over the preceding 28 days.

### Vegetation clearance prior to planting and seeding works

4.2 Areas of grass and herbaceous vegetation to be cut or cleared prior to planting or seeding works shall be as specified in LC 120/WSR/004.

<b>Areas of grass and herbaceous vegetation to be cut or cleared prior to planting or seeding works</b>			
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Work to be undertaken on the area of grass and herbaceous vegetation</b>	<b>Arisings to be cleared and removed</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify individual areas of grass / herbaceous vegetation.
- b) Enter text, to identify the drawing or model reference.
- c) Enter a value, from options cleared, cut, cleared and cut, to identify areas of grass and herbaceous vegetation, and whether they are to be cleared, cut, or both.
- d) Enter a value, from options Yes, No, to identify if arisings are to be cleared and removed from areas of grass and herbaceous vegetation.

4.3 Grass and herbaceous vegetation to be cut in areas prior to planting and seeding works shall be cut to a height between 50 mm and 75 mm from ground level.

### Subsoil treatment prior to planting and seeding works

4.4 The stripping, handling, storage and trafficking of subsoil shall comply with 'Stripping, handling and trafficking of subsoil' in BS 8601 [Ref 21.N].

4.5 Areas for planting and seeding works on slopes of less than 30 degrees shall undergo subsoil treatment prior to planting works taking place to remove compaction.

4.6 Subsoil treatment of areas for planting and seeding works on slopes of less than 30 degrees shall be done using a ripping tine or subsoil plough.

4.7 The depth of subsoil treatment in areas to be treated prior to planting, seeding or turfing on slopes greater than 30 degrees shall be as stated in LC 120/WSR/004.

<b>The depth of subsoil treatment in areas to be treated prior to planting, seeding or turfing on slopes greater than 30 degrees</b>			
<b>Plot reference</b>	<b>Drawing/model reference(s)</b>	<b>Subsoil treatment required</b>	<b>Subsoil treatment depth</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify individual locations.
- b) Enter text, to identify drawing/model to be referenced.
- c) Enter a value, from options Yes, No, to identify whether subsoil treatment is required on areas prior to seeding or turfing.
- d) Enter a number in units of mm, to identify the depth of subsoil treatment prior to seeding or turfing.

### **Topsoil treatment prior to planting and seeding works**

4.8 The placing of topsoil prior to planting and seeding works shall be as stated in LC 120/WSR/004.

<b>The placing of topsoil prior to planting and seeding works</b>				
<b>Plot reference</b>	<b>Drawing/model reference(s)</b>	<b>Topsoil to be placed</b>	<b>Re-use of excavated topsoil</b>	<b>Class of new topsoil material</b>
(a)	(b)	(c)	(d)	(e)

- a) Enter a unique reference, to identify the planting plot for topsoil.
- b) Enter text, to identify the drawing/model to be referenced.

- c) Enter a value, from options Yes, No, to identify whether topsoil is required.
- d) Enter a value, from options Yes, No, to identify whether excavated topsoil is to be re-used.
- e) Enter a value, from options Class 5A, Class 5B, Not applicable, to identify the class of topsoil material to be used.

4.9 The class of topsoil material shall be in accordance with "Acceptable earthwork material classes, properties, and frequency of testing" in Section 3 of CC 601 [Ref 5.N].

4.10 The stripping, handling, and storage of Class 5B topsoil shall comply with BS 3882 [Ref 22.N].

4.11 Prior to placing of topsoil for planting and seeding works, the earthworks requirements for landscape areas shall comply with the requirements of "Finishing and topsoiling of earthworks" in Section 8 of CC 601 [Ref 5.N].

4.12 The placing of topsoil to planting and seeding areas shall be in compliance with "Finishing and topsoiling of earthworks" in Section 8 of CC 601 [Ref 5.N].

4.13 The placing of topsoil for planting and grass seeding works shall be 150 mm below the damp proof course of any adjoining building or structure.

## **Final preparation of soils prior to planting and seeding works**

### **Final preparation of soil prior to planting works**

4.14 The soil profile for planting works shall be even and not exceed a variation of 100 mm across the surface of the planting area, unless otherwise stated in LC 120/WSR/004.

SI.4.14 The soil profile of planting works when exceeding a variation of 100 mm across the surface of the planting area shall be [enter free text].

4.15 Consolidated material above 50 mm in size in any direction shall be broken up to a maximum depth of 300 mm, to allow the planting, establishment and growth of plants and seeds.

### **Final preparation of soils prior to seeding and turfing works**

4.16 Immediately prior to sowing seeds or laying of turf, the upper 50 mm of soil shall be reduced to a fine tilth with no particles larger than 10 mm.

4.17 Unacceptable material brought to the surface shall be dealt with in accordance with "Earthworks materials" in Section 2 of CC 601 [Ref 5.N].

4.18 Once the soil is dry and workable as defined within BS 3882 [Ref 22.N], Annex A, it shall be graded to final soil levels specified in the work specific requirements.

4.19 To prevent compaction, once final soil material has been spread and graded, the planting area shall not be traversed by machinery or used for storage purposes.

### **Soil contaminated prior to or during the planting and seeding works**

4.20 Where planting and seeding areas have been contaminated with cement slurry, oil, tar or any material harmful to the seed or planting works to be planted, the extent of the contaminated soil shall be tested to determine contamination and method of disposal and removed from the planting or seeding area.

4.21 Where contaminated soil has been removed from planting and seeding areas, uncontaminated subsoil and topsoil shall be used for backfilling.



## 5. Grass seeding, wildflower seeding and turfing works

### Product requirements for grass seeding, wildflower seeding and turfing works

5.1 Seeds shall be compliant with BS 4428 [Ref 3.N] 'Seeding of grass areas'.

5.2 Turfing shall be compliant with BS 3969 [Ref 19.N] 'Characteristics'.

5.3 All grass seed, wildflower seed and turf shall be certified as being native and of UK origin in compliance with Flora Locale (CoP) [Ref 2.N].

### Scope of works for grass seeding, wildflower seeding and turf

5.4 Seed mix types to be sown shall be as stated in LC 120/WSR/005.

Seed mix types to be sown					
Plot reference	Drawing or model reference(s)	Type of seed	Composition of seed mix	Quantity by conventional sowing rate	Origin of the seed mix
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to identify the location to be seeded.
- b) Enter text, to identify the drawing or model reference.
- c) Enter a value, from options Grass, Wildflower, to identify the type of seed to be sown.
- d) Enter text, to identify the composition of seed mix to be sown.
- e) Enter a number in units of mg/m<sup>3</sup>, to identify the quantity of seed to be sown by sowing rate.
- f) Enter text, to identify the location of the seed source.

5.5 Turfing to be laid shall be as stated in LC 120/WSR/005.

Turfing to be laid			
Plot reference	Drawing or model reference(s)	Composition of turf	Origin of the seed mix for the turf
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify the location to be seeded.

- b) Enter text, to identify the drawing or model reference.
- c) Enter text, to identify the composition of turf to be laid.
- d) Enter text, to identify the location of the seed source.

## **General requirements for grass seeding, wildflower seeding and turfing requirements**

5.6 No grass seeding, wildflower seeding or turfing shall take place when the ground is:.

- 1. frost bound;
- 2. covered by snow;
- 3. excessively wet or waterlogged - cumulative rainfall exceeding 100 mm, over the preceding 28 days; or
- 4. excessively dry - periods of very hot, dry, conditions without moisture usually over the preceding 28 days.

5.7 Seeds to be sown shall be delivered to site no more than 4 days before sowing.

5.8 The storing of seeds prior to the delivery to site, and the 4 days storing on site, shall be in accordance with the manufacturers instructions.

5.9 Sowing of seeds for grass and wildflower seeding works shall be carried out no more than six months after testing of the seeds for germination and purity.

## **Hydraulic seeding works requirements**

5.10 The locations where hydraulic seeding is not permitted shall be as stated in LC 120/WSR/005.

<b>The locations where hydraulic seeding is not permitted</b>	
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>
(a)	(b)

- a) Enter a unique reference, to identify the plot reference where hydraulic seeding is not permitted.
- b) Enter text, to identify the drawing or model reference where hydraulic seeding is not permitted.

5.11 Hydraulic seeding of wildflower seeds shall not include any fertiliser within the hydraulic seed mix.

### **Germination requirements for grass seeding, wildflower seeding and turfing**

5.12 All grass seeded areas, wildflower seeded areas and turf shall be maintained in accordance with "Establishment maintenance for all planting works" in Section 7 of this document.

5.13 Grass and wildflower seed mixes shall be sown during optimum weather conditions to maximise germination and establishment of the sown seed mix.

5.14 Grass and wildflower seed mixes shall be sown in accordance with suppliers instructions.

5.15 Sowing of grass seed and wildflower seed shall be immediately followed by lightly raking the surface of the soil to cover the seeds.

#### **Grass seed**

5.16 The grass seeding works shall be repeated as necessary until an evenly distributed sward is established over the whole seeded area.

#### **Wildflower seed**

5.17 Wildflower seeding shall provide a minimum 75% germination of the seeded area within the first year of sowing, unless otherwise stated in LC 120/WSR/005.

SI.5.17 The germination rate of wildflower seeding shall be [enter free text].

5.18 Wildflower seeding shall be repeated as necessary until an even distribution of established wildflowers over the whole seeded area is achieved.

### **Turfing works installation requirements**

5.19 Turfing works shall be carried out in accordance with Section 6 'Turfing' of BS 4428 [Ref 3.N].

5.20 Turfs shall be laid with within 24 hours of delivery from the supplier.

### **Verification requirements for grass seeding and wildflower seeding**

5.21 Verification shall be undertaken for grass and wildflower seeds for their germination and purity testing date to be within 6 months of date to be sown.

5.22 The frequency of inspection of the testing date of the germination and purity of grass and wildflower seeds shall be on delivery to site.

5.23 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to the inspection of the testing date of the germination and purity of grass and wildflower seeds.

### **Documentation requirements for grass seeding, wildflower seeding and turfing**

5.24 The following Documentation shall be submitted for all grass seed and wildflower seed prior to the commencement of sowing: seed certificates and seed bag labels.

5.25 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to grass seed and wildflower seed certificates and seed bag labels.

5.26 The following Documentation shall be submitted for turfing prior to the commencement of laying of turfing works: seed certificate of mixture sown to produce the turf or sward composition.

5.27 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to seed certificate of mixture sown to produce the turf or sward composition.

## 6. Planting works

6.1 Plants shall include trees, shrubs, herbaceous, bulbs, corms, tubers and aquatic plants.

### Product requirements for planting works

6.2 All plants shall be compliant with NPS [Ref 12.N] Section 10.

6.3 Trees and shrubs shall be compliant with BS 3936-1 [Ref 15.N].

6.4 Forest trees, poplars and willows shall be compliant with BS 3936-4 [Ref 16.N].

6.5 Bulbs, corms and tubers shall be compliant with BS 3936-9 [Ref 13.N] and be commercially grown, not collected from the wild.

6.6 Ground cover plants shall be compliant with BS 3936-10 [Ref 14.N].

6.7 Shrubs, herbaceous plants and bulbs shall be compliant with BS 4428 [Ref 3.N], Section 9 'Planting of shrubs, herbaceous plants and bulbs'.

6.8 Plants to be supplied shall be lifted, packed and handled in accordance with Section 9 of BS 8545 [Ref 29.N] and the National Plant Specification NPS [Ref 12.N], Section 10.2 'Handling and Establishing Landscape Plants'.

6.9 Plants to be supplied shall be grown in sustainable non-peat growing media and under phytosanitary and biosecurity procedures to limit the spread of undesirable pests and diseases.

### Product requirements - origin of plants to be planted

6.10 The origin of all plants to be planted shall be as stated in LC 120/WSR/006.

The origin of all plants to be planted					
Plot reference	Drawing or model reference(s)	Plant species	UK origin	Local UK provenance zone	Origin outside of UK
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to identify the plot reference for the plants to be planted.
- b) Enter text, to identify the drawing or model reference for the works.
- c) Enter text, to identify the species of plant for the works.

- d) Enter a value, from options Yes, No, to identify if the whether the species needs to be of UK origin.
- e) Enter text, to identify the local UK provenance zone.
- f) Enter text, to identify the species origin when outside of UK.

### **Product requirements for compost**

6.11 Compost to be applied shall be:.

1. peat-free, of organic composted matter graded less than 25 mm particle size;
2. free from any non biodegradable material, weed material or plant pathogens; and
3. have an organic matter content greater than 35% on a dry matter basis and readily available trace elements.

6.12 The pH of compost to be used for landscape and ecological works shall meet the requirements of Table B1 PAS 100 [Ref 20.N].

6.13 The nutrient composition of compost to be used for landscape and ecological works shall meet the requirements of Table 3 of PAS 100 [Ref 20.N].

### **Product requirements for tree stakes**

6.14 All stakes for planting works shall comply with "Timber and products containing wood supplied under the contract" in Section 3 of GC 103 [Ref 6.N].

6.15 All stakes for tree planting shelters shall be round timber with a minimum top diameter of 50 mm and a maximum of 75 mm, peeled of bark, straight in length and free of snags, pests and diseases.

### **Product requirements for adjustable tree ties, strapping and spacers**

6.16 Adjustable tree ties, strapping and spacers used shall be made of biodegradable materials that naturally degrades into harmless substances and support the tree for a minimum 5 years after installation.

### **Product requirements for individual plant protectors and guards**

6.17 Individual plant protectors and guards shall be green, brown, black or translucent and of biodegradable, non-plastic material that is able to degrade naturally into harmless substances within 3-5 years.

## **Product requirements for mulch mats, mulches and mulching**

6.18 Chipped conifer bark as organic timber mulch shall be of a size range 25 - 75 mm, maximum 15% fines, composted for a minimum of six weeks prior to delivery.

6.19 Organic timber mulch comprising of composted wood chips or bark shall be free of fungi and diseases, methyl bromide contamination or foreign material and matured for a minimum of 16 weeks, naturally heated by the process of decomposition to temperatures exceeding 50°C for a minimum period of 14 days, followed by a period of stabilisation.

6.20 Organic timber mulch shall be compliant with the sustainability requirements of the Forest Stewardship Council.

6.21 Mulch mats, including individual mulch mats and sheet mulch, shall be of biodegradable, non-plastic material that naturally degrades into harmless substances within 3-5 years; black, olive green or brown in colour.

## **Product requirements for reeds, rushes, marginal, emergent and aquatic plants**

6.22 Reeds and rushes that are excavated from established material shall be:.

1. in a clump of minimum size of 300 x 300 x 300 mm; and
2. free of pests, diseases, weed species or pollutant chemicals or metals.

6.23 Reeds and rushes supplied from a nursery shall be:.

1. supplied in a pot of minimum size 9 cm excluding top growth;
2. supplied from a nursery for aquatic plants.

6.24 Emergent, marginal, and aquatic plants shall be supplied from a nursery in container-grown in pots of minimum 1 litre size, and have been rooted and grown within the pot for at least six months.

## **Product requirements for steel wire for anchoring semi mature trees**

6.25 Steel wire used for anchoring semi mature trees shall be galvanised.

6.26 The galvanising of steel wire used for anchoring semi mature trees shall be compliant with BS EN ISO 1461 [Ref 11.N].

6.27 Steel wires used for anchoring semi mature trees shall be compliant with BS EN 12385-1 [Ref 23.N].

## Scope of works planting requirements

6.28 Trees to be planted shall be as stated in LC 120/WSR/006.

Trees to be planted							
Plot reference	Drawing or model reference(s)	Tree species	Root type	Grafted tree stock	Tree size	Planting method	Number of trees
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)

- a) Enter a unique reference, to identify the plot reference for the trees to be planted.
- b) Enter text, to identify the drawing or model reference for the works.
- c) Enter a unique reference, to identify individual tree type.
- d) Enter a value, from options Potted, Bare root, Cell grown, to identify the root type for the trees to be planted.
- e) Enter a value, from options Yes, No, to identify whether the tree is to be from grafted tree stock.
- f) Enter one or more values, from options Whips, Transplants, Feathered trees, Light standard, Standard, Select standard, Heavy standard, Extra heavy standard, to identify individual tree size.
- g) Enter a value, from options Notch, Pit, to identify the planting method for the tree to be planted.
- h) Enter a number, to identify the number of trees to be planted.

Trees to be planted (continued)				
Plot reference	Soil ameliorant application	Soil ameliorants types to be applied	Anti-dessicant application	Water tube installed
(a)	(i)	(j)	(k)	(l)

- i) Enter a value, from options Yes, No, to identify when soil ameliorants are to be applied.
- j) Enter text, to identify the type of soil ameliorants to be applied.
- k) Enter a value, from options Yes, No, to identify when anti dessicants are to be applied.



- l) Enter a value, from options Yes, No, to identify whether a water tube is required.

6.29 The use of plant protector guards or tubes shall be as stated in LC 120/WSR/006.

<b>The use of plant protector guards or tubes</b>				
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Species of plant</b>	<b>Type of guard or tube</b>	<b>Additional guard tube support</b>
(a)	(b)	(c)	(d)	(e)

- a) Enter a unique reference, to identify the plot for the planting works.
- b) Enter text, to identify the drawing or model reference for the works.
- c) Enter text, to to identify the plant species for the guard and tube to be applied.
- d) Enter text, to identify the type of guard and tube.
- e) Enter text, to identify any staking or tie requirements.

6.30 Shrubs to be planted shall be as stated in LC 120/WSR/006.

<b>Shrubs to be planted</b>						
<b>Plot reference</b>	<b>Model or drawing reference(s)</b>	<b>Shrub species</b>	<b>Shrub size</b>	<b>Planting method</b>	<b>Number of shrubs</b>	<b>Soil ameliorant application</b>
(a)	(b)	(c)	(d)	(e)	(f)	(g)

- a) Enter a unique reference, to identify the plot reference for the shrubs to be planted.
- b) Enter text, to identify the drawing or model reference for the works.
- c) Enter text, to identify the individual shrub species.
- d) Enter a value, from options Transplants, Container grown - standard pot (1-2 litres) Container grown - large pot (3-5 litres) Semi mature (5+ litre), multi-stemmed, to identify individual shrub size.
- e) Enter a value, from options Notch, Pit, to identify the planting method for the shrub to be planted.
- f) Enter a number, to identify the number of shrubs to be planted.

- g) Enter a value, from options Yes, No, to identify when soil ameliorants are to be applied.

<b>Shrubs to be planted (continued)</b>	
<b>Plot reference</b>	<b>Soil ameliorants types to be applied</b>
(a)	(h)

- h) Enter text, to identify the type of soil ameliorants are to be applied.

6.31 Hedges to be planted shall be as stated in LC 120/WSR/006.

<b>Hedges to be planted</b>						
<b>Plot reference</b>	<b>Model or drawing reference(s)</b>	<b>Hedge species</b>	<b>Hedge size</b>	<b>Planting method</b>	<b>Number of hedges</b>	<b>Soil ameliorant application</b>
(a)	(b)	(c)	(d)	(e)	(f)	(g)

- a) Enter a unique reference, to identify the plot reference for the hedges to be planted.
- b) Enter text, to identify the drawing or model reference for the works.
- c) Enter text, to identify the individual hedge species.
- d) Enter text, to identify the individual hedge size to be planted.
- e) Enter a value, from options Notch, Pit, to identify the planting method for the hedge to be planted.
- f) Enter a number, to identify the number of hedges to be planted.
- g) Enter a value, from options Yes, No, to identify when soil ameliorants are to be applied.

<b>Hedges to be planted (continued)</b>	
<b>Plot reference</b>	<b>Soil ameliorants types to be applied</b>
(a)	(h)

- h) Enter text, to identify the type of soil ameliorants are to be applied.

6.32 Bulbs, corms or tubers to be planted shall be as stated in LC 120/WSR/006.

<b>Bulbs, corms or tubers to be planted</b>						
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Type of bulbs, corms or tubers</b>	<b>Number</b>	<b>Species of bulbs, corms, and / or tubers</b>	<b>Quantities per species per</b>	<b>Planting depth</b>
(a)	(b)	(c)	(d)	(e)	(f)	(g)

- a) Enter a unique reference, to to identify the plot reference for the bulbs, corms or tubers to be planted.
- b) Enter text, to identify the drawing or model reference for the works.
- c) Enter one or more values, from options Bulbs, Corms, Tubers, to identify whether bulbs, corms or tubers are to be planted.
- d) Enter a number, to identify the number of bulbs, corms or tubers to be planted.
- e) Enter text, to identify the species.
- f) Enter a number in units of m<sup>2</sup>, to provide the quantities of each bulb, corms and / or tubers required per unit area.
- g) Enter a number in units of mm, to identify the planting depth of bulbs, corms and tubers.

6.33 The supply and planting of wildflower plant species shall be as stated in LC 120/WSR/006.

<b>The supply and planting of wildflower plant species</b>					
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Species of wildflower</b>	<b>Quantities of wildflower</b>	<b>Density of wildflower planting</b>	<b>Depth of planting</b>
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to to identify the plot reference for the wildflower plants to be planted.
- b) Enter text, to identify the drawing or model number for the planting works.
- c) Enter text, to identify the wildflower species.
- d) Enter a number, to provide the number of wildflower plants to be supplied and planted.
- e) Enter text, to identify the density of planting.

- f) Enter text, to provide the required depth of planting for each wildflower species.

6.34 Planting of reeds, rushes, marginal, emergent and aquatic plants shall be as stated in LC 120/WSR/006.

<b>Planting of reeds, rushes, marginal, emergent and aquatic plants</b>					
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Species of reeds, rushes, marginal, emergent and aquatic plants</b>	<b>Quantity of reeds, rushes, marginal, emergent and aquatic plants</b>	<b>Density of reeds, rushes, marginal, emergent and aquatic plants</b>	<b>Planting depth below surface water level</b>
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to to identify the plot reference for the reeds, rushes, marginal, emergent and aquatic plants to be planted.
- b) Enter text, to identify the drawing or model number for the planting works.
- c) Enter text, to identify the species.
- d) Enter text, to identify the quantity for planting.
- e) Enter text, to identify the density of planting.
- f) Enter a number in units of mm, to identify the depth of the water that the plants are to be planted at.

<b>Planting of reeds, rushes, marginal, emergent and aquatic plants (continued)</b>	
<b>Plot reference</b>	<b>Time period for planting</b>
(a)	(g)

- h) Enter text, to identify the time period for when plants are to be planted.

## **Installation requirements for general planting works**

6.35 All planting works shall be compliant with BS 4428 [Ref 3.N], BS 5837 [Ref 28.N]and BS 8545 [Ref 29.N].

6.36 Details of the proposed source of all plant material to be supplied shall be made available to the Overseeing Organisation at least 14 days prior to delivery so as to enable the plants to be inspected at the nursery before delivery to site.

6.37 Standard tree and larger shall be individually selected from the supplying nursery.

6.38 Cell-grown tree and shrub plants shall be grown in open conditions for at least one growing season.

6.39 The health of plants for planting works shall be planted in the same condition in which they were supplied.

6.40 A hole shall be formed in the cultivated plant station of a depth up to the root collar of the plant, and width to allow roots to be spread without cutting or bending.

6.41 Where soil ameliorants are applied for planting works, they shall be evenly incorporated into the upper 50 mm of soil during final cultivation.

6.42 Anti-desiccants for planting works shall be applied in accordance with the manufacturer's instructions.

6.43 As backfill soil is returned during planting works, it shall be lightly consolidated and firmly heeled around the root-collar of the plant, and the soil surface evenly graded.

6.44 On completion of planting works, any disturbed ground around planting works shall be reinstated to comply with the requirements in "Ground preparation for planting and seeding works" in Section 4 of this document.

6.45 All labels, canes and ties for planting works shall be removed as stated in LC 120/WSR/006.

<b>All labels, canes and ties for planting works</b>			
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Plant species</b>	<b>Removal of labels, canes and ties after 12 months</b>
(a)	(b)	(c)	(d)

a) Enter a unique reference, to identify the plot reference.

b) Enter text, to identify the drawing or model reference.

c) Enter text, to identify the plant species.

d) Enter a value, from options Yes, No, to identify whether the labels, canes and ties are to be removed after 12 months.

6.46 All other arisings from the planting including containers, wrappings, padding, fastenings and bags must be removed off site and recycled, for items that are recyclable, in accordance with the waste hierarchy in 2008/98/EC [Ref 31.N].

6.47 Fencing for planting works shall comply with "Permanent fencing works" in Section 3 of LC 127 [Ref 8.N].

6.48 The establishment period for all planting works shall be as provided in the 'Landscape establishment period requirements for landscape and ecological works' within "General landscape and ecological works" in Section 1 of this document.

### **Installation requirements for topsoil, compost and slow-release fertiliser**

6.49 Topsoil arising from excavating of tree pits, planting beds or trenches shall be set aside and used as backfill to these excavations.

6.50 Any deficiencies in topsoil caused by the removal of subsoil from tree pits shall be made up with General Purpose Grade topsoil conforming to BS 3882 [Ref 22.N], unless otherwise stated in LC 120/WSR/006.

SI.6.50 The characteristics and grade of topsoil for planting pits when not conforming to General Purpose Grade topsoil in BS 3882 [Ref 22.N] shall be [enter free text].

### **Slow-release fertiliser**

6.51 Compost or slow-release fertiliser shall be only deposited over planting areas for either incorporation into the soil during ground cultivation, or incorporated during pit preparation and backfilling.

6.52 Slow-release fertiliser shall not be applied to planting areas or planting pits, unless otherwise stated in LC 120/WSR/006.

SI.6.52 The application of slow-release fertiliser to specific planting areas shall be [enter free text].

6.53 Where slow-release fertiliser is specified, it shall be thoroughly and evenly mixed with the pit backfill or into the top 75 mm of planting bed soil, or scattered over an area 600 mm in diameter around the planting position.

6.54 Slow-release fertiliser shall be applied in accordance with the manufacturers recommendations.

### **Installation requirements for the timing of planting**

6.55 Planting shall take place during the planting times set out in Table 6.55, unless otherwise stated in LC 120/WSR/006.

<b>Table 6.55 Planting times</b>
----------------------------------

	Plant type	Dates
1	bare-rooted, rootballed trees, shrubs, non-aquatic perennials and wildflowers	Between 1st November and 31st March
2	Cell-grown or container grown plants	Between 1st October and 30th April
3	Spring and Summer Flowering Bulbs	Between 15th September and 30th November
4	Autumn Flowering Bulbs	Between 1st July - 31st August
4	Reeds and other marginal/ aquatic plants	Between 1st March to 30th April

SI.6.55 The dates of planting shall be [enter free text].

6.56 No planting works shall take place when the ground is either:.

1. frost bound;
2. covered by snow;
3. excessively wet or waterlogged - cumulative rainfall exceeding 100 mm, over the preceding 28 days; or
4. excessively dry - periods of very hot, dry, conditions without moisture usually over the preceding 28 days.

### **Installation requirements for planting depth**

6.57 Planting depth for plants shall be to the original nursery soil mark on the plant.

6.58 Cell-grown or container grown plants shall be planted with the top of the root plug covered by 10-20 mm of planting medium.

### **Installation requirements for notch-planting of trees, shrubs and hedges**

6.59 Notch-planted trees, shrubs and hedges shall be planted upright into an opening in the ground of sufficient size for the roots of the bare-root plants to be fully spread out and the surrounding soil firmed back after planting.

6.60 Notch-planted cell-grown plants shall be planted upright into a T-shaped opening to accommodate the cell-grown plant without breaking the root-plug and the surrounding soil firmed back after planting.

6.61 Notch-planted trees, shrubs and hedges shall not have any roots exposed after planting.

6.62 Any damaged branches on shrubs and hedges shall be pruned back to healthy growth prior to planting.

## **Installation requirements for planting pits, beds and trenches**

6.63 Pits, beds and trenches for different types of tree and planting works shall be in accordance with Table 6.63.

<b>Table 6.63 Planting pits, beds, and trenches.</b>		
Type	Minimum dimensions of excavation Width x Width x Depth mm	Depth of cultivation at base of pits, beds, or trenches mm
Semi mature trees	Measurement of rootball plus 400mm in each direction	200
Extra Heavy and Heavy standards	1800 x 1800 x 750	200
Selected standards,Tall standards and Standards	1000 x 1000 x 600	200
Light standard trees Half standard trees Feathered trees	700 x 700 x 600	200
Whips,Transplants & Shrubs where pit-planting is specified	300 x 300 x 300	150
Hedging	Length of hedging x 600 x 300	150
Cell grown plants	150 mm greater than W&D of plug	
Beds	Length of bed x width of bed x 300	150

6.64 Sides of planting pits that have been smeared or smoothed during excavation shall be scarified.

6.65 Subsoil at the pit base and trench base shall be penetrated with a spade or fork up to a minimum depth of 300 mm to prevent standing water and facilitate drainage.

6.66 The disposal of arisings from planting pits and trenches shall be as stated in LC 120/WSR/006.

SI.6.66 The disposal of arisings from planting pits and trenches shall be [enter free text].



6.67 On sloping ground, planting pits and / or planting trenches shall be dug such that the vertical sides and horizontal base maintain the depth in accordance with Table 6.63.

6.68 Back-fill material for planting pits and planting trenches shall be finely-broken prior to being re-instated.

6.69 Finely-broken back-fill material to planting pits and planting trenches shall be finished to existing contours or form a slight depression around the stem base of the plant to provide water capture for the plant's root system.

6.70 Any shortages of fill material caused by the removal of subsoil shall be made up with soil graded to the Multipurpose Grade classification in accordance with Table 1 of BS 3882 [Ref 22.N].

### **Installation requirements for cultivated beds and trenches for hedges**

6.71 Hedgerow trenches excavated in accordance with Table 6.63 shall be backfilled with the excavated topsoil material or be made up with General Purpose Grade topsoil conforming to BS 3882 [Ref 22.N], unless otherwise stated in LC 120/WSR/006.

SI.6.71 The characteristics and grade of topsoil for backfill when not either excavated topsoil material or General Purpose Grade topsoil conforming to BS 3882 [Ref 22.N] shall be [enter free text].

6.72 The ground for hedge planting shall be cultivated to a minimum depth of 300 mm in cultivated beds in accordance with Table 6.63, unless otherwise stated in LC 120/WSR/006.

SI.6.72 The alternative depth of ground cultivation for hedge planting, when shallower than 300 mm, shall be [enter free text].

6.73 Any stones or other debris over 50 mm in any direction shall be removed from the ground surface for hedge planting and disposed of off site.

6.74 Root disturbance of plants adjacent to the ground for hedge planting works shall be avoided.

6.75 After hedge planting works, the ground shall be left with a medium tilth of particle size less than 7.5 mm.

6.76 The layout of plants within planting beds for hedges shall be as stated in LC 120/WSR/006.

<b>The layout of plants within planting beds for hedges</b>	
<b>Plot reference</b>	<b>Layout of plants</b>
(a)	(b)

- a) Enter a unique reference, to identify the plot reference.
- b) Enter text, to identify the layout arrangement of plants within planting bed for hedges.

6.77 Topsoil backfill shall be packed around the roots of planted hedges and the plants gently shaken to allow fine soil to surround the roots.

### **Installation requirements for the planting of whips, transplants and shrubs into pits or trenches**

6.78 All whips, transplants and shrubs planted into pits or trenches shall be placed upright in the centre of the pit or the trench, with the roots spread evenly outwards and downwards without restriction.

6.79 Any damaged roots of whips, transplants and shrubs planted into pits or trenches that can affect the establishment of the plant shall be pruned prior to being planted.

### **Installation requirements for the planting of trees**

6.80 Planting of bare root, rootballed or container grown trees shall be upright and in the centre of the pit.

6.81 The tree root system shall be fully spread outwards and downwards within the planting pit, at the correct level of the original nursery soil mark, for the roots to be completely covered with backfill.

6.82 Any damaged branches on trees shall be pruned back to healthy growth prior to planting.

6.83 Any damaged or torn tree roots shall be cleanly cut back to the nearest live root hair or branching point, prior to planting.

6.84 All wrappings, insulation padding and mesh containers shall be removed from tree rootballs before backfilling unless otherwise instructed by the tree nursery supplier.

6.85 During backfilling, the tree shall be shaken at regular intervals, during the planting process, to settle the mixture closely around the roots.

6.86 The backfill mixture around trees shall be firmed in layers not exceeding 150 mm in depth, to a finished level equivalent to the nursery soil mark on the tree.

### **Tree root barriers and deflectors**

6.87 Tree root barriers or root deflectors, shall be installed in accordance with the manufacturer's instructions.

### **Water tubes for trees**

6.88 Water tubes for trees shall be installed during the planting process, prior to backfilling of the planting pit.

### **Installation requirements for the anchoring of semi mature trees**

6.89 The anchoring of semi mature trees shall be anchored in accordance with the manufacturers instructions.

6.90 The anchoring or staking of semi mature trees shall be as stated in LC 120/WSR/006.

<b>The anchoring or staking of semi mature trees</b>		
<b>Drawing or model reference(s)</b>	<b>Anchoring or staking</b>	<b>Additional anchoring or staking requirements</b>
(a)	(b)	(c)

- a) Enter a unique reference, to identify the drawing or model number for the planting works.
- b) Enter a value, from options Anchoring system, Staking system, to identify whether the tree is to be anchored or staked.
- c) Enter text, to identify the anchoring system required for the tree.

### **Installation requirements for staking and tree ties**

6.91 Tree stakes shall not affect the free movement of the branches or cause rubbing.

6.92 Staking of trees shall be carried out in accordance with one of the staking methods shown in Table 6.92.

<b>Table 6.92 Staking methods for planting works.</b>		
<b>Staking method</b>	<b>Applicable to</b>	<b>Staking method installation requirements</b>
Single,	Bare root	1. Stake to be placed in line with the

angled		<p>prevailing wind on the site.</p> <ol style="list-style-type: none"> <li>2. Stake to be angled at 45 degree angle to the tree stem.</li> <li>3. Tree to be tied no higher than one third of the clear stem.</li> <li>4. Stake length above the point of tying to not exceed 100 mm.</li> </ol>
Single, straight		<ol style="list-style-type: none"> <li>1. Stake to be placed in line with the prevailing wind on the site.</li> <li>2. Stake to be installed in the excavated hole prior to tree placement and backfilling.</li> <li>3. Tree to be tied no higher than one third of the clear stem.</li> <li>4. Stake length above the point of tying to not exceed 100 mm.</li> </ol>
Double	Root ball, container grown	<ol style="list-style-type: none"> <li>1. Stake to be installed outside of the excavated hole prior to tree placement and backfilling.</li> <li>2. Tree to be tied no higher than one third of the clear stem, with one tree tie per stake.</li> <li>3. Stake length above the point of tying to not exceed 100 mm.</li> </ol>
Triple		<ol style="list-style-type: none"> <li>1. Stake to be installed outside of the excavated hole prior to tree placement and backfilling.</li> <li>2. Tree to be tied no higher than one third of the clear stem, with one tree tie per stake.</li> <li>3. Stake length above the point of tying to not exceed 100 mm.</li> <li>4. Stakes to be stabilised at the top of each post with timber to form a</li> </ol>

		triangle.
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6.93 Stakes for trees shall ensure the planted tree remains upright during establishment.

6.94 Tree ties shall be of a size to support the size of the tree and the staking method used in accordance with Table 6.92, suitably fixed to ensure that the tree remains secure and vertical.

6.95 Where trees are to be situated within mown grass areas two additional stakes shall be driven firmly into the ground to leave a finished height of approximately 400 mm above soil level; these stakes are sited clear of the tree roots in a triangular relationship to the supporting stake, to prevent accidental damage by mowing machinery.

### **Staking of heavy standard and extra heavy standard trees**

6.96 For heavy standard and extra heavy standard trees, the staking shall be undertaken after the tree has been positioned into the planting pit with three stakes, triangular arrangement, each of 3 m length driven down the side of the rootball and into the pit to a depth of 500 mm below the bottom of the pit.

6.97 For heavy standard and extra heavy standard trees, three stakes shall be equally spaced, not pass through the tree rootball, angled outwards away from the tree to between 5° and 10° at the top and pulled in tensioning the supporting bands equally, with the tying point to be no higher than a third of the clear stem of the tree.

### **Installation requirements for individual plant protection tubes and guards**

6.98 Individual plant protection tubes and guards shall protect the plants from browsing by animals and promote healthy establishment.

6.99 The top edge of plant protector guards and tubes shall be formed to prevent abrasion damage to the enclosed plants they are protecting.

6.100 Plant protector guards and tubes shall be installed in accordance with the manufacturers instructions.

6.101 Plant protector tubes shall be fixed with releasable ratchet ties to softwood or hardwood stakes, 25 mm x 25 mm in cross section.

6.102 Individual plant protectors, their ties and stakes shall be maintained in compliance with "Establishment maintenance for all planting works" in Section 7 of this document.

## **Installation requirements for mulch mats, mulches and mulching**

6.103 Planting areas and / or tree positions shall continue to be watered after any mulch is applied until trees and plants are established.

### **Organic timber mulch**

6.104 Use of organic timber mulch for planting works shall be as specified in LC 120/WSR/006.

<b>Use of organic timber mulch for planting works</b>					
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Species of plant</b>	<b>Size of species</b>	<b>Timber mulch</b>	<b>Application rate</b>
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to identify the plot for the planting works.
- b) Enter text, to identify the drawing or model number for the planting works.
- c) Enter text, to identify the species the timber mulch to be applied to.
- d) Enter text, to identify the size of the species the timber mulch is to be applied to.
- e) Enter one or more values, from options Chipped conifer bark, Composted wood chip organic mulch, Composted bark organic mulch, to identify individual location(s) type.
- f) Enter text, to identify rate of application for each mulch type.

6.105 Where organic timber mulch is to be used, it shall be spread evenly over the planting bed, or over a 1 m diameter circle around trees, to a depth of 75 mm after settlement and the surface left even and applied to a weed free surface between September and March when the soil is retaining moisture.

6.106 Organic timber mulch shall not be installed within 150 mm of the stem of the tree or plant it is installed around.

### **Individual mulch mats for planting works**

6.107 Individual mulch mats used for planting works shall be as stated in LC 120/WSR/006.

<b>Individual mulch mats used for planting works</b>			
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Securing method</b>	<b>Additional requirements</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify the plot for the planting works.
- b) Enter text, to identify the drawing or model number for the planting works.
- c) Enter a value, from options Pegs made of biodegradable material that naturally degrade into harmless substances after 3-5 years driven through at each corner of the mat, Pegs of biodegradable material that naturally degrade into harmless substances after 3-5 years driven through at six equally spaced locations around a circular mat, Burying a strip 100 mm wide around the edges of the mat vertically into the ground, Placing turfs or other materials of sufficient weight on at least eight positions around the mat, to identify how the individual mulch mats are secured.
- d) Enter text, to identify additional individual mulch mat requirements.

6.108 Individual mulch mats for planting works shall be not less than 800 mm x 800 mm or 800 mm diameter, and no greater than 1000 mm x 1000 mm or 1000 mm diameter.

6.109 The mulch mat shall be installed on the ground as described and then a slit in the centre to allow planting.

### **Sheet mulch for planting works**

6.110 Sheet mulch for planting works shall ensure total weed suppression.

6.111 Where more than one sheet of sheet mulch is installed in a row, the sheets shall be installed to overlap by 500 mm at the edges of the sheets.

6.112 Sheet mulch used for planting works shall be as stated in LC 120/WSR/006.

<b>Sheet mulch used for planting works</b>			
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Laying method</b>	<b>Additional requirements</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify the plot for the planting work.
- b) Enter text, to identify the drawing or model number for the planting works.

- c) Enter a value, from options 3 strips of sheet mulch laid along 2-row hedges one between each planted row and one either side, One strip of sheet mulch laid with an 'L' shaped slit measuring 150 mm x 150 mm made to accommodate the planting of hedge plants, to identify the laying method for sheet mulch.

- d) Enter text, to identify additional sheet mulch requirements.

## **Installation requirements for bulb, corms, tubers**

6.113 Bulbs per unit area shall be planted in an informal pattern by throwing the bulbs over the planted area and planting where the bulbs landed.

## **Installation requirements for wildflower plant preparation and planting**

6.114 The preparation of areas to be planted with wildflower plants shall be as stated in LC 120/WSR/006.

<b>The preparation of areas to be planted with wildflower plants</b>		
<b>plot reference</b>	<b>Drawing or model reference(s)</b>	<b>method of preparation of area to be planted with wildflowers</b>
(a)	(b)	(c)

- a) Enter a unique reference, to identify the plot reference.
- b) Enter text, to identify the drawing or model reference.
- c) Enter a value, from options Creation of an area free of all live plant growth not less than 300 mm but not more than 450 mm in diameter of each plant station, Merge spacing where plant stations are closer than 600 mm to create an area free of all live plant, Cultivate an area at each plant station to the following dimensions: diameter = width of plant rootball x 1 and depth = depth of plant rootball x 1.5, to identify the method of preparation.

6.115 Wildflower plants shall be distributed to form natural, informal, small groups of 5 - 8 individual plants of the same species throughout the planting areas.

6.116 Wildflower plants shall only be removed from their protective covering or packing immediately before planting and the roots not be allowed to dry.

6.117 Where wildflowers are to be planted through mulch mats, no more than five wildflower plants per square metre of mulch mat shall be planted.



6.118 Mulch mats shall be laid above the planting station after the cultivation is complete and cut so that the hole created will be no greater than 1.25 times the surface area of the plug.

6.119 Each wildflower plant shall be watered in its container not less than 2 hours or more than 24 hours before planting and immediately after planting unless work is being carried out during rainfall.

### **Supply and planting of reeds, rushes, marginal, emergent and aquatic plants requirements**

6.120 All plant material for reeds, rushes, marginal, emergent and aquatic plants shall be kept fully watered up until the time of planting, and the soil or rooting zone prevented from drying out.

6.121 Planting positions above the water level shall be formed by excavating and setting aside sufficient material to allow 75 mm between the root/rhizome ends and the sides of the pit when the roots are fully spread for backfilling.

6.122 The sides and bottom of the excavated positions for reeds, rushes, marginal, emergent and aquatic plants shall be cultivated to a depth of 100 mm.

6.123 When the clump has been set in the centre of the position, fine material selected from the excavated material shall be packed and shaken around the roots and thoroughly firmed.

6.124 Excavated material shall be backfilled in layers not exceeding 150 mm and the area of backfilling around each clump left level and free of undulations.

6.125 For planting positions below the water level, clumps of plant material shall be pushed into the ground to sufficient depth to cover roots/rhizomes and be firmed by treading.

6.126 Aquatic plants shall be securely planted into the bed to prevent translocation of the plants.

### **Post planting maintenance**

6.127 For the duration of the establishment period the maintenance of new planting shall be in accordance with "Establishment maintenance for all planting works" in Section 7 of this document.

### **Verification requirements for planting works**

6.128 Verification shall be undertaken for plant health of proposed plant material by inspection, prior to delivery to site.

6.129 The frequency of plant health inspection of all plant material prior to delivery to site shall be once prior to planting.

6.130 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to plant health inspection of all plant material at the nursery before delivery to site.

### **Verification requirements for topsoil, compost and fertiliser**

6.131 Verification shall be undertaken for compost testing for planting works for testing in accordance with Table B1 in PAS 100 [Ref 20.N].

6.132 The frequency of compost testing for planting works shall be once prior to compost use for planting works.

6.133 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to compost testing for planting works.

6.134 Verification for compost shall be undertaken by an accredited testing laboratory in compliance with "Accredited laboratory" in Section 16 of GC 101 [Ref 9.N].

### **Documentation requirements for planting works**

6.135 The following Documentation shall be submitted for plant provenance for all UK origin plant material supplied for planting works prior to the commencement of planting works: UK Provenance certificate in the form of a plant passport.

6.136 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to UK Provenance certificate for planting works.

### **Documentation requirements for plant supply**

6.137 The following Documentation shall be submitted for all plants prior to the commencement of plants being delivered to site: nursery details supplying the plants, to include the species and numbers of plants being supplied.

6.138 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to nursery details supplying the plants, to include the species and numbers of plants being supplied.

### **Documentation requirements for topsoil, compost and fertiliser**

6.139 The following Documentation shall be submitted for testing of compost prior to the commencement of deposition of compost onto the planting areas: certification of conformity with Table B1 of PAS 100 [Ref 20.N].

6.140 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to certificate of conformity with Table B1 of PAS 100 [Ref 20.N].

#### **Documentation requirements for organic timber mulch**

6.141 The following Documentation shall be submitted for organic timber mulch prior to the commencement of planting works: technical data sheet.

6.142 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to technical data sheet for organic timber mulch.

6.143 The following Documentation shall be submitted for organic timber mulch prior to the commencement of use of organic timber mulch: Forest Stewardship Council (FSC) product certification of organic timber mulch grade.

6.144 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to Forest Stewardship Council (FSC) product certification for organic timber mulch.

#### **Documentation requirements for bulb, corms and tubers**

6.145 The following Documentation shall be submitted for the supply of bulbs, corms, and / or tubers prior to the commencement of planting works: plant passport to show the origin of the bulbs, corms, and/ or tubers.

6.146 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to plant passport to show the origin of the bulbs, corms, and/ or tubers.

#### **Documentation requirements for reeds, rushes, marginal, emergent and aquatic plants**

6.147 The following Documentation shall be submitted for the supply of reeds, rushes, marginal, emergent and aquatic plants prior to the commencement of planting works: details of source (plant passport) of reeds, rushes, marginal, emergent and aquatic plants.

6.148 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to details of source (plant passport) of reeds, rushes, marginal, emergent and aquatic plants.

#### **Documentation requirements for steel wire for anchoring semi mature trees**

6.149 The following Documentation shall be submitted for galvanised steel wire prior to the commencement of installation of semi mature trees: declaration of conformance with BS EN ISO 1461 [Ref 11.N].

6.150 The following Documentation shall be submitted for galvanised steel wire prior to the commencement of installation of semi mature trees: certificate of conformance with BS EN 12385-1 [Ref 23.N].

## **7. Establishment maintenance for all planting works**

### **General maintenance requirements during the establishment period**

7.1 The requirements in this section shall apply to the establishment period of all planting and seeding for landscape and ecological works.

7.2 The landscape establishment period shall be as described within Landscape and establishment period for landscape and ecological works, "General landscape and ecological works" in Section 1 of this document.

7.3 Maintenance works during the establishment period shall include measures and restrictions set out within LA 120 [Ref 7.N] and in compliance with "Environmental, cultural and habitat management" in Section 1 of GC 103 [Ref 6.N].

7.4 Control of rabbits and deer within fenced planting areas shall comply with the requirements of "Control of deer and rabbits for landscape and ecological works prior to seeding, turfing and planting" in Section 2 of this document.

NI/7.5 No nationally determined requirement is provided.

### **Pesticide use during the establishment period**

7.6 Pesticide use during the establishment period shall comply with the requirements in "Pesticide use on landscape and ecological work" in Section 3 of this document.

7.7 Where pesticides are not to be used hand weeding of newly planted areas shall be undertaken monthly.

### **Maintenance requirements for grass and wildflower areas during the establishment period**

7.8 Prior to any cutting operations of grass and wildflower areas, all stones and other harmful materials which can damage grass cutting plant or create a possible hazard to nearby road users, workers, persons or property shall be removed off site.

7.9 Mowing operations of grass and wildflower areas shall avoid spillage of debris such as stones or clippings onto carriageways or footways.

7.10 Mowing operations shall take place over the entire grass and wildflower areas up to its boundaries, leaving no areas uncut except within 100 mm of individual trees and shrubs.

7.11 All mown swards of grass and wildflower areas shall be cut consistently and cleanly to the heights and frequency required to prevent damage to the existing surface or ripping of the plants.

7.12 Soft vegetative growth such as wildflowers, clover and other broad-leaved vegetation shall be deemed to be part of the of the cutting operation where it falls within areas of grass.

7.13 During periods when ground conditions are so wet as to prevent grass or wildflower cutting without causing damage to the surface or producing divots, operations shall cease and recommence only when ground and weather conditions are such that damage to the surface is not caused.

7.14 Any opening of joints or uneven levels in turf areas caused by shrinkage of turves or settlement shall be addressed by the application of top-dressing with 50% sieved topsoil / 50% fine sand mix..

### **Grass cutting maintenance requirements during the establishment period**

7.15 The initial cutting of grass in the first year following seeding or turfing shall be undertaken when the grass is showing healthy signs of growth and the grass height is between 60 mm and 80 mm, to encourage stronger root growth.

7.16 Grass immediately adjacent to any edges or obstructions shall be cut to the same height as the rest of the grass throughout the area.

7.17 In grass areas containing bulbs, grass cutting operations shall avoid areas containing planted bulbs that are actively growing.

7.18 In grass areas containing bulbs, following bulb foliage die-back, the area shall be included in the grass cutting operations.

7.19 Molehills in grass area shall be removed before grass-cutting and the soil distributed widely over surrounding grass areas.

7.20 Arisings on hard surfaces and drainage from cutting operations of plants, grass and wildflower areas shall be cleared and disposed of in accordance with waste regulations.

7.21 Where cutting operations of plant, grass and wildflower areas are affected by injurious weeds, the initial cut shall be undertaken prior to the weeds flowering unless the area contains bulbs that have not been cut, where the removal of injurious weeds need to be controlled without cutting operations.

7.22 Hand pulling of injurious weeds shall be carried out in accordance with "Pesticide use on landscape and ecological work" in Section 3 of this document.

### **Maintenance requirements of general grass areas during the establishment period**

7.23 Maintenance of grass areas in visibility areas, high profile amenity areas and swales, basins and grassed surface water channels shall be as stated in LC 120/WSR/007.

<b>Maintenance of grass areas in visibility areas, high profile amenity areas and swales, basins and grassed surface water channels</b>			
<b>Plot reference</b>	<b>Drawing or model reference(s)</b>	<b>Grass location</b>	<b>Maintenance requirements</b>
(a)	(b)	(c)	(d)

- a) Enter a unique reference, to identify the plot reference.
- b) Enter text, to identify the drawing or model number.
- c) Enter a value, from options visibility areas, high profile amenity areas, swales, basins and grassed surface water channels, to identify the location of the grass, and where it is situated.
- d) Enter text, to identify the maintenance requirements for grass areas in visibility areas, high profile amenity areas and swales, basins and grassed surface water channels.

### **Wildflower areas maintenance requirements during the establishment period**

7.24 Wildflower areas shall be cut in accordance with the regimes set out in Table 7.24, once each year, unless otherwise stated in LC 120/WSR/007.

<b>Table 7.24 Wildflower areas cutting regimes</b>		
<b>Name</b>	<b>Description</b>	<b>Cutting height (mm)</b>
Annual spring /summer cut	Cut after the seeding of desirable species, in early spring/early summer and remove arisings	50 - 60
Annual Summer/Autumn cut	Cut after the seeding of desirable species, in late summer/early autumn and remove arisings	50 - 60
Topping cut	Cut after the seeding of desirable species,	90 - 100

	in late autumn or as directed in WSI	
Biennial cut	Cut after seeding of desirable species every alternate year	

SI.7.24a The plot reference of wildflower areas shall be [enter free text].

SI.7.24b The cutting regime of wildflower areas shall be [enter free text].

7.25 For cuts to areas seeded with wildflowers, all arisings and cuttings shall be collected and removed immediately after cutting operations by means that avoids pulling, tearing or causing other damage to the surface soil and retained vegetation.

7.26 Within wildflower areas, cutting and removal of arisings shall include areas of scrub, tree and shrub saplings.

7.27 Any undesirable species that cannot be controlled by cutting or hand weeding without risk to wildflowers shall be spot treated with a translocated herbicide as specified within "Pesticide use on landscape and ecological work" in Section 3 of this document.

### **Maintenance requirements of grassland within uncultivated planted areas during the establishment period**

7.28 Grass and herbaceous ground cover in planted areas, such as woodland, shall be cut to a height of 60 mm to 75 mm above ground level every alternate year following the seeding of desirable wildflower species, unless otherwise stated in LC 120/WSR/007.

SI.7.28a The frequency of cuts to grass and herbaceous ground cover in planted areas shall be [enter free text].

SI.7.28b The height above ground level of each cut to grass and herbaceous ground cover in planted areas shall be [enter free text].

7.29 The cutting of grass and herbaceous ground cover in planted areas shall include any natural regeneration of self sown bramble, tree, and shrub seedlings with stems of less than 20 mm diameter, unless otherwise stated in LC 120/WSR/007.

SI.7.29 The locations of natural regeneration areas of self sown bramble, tree(s), and shrub(s) to be left uncut, as identified within the works specific requirements, shall be [enter free text].

### **Bulb planting maintenance requirements within planted areas during the establishment period**



7.30 The planting areas where bulb foliage is to be cut shall be as stated in LC 120/WSR/007.

<b>The planting areas where bulb foliage is to be cut</b>	
<b>Plot reference</b>	<b>Drawing/model reference</b>
(a)	(b)

- a) Enter a unique reference, to identify the plot reference for bulb cutting.
- b) Enter text, to identify the drawing or model reference for the bulb that are to be cut.

7.31 Bulb foliage arisings shall be raked up and removed off site.

7.32 All bulb areas, planted or naturally generated, shall be avoided for maintenance purposes and not be cut in any areas found.

### **Maintenance requirements of planting works during the establishment period**

7.33 Verification shall be undertaken for the positioning of guards, stakes, tubes and ties that are supporting the plants.

7.34 The frequency of check on the positioning of guards, stake, tubes and ties that are supporting planting works shall be biannually, during the establishment maintenance period inspection.

7.35 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to checking the positioning of guards, stakes, tubes and ties that are supporting planting works.

### **Firming of plants, guards, tubes, stakes and ties**

7.36 All plants that have been disturbed shall be straightened to an upright position and ground re-firmed.

7.37 Defective guards, stakes, tubes or ties that inhibit their function in stabilising the plants they are supporting shall be replaced with new equivalent products.

7.38 Guards, stakes, tubes and ties shall be removed from plants, either at the end of the establishment period or when trees can stand unsupported and without the need for protection from pests.

### **Hedge and tree planting weed management**

7.39 Hedge planting shall be kept weed free along the entire hedge length and 500mm either side of the hedge centre line during the establishment period.

7.40 All weeds around the base of the trees shall be removed, to a radius of 500 mm in grass or to a whole tree station if in the pavement or a tree grille by manual removal.

### **Pruning requirements**

7.41 Pruning works for trees and hedges undertaken during the establishment period shall be compliant with BS 3998 [Ref 27.N] and BS 8545 [Ref 29.N].

7.42 Pruning works for shrubs undertaken during the establishment period shall be compliant with BS 7370-4 [Ref 10.N] Part 3.6.

7.43 All broken and damaged plant and shrub plant material shall be pruned by cutting back to within 10 mm of the parent branch or to a bud / node.

### **Mulch mats and mulches requirements**

7.44 Any mulch mats during the establishment period that have come loose shall be re-secured in accordance with the individual mulch mats requirements in "Planting works " in Section 6 of this document.

7.45 Organic mulch shall be replenished annually in March with fresh mulch in accordance with the organic timber mulch requirements in "Planting works " in Section 6 of this document.

7.46 Organic mulches contaminated by weeds or debris shall be removed off site and replaced with fresh mulch in accordance with organic timber mulch requirements in "Planting works " in Section 6 of this document.

## **8. Watering**

### **General watering requirements**

8.1 All necessary extraction licences and permissions shall be obtained from water companies and/or the relevant agency to enable the efficient execution of watering.

8.2 During the works and establishment period, all planting, seeded and turf areas shall be watered to ensure establishment and satisfactory extension growth.

8.3 Watering undertaken to planting, seeded and turf areas shall be of a low enough pressure and flow rate to allow the water to reach the root zone and not cause run off from the surface of these areas onto the surrounding ground.

8.4 Surface damage to planted, seeded and turf areas caused by watering operations shall be avoided, ensuring that no roots are exposed.

### **Watering requirements during the establishment period**

#### **Watering of planting, seeding and turf areas during the establishment period**

8.5 All planting, seeded and turf areas shall be watered where there is a period without rain of two weeks or more between March and September for the first two years of the establishment period following completion of the planting to provide better establishment results and satisfactory extension growth.

8.6 Watering of planting, seeded and turf areas shall be temporarily suspended in areas where ponding occurs or where there is a risk of surface water run-off.

8.7 Any damage to planting, seeded or turfed area caused as a result of watering operations shall be reinstated including the replacement of any soil lost from pits or beds due to washing off.

#### **Watering of turf areas during the establishment period**

8.8 Watering to turfed areas shall commence within 24 hrs of laying the turf, at a gentle rate of soaking to hydrate the turf.

8.9 Watering of turfed areas shall continue daily during dry weather for 6 weeks or until the grass has established.

#### **Watering of trees during the establishment period**

8.10 Water to individual trees shall be applied to the base of the plant by thoroughly soaking the ground occupied by the root system or through the water tube when they are applied to the planted tree.

8.11 All watering tubes shall be maintained in working order during the establishment period.

### **Documentation requirements for watering**

8.12 The following Documentation shall be submitted for efficient execution of watering prior to the commencement of any watering during the establishment period: Licence agreements or written permission from the water company for extraction or execution of watering.

8.13 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to Licence agreements or written permission from the water company for extraction or execution of watering.

## **9. Management of waterbodies**

### **General requirements for the management of waterbodies**

9.1 Non-native invasive species, as identified in legislation, shall be controlled in accordance with national guidance and legislative requirements within UKPGA 1981/69 [Ref 32.N], Wildlife and Countryside Act, Schedule 9.

9.2 Undesirable or nuisance plant species that will affect successful establishment of planting works in waterbodies and adjacent banks shall be subject to weed control.

9.3 The use of weed control shall comply with the requirements of "Pesticide use on landscape and ecological work" in Section 3 of this document.

9.4 Any herbicide applied to weeds in or near waterbodies, including banks adjacent to ditches, shall in be accordance with pesticide user requirements in "Pesticide use on landscape and ecological work" in Section 3 of this document.

### **Reedbeds and marginal plants management requirements**

9.5 Establishment period for reedbeds and marginal plants shall be in compliance with that specified within "General landscape and ecological works" in Section 1 of this document.

### **Inspection of habitats for reedbeds and marginal plants management**

9.6 Verification shall be undertaken for the purpose of demonstrating that habitats of amphibians, birds, fish, invertebrates or other habitats are not affected by the establishment period biannual inspections.

9.7 The frequency of inspection of habitats of amphibians, birds, fish, invertebrates or other habitats shall be biannually during the establishment period biannual inspections.

9.8 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to inspection of habitats of amphibians, birds, fish, invertebrates or other habitats during the establishment period biannual inspections.

9.9 The timing and methodology of inspection operations to avoid affecting species habitats shall be as stated in LC 120/WSR/009.

SI.9.9a The timing of inspections to avoid affecting the following habitats shall be [enter free text].

SI.9.9b The methodology of inspections to avoid affecting the following habitats shall be [enter free text].

## 10. Special ecological measures

### General requirements for special ecological measures

10.1 Licences to permit works relating to or in the vicinity of protected species and / or their habitats shall be obtained prior to any work or inspections being undertaken.

### Installation requirements of special ecological measures

10.2 The methodology for the construction of special ecological measures shall be in accordance with the license conditions, ecological design and manufacturers instructions.

10.3 No special ecological measure ground works shall take place when the ground is:.

1. frost bound;
2. covered by snow;
3. excessively wet or waterlogged - cumulative rainfall exceeding 100 mm, over the preceding 28 days; or
4. excessively dry - periods of very hot, dry, conditions without moisture usually over the preceding 28 days.

### Special ecological mitigation measures

10.4 Installation of special ecological mitigation measures to prevent access or mitigate habitat loss shall be as specified in LC 120/WSR/010.

Installation of special ecological mitigation measures to prevent access or mitigate habitat loss					
Plot reference	Drawing or model reference(s)	Special ecological mitigation measure	Special ecological mitigation measure - 'other option(s)'	Special ecological prevention	Special ecological prevention measure - 'other options(s)'
(a)	(b)	(c)	(d)	(e)	(f)

- a) Enter a unique reference, to identify the individual location of the special ecological mitigation measure.
- b) Enter text, to identify the drawing or model reference.

- c) Enter one or more values, from options Artificial badger sett, Bat boxes, Bird nesting boxes, Dormouse nesting boxes, Hibernacula, Water vole habitat, other option(s), none, to identify individual special ecological mitigation measure.
- d) Enter text, to identify the other options if chosen in the 'Special ecological mitigation measure' field.
- e) Enter one or more values, from options Badger gates, Ecological tunnels, Ecological underpasses, Ecological ledges and grilles, Reptile and amphibian barriers, other options, none, to identify individual special ecological prevention measure.
- f) Enter text, to identify the other options if chosen in the 'Special ecological prevention measure' field.

<b>Installation of special ecological mitigation measures to prevent access or mitigate habitat loss (continued)</b>		
<b>Plot reference</b>	<b>Timing of works</b>	<b>Number</b>
(a)	(g)	(h)

- g) Enter text, to identify the timings of when special ecological mitigation measures are to be undertaken.
- h) Enter text, to provide the number of individual special ecological mitigation measures across the plot.

## **Special ecological prevention measures**

10.5 Reptile and amphibian barriers shall be installed in accordance with "Temporary fencing works" in Section 2 of LC 127 [Ref 8.N].

NI/10.6 Where required, badger gates shall be provided in agreement with the Department for Agriculture, Environment and Rural Affairs in Northern Ireland.

## **Special ecological measures for badgers**

10.7 Work required to be undertaken within 30 m of an active badger sett or to exclude a badger must comply with the requirements set out in the Protection of Badgers Act UKPGA 1992/51 [Ref 18.N] and the appropriate licence.

10.8 Badger setts within 50 m of landscape and ecological works shall be clearly identified and marked in an inconspicuous manner, and creating a construction exclusion zone around the badger sett.



10.9 Markers used to identify badger setts shall be installed prior to any rabbit control operations being undertaken.

### **Maintenance of special ecological measures during the establishment period**

10.10 Tunnels, underpasses and ledges installed as special ecological measures during the establishment period shall be free from obstructions.

### **Verification requirements for special ecological measures**

10.11 Verification inspection of special ecological measures shall include inspection of tunnels, fencing, underpasses, ledges and grilles.

10.12 Verification shall be undertaken for the effectiveness of mitigation measures by inspection of special ecological measures.

10.13 The frequency of inspection of the effectiveness mitigation measures for special ecological measures shall be twice per year, in February and October.

10.14 The requirements for "Verification" in Section 14 of GC 101 [Ref 9.N] shall apply to inspection of effectiveness of mitigation measures for special ecological measures.

### **Documentation requirements for special ecological measures**

10.15 Pre-construction surveys for special ecological measures shall be reported in the EMP, in accordance with "General landscape and ecological works" in Section 1 of this document.

10.16 The following Documentation shall be submitted for works to or in the vicinity of protected species and / or their habitats prior to the commencement of special ecological measures including inspections: European Protected Licence (EPL), Protected Species Licence, or Ecological Licence.

10.17 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to European Protected Licence (EPL), Protected Species Licence, or Ecological Licence.

10.18 The following Documentation shall be submitted for undertaking special ecological measures prior to the commencement of the works: Method statement for undertaking the specific ecological works.

10.19 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to Method statement for undertaking the specific ecological works.

10.20 The following Documentation shall be submitted for proof of licence for special ecological measures prior to the commencement of the special ecological measures: licence for the works.

10.21 The requirements for "Documentation" in Section 2 of GC 101 [Ref 9.N] shall apply to proof of licence for special ecological measures: licence for the works.

### **Documentation requirements for the control of badgers**

10.22 The following Documentation shall be submitted for location(s) of badger setts within 50 m of landscape and ecological works prior to the commencement of any landscape and ecological works: location plan of badger setts.

## 11. Normative references

The following documents, in whole or in part, are normative references for this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Ref.	Document
Ref 1.N	National Highways. GM 701, 'Asset delivery asset maintenance requirements'
Ref 2.N	Chartered Institute of Ecology and Environmental Management (CIEEM). Flora Locale . Flora Locale (CoP), 'Code of Practice for collectors, growers, and suppliers of native flora '
Ref 3.N	BSI. BS 4428, 'Code of practice for general landscape operations, (excluding hard surfaces)'
Ref 4.N	National Archives. HSE. UKSI 1986/1510, 'Control of Pesticides Regulations'
Ref 5.N	National Highways. CC 601 'Earthworks'
Ref 6.N	National Highways. GC 103 'Environment, Sustainability and Carbon Management'
Ref 7.N	National Highways. LA 120, 'Environmental management plans'
Ref 8.N	National Highways. LC 127 'Fencing'
Ref 9.N	National Highways. GC 101 'General requirements for the Specification for Highway Works'
Ref 10.N	BSI. BS 7370-4, 'Grounds maintenance - Recommendations for maintenance of soft landscape (other than amenity turf) '
Ref 11.N	BSI. BS EN ISO 1461, 'Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods'
Ref 12.N	Horticultural Trade Association. NPS, 'National Plant Specification'
Ref 13.N	BSI. BS 3936-9, 'Nursery stock - Specification for bulbs, corms, and tubers'
Ref 14.N	BSI. BS 3936-10, 'Nursery stock - Specification for ground cover plants'
Ref 15.N	BSI. BS 3936-1, 'Nursery stock - Specification for trees and

	shrubs '
Ref 16.N	BSI. BS 3936-4, 'Nursery stock. Specification for forest trees, poplars and willows'
Ref 17.N	Health and Safety Executive. <a href="https://secure.pesticides.gov.uk/pestreg/">https://secure.pesticides.gov.uk/pestreg/</a> . HSE Pesticides Register, 'Pesticides Register of Great Britain and Northern Ireland Authorised Products'
Ref 18.N	National Archives. UKPGA 1992/51, 'Protection of Badgers Act'
Ref 19.N	BSI. BS 3969, 'Recommendations for turf for general purposes'
Ref 20.N	BSI. PAS 100, 'Specification for composted materials'
Ref 21.N	BSI. BS 8601, 'Specification for subsoil and requirements for use'
Ref 22.N	BSI. BS 3882, 'Specification for Topsoil'
Ref 23.N	BSI. BS EN 12385-1, 'Steel wire ropes. Safety. General requirements'
Ref 24.N	National Archives. UKSI 2019/527, 'The Invasive Alien Species (Enforcement and Permitting) Order'
Ref 25.N	National Archives. UKSI 2020/552, 'The Official Controls (Plant Protection Products) Regulations'
Ref 26.N	National Archives. UKSI 2012/1657, 'The Plant Protection Products (Sustainable Use) Regulations'
Ref 27.N	BSI. BS 3998, 'Tree work. Recommendations'
Ref 28.N	BSI. BS 5837, 'Trees in relation to construction. Recommendations'
Ref 29.N	BSI. BS 8545, 'Trees: from nursery to independence in the landscape. Recommendations'
Ref 30.N	Natural England. TIN 025, 'Using one-way gates on badger sett entrances'
Ref 31.N	Europa.eu. 2008/98/EC, 'Waste Directives'
Ref 32.N	National Archives. UKPGA 1981/69, 'Wildlife and Countryside Act'

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