

Lower Horse Bridge

3936_SP_001_Softworks Specification

27 October 2016

This document includes:

Code	Section	Revision	Dated
Q10	Kerbs/ edgings/ channels/ paving accessories		
Q22	Asphalt roads/ pavings		
Q24	Interlocking brick/block roads/pavings		
Q25	Slab/brick/sett/cobble pavings		
Q28	Topsoil and soil ameliorants		
Q30	Seeding/turfing		
Q31	External planting		
Q40	Fencing		

Table of Contents

Title		Page
Q	Paving/Planting/Fencing/Site furniture	3
Q10	Kerbs/ edgings/ channels/ paving accessories	5
Q22	Asphalt roads/ pavings	8
Q24	Interlocking brick/block roads/pavings	12
Q25	Slab/brick/sett/cobble pavings	18
Q28	Topsoil and soil ameliorants	22
Q30	Seeding/turfing	30
Q31	External planting	34
Q40	Fencing	42

DRAFT- FOR APPROVAL

Q
Paving/Planting/Fencing/Site furniture

DRAFT- FOR APPROVAL

Q10 Kerbs/ edgings/ channels/ paving accessories

**Q10
Kerbs/ edgings/ channels/ paving accessories**

Q10 Kerbs/ edgings/ channels/ paving accessories

To be read with Preliminaries/General conditions.

TYPES OF KERBS/EDGINGS AND CHANNELS**110 PROPRIETARY PRECAST CONCRETE KERBS**

- Standard: To BS EN 1340.
- Manufacturer: [Submit proposals](#).
- - Product reference: [Submit proposals](#).
- Recycled content: [75% \(minimum\) to BS EN ISO 14021](#).
- Designations: [CS1 Channel, square and HB1 Kerb, half battered](#).
- Size (width x height x length): [150 x 305 x 915 mm](#).
- Special shapes:
 - [Dropper kerbs DL1 and DR1 to footway crossings](#);
 - [Quadrant kerbs as shown on drawings](#); and
 - [External radius kerbs as shown on drawings](#).
- Finish: [As cast](#).
- Colour: [Grey](#).
- Bedding: [Fresh concrete races](#).
- Joints generally: [Dry, 2-3 mm gap](#).
- Sealant movement joints: [Not required](#).
- Accessories: [None](#).

112 PRECAST CONCRETE CONSERVATION KERBS

- Standard: To BS EN 1340.
- Recycled content: [75% \(minimum\) to BS EN ISO 14021](#).
- Designations: [CS1 Channel, square and HB3 Kerb, half battered](#).
- Size (width x height x length): [125 x 150 x 915 mm](#).
- Special shapes: [External radius kerbs as shown on drawings](#).
- Finish: [As cast](#).
- Colour: [Grey](#).
- Bending strength: [No requirement](#).
- Weathering resistance: [No requirement](#).
- Abrasion resistance: [No requirement](#).
- Slip/ skid resistance: [No requirement](#).
- Bedding: [Fresh concrete races](#).
- Joints generally: [Dry, 2-3 mm gap](#).
- Sealant movement joints: [Not required](#).
- Accessories: [None](#).

LAYING**510 LAYING KERBS, EDGINGS AND CHANNELS**

- Cutting: Neat, accurate and without spalling. Form neat junctions.
 - Long units (450 mm and over) minimum length after cutting: 300 mm.
 - Short units minimum length after cutting: The lower of one third of their original length or 50 mm.
- Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
- Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

520 ADVERSE WEATHER

- Conditions: Do not construct if the temperature is below 3°C on a falling thermometer or 1°C on a rising thermometer. Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.

- 530 CONCRETE FOR FOUNDATIONS, RACES AND HAUNCHING
- Standard: To BS 8500-2.
 - Designated mix: Not less than GEN0 or Standard mix ST1.
 - Workability: Very low.
- 540 CEMENT MORTAR BEDDING
- General: To section Z21.
 - Mix (Portland cement:sand): 1:3.
 - Portland cement: Class CEM I 42.5 to BS EN 197-1.
 - Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
 - Bed thickness: 12-40 mm.
- 547 BEDDING/BACKING OF UNITS ON FRESH CONCRETE RACES
- Standard: To BS 7533-6.
- 570 CHANNELS
- Installation: To an even gradient, without ponding or backfall.
 - Lowest points of channels: 6 mm above drainage outlets.
- 580 DRAINAGE CHANNEL SYSTEMS
- Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.
 - Silt and debris: Removed from entire system immediately before handover.
 - Washing and detritus: Safely disposed without discharging into sewers or watercourses.
- 590 DRAINAGE CHANNEL SYSTEMS WITH BUILT IN FALL
- Installation: Top of channels level, installed in correct sequence to form an even gradient without ponding or backfall. Commence laying from outlets.
 - Silt and debris: Removed from entire system immediately before handover.
 - Washings and detritus: Safely disposed without discharging into sewers or watercourses.
- 600 RADIUS KERBS/CHANNELS
- Usage: Radii of 15 m or less.
- 610 ANGLE KERBS
- Usage: Internal and external 90° changes of direction.
 - Cutting of mitres: Not permitted.
- 620 ACCURACY
- Deviations (maximum):
 - Level: ± 6 mm.
 - Horizontal and vertical alignment: 3 mm in 3 m.
- 625 REGULARITY OF PAVED SURFACES
- Maximum undulation of (non-tactile) paving surface: 3 mm.
 - Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
 - Difference in level between adjacent units (maximum):
 - Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
 - Recessed, filled joints: 2 mm.
 - Recess depth (maximum): 5 mm.
 - Unfilled joints: 2 mm.
 - Sudden irregularities: Not permitted.

**Q22
Asphalt roads/ pavings**

Q22 Asphalt roads/ pavings

To be read with Preliminaries/ General conditions.

TYPES OF PAVING**110A ASPHALT CONCRETE PAVING TO ALL ROADS**

- Standard: [To BS EN 13108-1](#).
- Design: [To Project Engineers Specification](#)

115A ASPHALT CONCRETE PAVING TO FOOTWAYS

- Standard: [To BS EN 13108-1](#).
- Design [To Project Engineers Specification](#)

PREPARATORY WORK/ REQUIREMENTS**210 TIMBER EDGING TO FOOTWAY**

- Softwood board:
 - Size: 38 x 150 mm.
 - Fixing: Galvanized nails into softwood pegs.
- Softwood pegs:
 - Size: [Submit proposals](#).
 - Fixing: Drive into ground.
 - Centres: [Submit proposals](#).
- Preservative treatment: [Submit proposals](#).
 - Type: [Submit proposals](#).

220 BITUMINOUS MATERIALS GENERALLY

- Suppliers names: Submit.
 - Timing (minimum): Two weeks before starting work.
- Test certificates: At the time of delivery for each manufacturing batch submit certificate:
 - Confirming compliance with this specification and the relevant standard.
 - Stating full details of composition of mix.

230 SAMPLES

- Submit: [Representative samples of coated chippings](#).

240 ACCEPTANCE OF SURFACES

- Surface: Sound, clean and suitably close textured.
- Level tolerances: To BS 594987.
- Kerbs and edgings: Complete, adequately bedded and haunched and to the required levels.

250 ABUTMENTS

- Vertical edges of manholes, gullies, kerbs and other abutments: Clean and paint with a thin uniform coating of [To project Engineers Specification](#).
- Finishing: Tamp surface around projections.
 - Level: Flush or not more than 3 mm above projections.

LAYING**310 LAYING GENERALLY**

- Preparation: Remove all loose material, rubbish and standing water.
- Adjacent work: Form neat junctions. Do not damage.
- Channels, kerbs, inspection covers etc: Keep clean.
- New paving:
 - Keep traffic free until it has cooled to prevailing atmospheric temperature.
 - Do not allow rollers to stand at any time.
 - Prevent damage.
 - Lines and levels: With regular falls to prevent ponding.
 - Overall texture: Smooth, even and free from dragging, tearing or segregation.
 - State on completion: Clean.

320 ADVERSE WEATHER

- Frozen materials: Do not use.
- Suspend laying:
 - During freezing conditions
 - If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer.
 - Hot rolled asphalt: During periods of continuous or heavy rain or if there is standing water on the base.

330 LEVELS

- Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, clause 5.2.

340 FLATNESS/ SURFACE REGULARITY

- Deviation of surface: Where appropriate in relation to the geometry of the surface, the variation in gap under a 3 m straightedge placed anywhere on the surface to be not more than:
 - Base: [Hand laid, 25 mm and Machine laid, 25 mm](#).
 - Binder course: [Hand laid, 13 mm and Machine laid, 13 mm](#).
 - Surface course: [Hand laid, 10 mm and Machine laid, 7 mm](#).
 - Where a straightedge cannot be used the surface must be of a comparable standard of accuracy when judged by eye.

350 CONTRACTOR'S USE OF PAVEMENTS

- Before use:
 - Timing: allow newly laid sections to cool before trafficking.
 - Open-grained surface: Fill with 0/4 mm size coated grit. Remove surplus.
 - Finish: Uncoated chipping and binder surface treatment.
- Preparation for final surfacing:
 - Timing: Defer laying until as late as practicable.
 - Immediately before laying final surfacing: Clean and make good the base/ binder course. Allow to dry.
 - Adhesion: [Submit proposals](#).
Application rate: [As manufacturer's recommendation](#).
Accuracy: Uniform, without puddles.
 - Finishing: Allow emulsion to break completely before applying surface.

351 CONTRACTOR'S USE OF PAVEMENTS

- Preparation for final surfacing:
 - Timing: Defer laying until as late as practicable.
 - Immediately before laying final surfacing: Clean and make good the base/ binder course. Allow to dry.
 - Adhesion: [Submit proposals](#).
Application rate: [As manufacturer's recommendation](#).
Accuracy: Uniform, without puddles.
 - Finishing: Allow emulsion to break completely before applying surface.

360 UNCOATED CHIPPINGS FOR SURFACE TREATMENT

- Chippings: Clean aggregate to BS EN 13043 and PD 6682-2, size 2.8/6.3, grading category Gc85/15.
 - Type/ Source: [Submit proposals](#).
 - Colour: [Submit proposals](#).
- Binder:
 - Cutback bitumen to BS EN 12591 or bitumen emulsion to BS 434-1.
 - Do not use cut-back bitumen at temperatures below 15°C.
 - Do not use modified binders without prior approval.
- Application:
 - Binder application rate: In accordance with TRL Road Note 39. Adjust rate for modified binders in accordance with manufacturer's instructions.
 - Coverage: 100–105% shoulder to shoulder to BS 598-1.
 - Compaction: Roll. Do not crush chippings.
- Completion:
 - Before trafficking, remove excess chippings.
 - Carry out further removal of loose chippings disturbed by traffic as necessary.

COMPLETION

390 DOCUMENTATION

- Standard: [As Agreed by Project Administrator](#) .
 - Declaration of conformity: Submit.
- Number of copies: [As Agreed by Project Administrator](#) .
- Submission: [As Agreed by Project Administrator](#) .

**Q24
Interlocking brick/block roads/pavings**

Q24 Interlocking brick/block roads/pavings

To be read with Preliminaries/ General conditions

TYPES OF PAVING

110A CONVENTIONAL CONCRETE BLOCK PAVING TO ROADS

- Subgrade improvement layer: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
- Geotextile: [As Project Engineers Specification](#).
 - Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Granular sub-base: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
- Laying course:
 - Material: In accordance with BS 7533-3.
 - Category: [As Project Engineers Specification](#).
 - Method of screeding, in accordance with BS 7533-3: [Contractor's choice of compaction or uncompacted](#).
 - Nominal thickness after compaction: [As Project Engineers Specification](#).
- Blocks: To BS EN 1338.
 - Manufacturer: [Charcon](#).
 - Product reference: [Woburn](#).
 - Sizes: [200,134 and 100 x 134 x 80mm](#).
 - Special blocks: [None](#).
 - Arrises: [Unchamfered](#).
 - Colour/ Finish: [Graphite Grey and Rustic/ Tumbled](#).
 - Recycled content: [Submit proposals](#).
 - Requirements: [As Project Engineers Specification](#).
 - Freeze/ thaw resistance: [As Project Engineers Specification](#).
 - Abrasion resistance: [As Project Engineers Specification](#).
 - Slip/ Skid resistance: [As Project Engineers Specification](#).
- Jointing:
 - Material: In accordance with BS 7533-3.
 - Joint width: 2-5 mm.
- Sealer/ Stabilizer: [As Project Engineers Specification](#).
- Setting out:
 - Bond: [Transvers Broken Bond](#).
 - Accessories: [None](#).

120 CONVENTIONAL CLAY PAVER PAVING TO FOOTPATHS

- Subgrade improvement layer: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
- Geotextile: [As Project Engineers Specification](#).
 - Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Granular sub-base: [Submit proposals](#).
 - Compacted thickness: [Submit proposals](#).
- Laying course:
 - Material: In accordance with BS 7533-3.
 - Category: [As Project Engineers Specification](#).
 - Method of screeding, in accordance with BS 7533-3: Compaction.
 - Nominal thickness after compaction: [As Project Engineers Specification](#).
- Pavers: To BS EN 1344:
 - Manufacturer: [Chelmer Valley](#).
 - Product reference: [Delta Multi Red](#).
 - Sizes: [As Project Engineers Specification](#).
 - Special pavers: [None](#).
 - Arrises: [Unchamfered](#).
 - Colour/ Finish: [Multi Red/Smooth](#).
 - Requirements: [As Project Engineers Specification](#).
 - Dimensional deviations: [As Project Engineers Specification](#).
 - Freeze/ thaw resistance class: [As Project Engineers Specification](#).
 - Mean transverse breaking load: [As Project Engineers Specification](#).
 - Abrasion resistance (mm): [As Project Engineers Specification](#).
 - Slip/ Skid resistance: [As Project Engineers Specification](#).
 - Acid resistance: [As Project Engineers Specification](#).
- Jointing:
 - Material: In accordance with BS 7533-3.
 - Joint width: 2-5 mm.
- Sealer/ Stabilizer: [As Project Engineers Specification](#).
- Setting out:
 - Bond: [Stretcher](#).
 - Features: [Mortar bedded edge restraint](#).
- Accessories: [None](#).

- 130 NATURAL STONE SETT PAVING [Crossing at Entrance containing Rumble strip](#)
- Subgrade improvement layer: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
 - Granular sub-base: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
 - Geotextile: [As Project Engineers Specification](#).
 - Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
 - Laying course:
 - Material: In accordance with BS 7533-7, clause 5.1.1.1.
 - Compaction: In accordance with BS 7533-7, clauses 8.4.1 and 11.1 and Annex E.
 - Nominal thickness after compaction: [As Project Engineers Specification](#).
 - Setts:
 - Standard: To BS EN 1342.
 - Supplier: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
 - Sizes: [100 x 100 x 100 mm](#).
 - Special setts: [None](#).
 - Colour/ Finish: [Silver grey; Coarse textured; and Fine textured](#).
 - Requirements: [OK](#).
 - Petrographical description/ stone type: [Granite](#).
 - Plan dimension and thickness deviation: [As Project Engineers Specification](#).
 - Tolerances on undercut of sides: [As Project Engineers Specification](#).
 - Tolerances on hewn and coarse textured face irregularities: [As Project Engineers Specification](#).
 - Slip resistance: [As Project Engineers Specification](#).
 - Skid resistance: [As Project Engineers Specification](#).
 - Method of cutting sett sides: [Diamond sawn](#).
 - Jointing:
 - Material: In accordance with BS 7533-7, clause 5.2.1.1.
 - Joint width: [2-4 mm](#).
 - Setting out: [As Project Engineers Specification](#).
 - Bond: [Stack Bond](#).
 - Features: [Mortar bedded traffic calming ramps](#).
 - Sealer/ Stabilizer: [As Project Engineers Specification](#).
 - Accessories: [None](#).

EXECUTION

- 200 EXECUTION GENERALLY - CONCRETE BLOCK AND CLAY PAVER PAVING
- Standard: In accordance with BS 7533-3.
- 205 EXECUTION GENERALLY - NATURAL STONE PAVING
- Standard: In accordance with BS 7533-7, as relevant to flexible (non-rigid) laying and construction.
 - Subgrade, sub-base and roadbase presentation: [Tight and dense surface, to prevent loss of laying course material into it during construction and use](#).
 - Joint filling: [Do not work in damp conditions. Top joints up at the earliest opportunity](#).
- 211 COLOUR BANDING
- General: [Unless premixed by manufacturer, select blocks/ pavers/ setts vertically from at least 3-5 separate packs in rotation to avoid colour banding](#).
- 220 SAMPLES
- General: [Before ordering, submit samples of all blocks/ pavers/ setts that are representative of colour and appearance](#).
- 230 CONTROL SAMPLES
- General: [Carry out sample area of finished work](#):
 - Location: [As per Contract Administrator Requirement](#).
 - Size (minimum): [As per Contract Administrator Requirement](#).
 - Features to be included: [As per Contract Administrator Requirement](#).
 - Give notice: [When ready for inspection](#).
 - Timing: [Obtain approval of appearance before proceeding](#).

240 ADVERSE WEATHER

- General: Do not use frozen materials or lay bedding on frozen or frost covered sub-bases.

385 MORTAR BEDDED [EDGE RESTRAINT](#)

- Foundation:
 - Size: [As Project Engineers Specification](#).
 - Concrete: As section E10 [As Project Engineers Specification](#).
- Bedding:
 - Thickness: 10 mm minimum to 40 mm maximum.
 - Mortar: As section Z21 [As Project Engineers Specification](#).
- Laying: Bed units on foundation, and secure with continuous mortar haunching.
 - Keep exposed faces clean and free from mortar.
- Jointing: [Dry, butted](#).

440 LAYING GEOTEXTILE EDGING STRIP FOR CONVENTIONAL PAVING

- Location: Immediately below laying course, abutting features that interrupt the laying course, including:
 - Perimeters, edge restraints and kerbs.
 - Other types of paving.
 - Drainage fittings, e.g. channels and manholes.
- Width: [As Project Engineers Specification](#).
- Jointing: [As Project Engineers Specification](#).
- Edge detail: Turn sheet up to form an upstand fitted neatly against features.
 - Height (minimum): Thickness of sand laying course.

445 LAYING GEOTEXTILE PATCHES OVER DRAINAGE HOLES FOR CONVENTIONAL PAVING

- General: Lay geotextile patches on the base, centred over each hole.
 - Size of patches: [As Project Engineers Specification](#).

450 LAYING GEOTEXTILE SHEET FOR CONVENTIONAL PAVING

- Location: Immediately below laying course.
- Jointing: [As Project Engineers Specification](#).
- Laying: Fit neatly at edge restraints and other features that interrupt the sand laying course, e.g. drainage fittings, channels, manholes and kerbs.
 - Edge detail: Turn sheet up to form an upstand against features.
 - Height (minimum): Thickness of sand laying course.

452 PREPARED EXISTING AND NEW BOUND BASES (ROADBASES)

- Condition before placing laying course: Sound, clean, free from rutting or major cracking and cleared of sharp stones, projections or debris.

485 LAYING BLOCKS/ PAVERS/ SETTS

- Setting out: Start from an edge restraint.
- Cutting: Cleanly, accurately and vertically, without spalling. Do not mark or damage visible surfaces.
- Cut edges: Turn inwards where possible; do not position against edge restraints or other features.
- In situ mortar or concrete infill: [As Project Engineers Specification](#).
- Compaction: Vibrate to produce thoroughly interlocked paving of even overall appearance with regular joints and accurate to line, level and profile. Do not mark or damage paving units, kerbs and adjacent work.
 - Concrete blocks and clay pavers: In accordance with BS 7533-3, Annex F, to site category required for laying course material.

495 IN SITU SURROUNDS TO OBSTRUCTIONS

- Locations: [Where agreed on site](#).
- Material: [As Project Engineers Specification](#).
- Shape and size: Rectangular, 100 mm (minimum) all round obstruction.
- Thickness (minimum): Combined depth of blocks/ pavers/ setts and sand laying course.
- Colour: [To approval](#).
- Timing: Lay and allow to cure in advance of laying blocks/ pavers/ setts.

505 REGULARITY OF PAVED SURFACES

- Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
- Joints between paving units or utility access covers:
 - Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
- Sudden irregularities: Not permitted.

COMPLETION

600 SEALER/ STABILIZER FOR NEW BLOCKS AND SETTS

- Surface preparation: [As Project Engineers Specification](#).
- Sealer/ Stabilizer:
 - Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
 - Application: To dry paving.
 - Method: [To manufacturer's recommendations](#).
 - Number of coats: [To manufacturer's recommendations](#).
 - Coverage: [To manufacturer's recommendations](#).

615 COMPLETION OF PAVING

- Final compaction of the surface course: In accordance with BS 7533-3.
- Vacuum cleaning machines: Not allowed.

**Q25
Slab/brick/sett/cobble pavings**

Q25 Slab/brick/sett/cobble pavings

To be read with Preliminaries/ General conditions.

GENERAL**120 CONCRETE FLAG PAVING SYSTEM [Tactile Paving Slab: BL1](#)**

- Subgrade improvement layer: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
- Granular sub-base: [As Project Engineers Specification](#).
 - Compacted thickness: [Submit proposals](#).
- Base: [As Project Engineers Specification](#).
 - Thickness: [Submit proposals](#).
- Laying course: [As Project Engineers Specification](#).
 - Accessories: [None](#).
- Paving units: [Tactile concrete flags](#).
- Jointing: [Submit proposals](#).
 - Bond: [Straight line](#).
- Accessories: [None](#).

PRODUCTS**320 TACTILE FLAGS AND SLABS [Uncontrolled Pedestrian Crossing](#)**

- Standard: To DD CEN/TS 15209.
- Material: [Precast concrete](#).
 - Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Recycled content: [Submit proposals](#).
- Nominal sizes: [400 x 400 mm](#).
- Colour: [Buff](#).
- Type of surface: [Blister – type B1](#).

365 GEOTEXTILE SHEET [As Project Engineers Specification](#)

- Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Recycled content: [Submit proposals](#).

370 CEMENT FOR SITE MIXED MORTAR [As Project Engineers Specification](#)

- Standard: As section Z21.

375A SAND/ FINE AGGREGATE FOR SITE MIXED MORTAR [Tactile Paver](#)

- Standard: To BS EN 12620, designations:
 - Flag and slab paving laying course: [As Project Engineers Specification](#).

440 READY MIXED MORTAR [Tactile Paving](#)

- Type: [As Project Engineers Specification](#).
- Standard/ Performance requirements: [As Project Engineers Specification](#).
- Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Consistency: [As Project Engineers Specification](#).

EXECUTION**610 MATERIAL SAMPLES**

- Samples representative of colour and appearance of designated materials: Submit before placing orders.
 - Designated materials: [All pavings](#).

615 CONTROL SAMPLES

- Sample areas: Complete as part of the finished work.
 - Types of paving:
 - Concrete slab paving;
 - Brick paving; and
 - Natural stone sett paving.
 - Location: As Contract Administrator.
 - Size (minimum): One full paving panel.
 - Included features: As Contract Administrator.
- Approval of appearance and surface: Obtain before proceeding.

620 ADVERSE WEATHER

- General:
 - Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
- Paving with mortar joints and/ or bedding:
 - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- Paving laid and jointed in sand:
 - Stockpiled bedding sand: Protect from saturation.
 - Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.
 - Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
 - Laying dry-sand jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625 LAYING PAVINGS - GENERAL

- Appearance: Smooth and even with regular joints and accurate to line, level and profile.
- Falls: To prevent ponding.
- Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
- Slopes: Lay paving units upwards from the bottom of slopes.
- Paving units: Free of mortar and sand stains.
- Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 LEVELS OF PAVING

- Permissible deviation from specified levels:
 - Generally: ± 6 mm.
- Height of finished paving above features:
 - At gullies: +6 to +10 mm.
 - At drainage channels and kerbs: +3 to +6 mm.

637 REGULARITY OF PAVED SURFACES

- Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
- Joints between paving units or utility access covers:
 - Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
- Sudden irregularities: Not permitted.

640 COLOUR BANDING

- General: Unless premixed by manufacturer, select from at least 3-5 separate packs in rotation to avoid colour banding.

645 PROTECTION

- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
- Materials storage: Do not overload pavings with stacks of materials.
- Handling: Do not damage paving unit corners, arrises, or previously laid paving.
- Mortar bedded pavings: Keep free from traffic after laying:
 - Pedestrian traffic (minimum): [As Project Engineers Specification.](#)
 - Vehicular traffic (minimum): [As Project Engineers Specification.](#)
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

695 SITE MIXED MORTAR - LAYING COURSE FOR CONCRETE FLAG PAVING

- Mix: [As Project Engineers Specification.](#)
- Consistency: [As Project Engineers Specification.](#)
- Admixtures: [As Project Engineers Specification.](#)

715 LAYING FLAG AND SLAB PAVING - MORTAR LAYING COURSE AND JOINTING

- Standard generally: In accordance with BS 7533-4.
- Flag installation and cutting: To Interpave 'Concrete flag paving'.
- Laying course:
 - Nominal thickness: [As Project Engineers Specification.](#)
- Laying and jointing: [As Project Engineers Specification.](#)
- Joint width (nominal): [As Project Engineers Specification.](#)

785 TOOLED JOINTS IN MORTAR BEDDED UNITS

- Joints: Completely filled with bedding mortar as work proceeds.
 - Joint width: [As Project Engineers Specification.](#)
 - Finish: Neat flush profile.

COMPLETION

**Q28
Topsoil and soil ameliorants**

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

SYSTEM OUTLINE

- 115 SOIL SYSTEM FOR GRASS SWARDS [Amenity Grass Areas](#)
- Composition:
 - Soil: [Imported topsoil to BS 3882](#).
 - Ameliorants: [Organic materials](#).
 - Accessories: [None](#).
- 115A SOIL SYSTEM FOR GRASS SWARDS [Housing Lawns](#)
- Composition:
 - Soil: [Imported topsoil, custom mix](#).
 - Stone Content [>2mm 30%; >20mm 5%; .50mm 0%](#)
 - Ameliorants: [Organic materials](#).
 - Accessories: [None](#).
- 135 PLANTING BED SOIL SYSTEM [FOR FLOWERING SHRUBS](#)
- Composition:
 - Topsoil: [Imported topsoil to BS 3882](#).
 - Ameliorants: [Organic materials](#).
 - Accessories: [None](#).
- 135A PLANTING BED SOIL SYSTEM [FOR WOODLAND AREAS](#)
- Composition:
 - Topsoil: [Imported topsoil to BS 3882](#).
 - Ameliorants: [Organic materials](#).
 - Accessories: [Mycorrhizal inoculant](#).
- 145 PLANT PIT BACKFILLING SOIL SYSTEM [FOR TREE PITS](#)
- Composition:
 - Topsoil: [Imported topsoil to BS 3882](#).
 - Ameliorants: [Organic materials and Fertilizer](#).
 - Accessories: [Mycorrhizal inoculant](#).
- 155 MULCHING AND TOP DRESSING SYSTEM [FOR FLOWERING SHRUBS](#)
- Composition:
 - Material: [Organic materials](#).

PRODUCTS

- 300 PREPARATION MATERIALS GENERALLY
- Purity: Free of pests and disease.
 - Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
 - Contamination: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - Corrosive, explosive or flammable.
 - Hazardous to human or animal life.
 - Detrimental to healthy plant growth.
 - Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
 - Objectionable odour: None.
 - Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

305 PERMITTED MATERIALS

- Materials:
 - Bark;
 - Composted animal manures;
 - Composted bark;
 - Composted green/ food waste certified to PAS 100; and
 - Spent mushroom compost.
- Give notice: before ordering or using.
- Declaration of compliance in accordance with BS EN 13650: [Required](#).

310 MATERIALS NOT PERMITTED

- Materials:
 - Peat;
 - Products containing peat; and
 - River and canal dredgings.

315 IMPORTED TOPSOIL TO BS 3882 [For All Areas Excluding Housing Lawns](#)

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Standard: To BS 3882.
- Classification: [Multipurpose](#).
 - Grade: [Within the parameters of 'sandy loam' textural class](#).
- Source: [Submit proposals](#).
 - Product reference: [Submit proposals](#).

315A IMPORTED TOPSOIL TO BS 3882 [Housing Lawns](#)

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Standard: To BS 3882.
- Stone Content [>2mm 30%; >20mm 5%; .50mm 0%](#)
- Classification: [Multipurpose](#).
 - Grade: [Within the parameters of 'sandy loam' textural class](#).
- Source: [Submit proposals](#).
 - Product reference: [Submit proposals](#).

355 ORGANIC MATERIALS [FOR PLANTING BEDS](#)

- Type: [Bone and blood meal](#).
- Source: [Submit proposals](#).
 - Product reference: [Submit proposals](#).

360 SANITIZED AND STABILIZED COMPOSTED MATERIALS CERTIFIED TO PAS 100 [FOR TOP DRESSING/ MULCHING](#)

- Standard: In accordance with PAS 100.
- Source: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Horticultural parameters:
 - pH (1:5 water extract): 7.0-8.7.
 - Electrical conductivity (maximum, 1:5 water extract): 200 mS/m.
 - Moisture content (m/m of fresh weight): 35-55%.
 - Organic matter content (minimum): 25%.
 - Grading (air dried samples): 99% passing 25 mm screen, and 90% passing: [10 mm screen mesh aperture](#).
 - Carbon:Nitrogen ratio (maximum): 20:1.
- Texture: Friable.
- Objectionable odour: None.
- Composting Association certification: [Required](#).
- Declaration of analysis: Submit.
- Additional analyses: [Electrical conductivity](#).
- Samples: [Submit details of recent chemical and physical analysis before ordering](#).

380 MYCORRHIZAL INOCULANT [Woodland Planting](#)

- Manufacturer: [Submit proposals](#).
- Product reference: [Submit proposals](#).

401 ORGANIC FERTILIZERS [FOR GRASS SEEDING](#)

- Manufacturer/ source: [Submit proposals](#).
- Product reference: [Submit proposals](#).
- Standard: [In accordance with The EC Fertilisers \(England and Wales\) Regulations 2006](#).
- Purpose: [Pre-seeding fertilizer](#).
- Type: [Blood and bone](#).
- Availability to plants: [Slow release](#).

EXECUTION

610 TOPSOIL ANALYSIS

- Soil to be analysed: [Imported topsoil](#).
- Soil analyst: [As Contract Administrator](#).
- Samples: Collect in accordance with BS 3882.
- Submit:
 - Declaration of analysis:
 - [Chemical analysis and contaminants](#);
 - [Maximum stone content, stone size and pH value](#);
 - [Phytotoxic and CLEA elements](#); and
 - [Textural classification and maximum stone content](#).
 - Report detailing soil analyst's recommendations.

615 TESTING OF MATERIALS

- Material to be analysed: [Organic materials](#).
- Laboratory: [Submit proposals](#).
- Samples: [Collect in accordance with PAS 100](#).
- Submit:
 - Declaration of analysis: [As directed](#).
 - Report detailing analyst's recommendations.

625 SAMPLE LOADS [FOR ORGANIC MATERIAL](#)

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

630 DOCUMENTATION FOR IMPORTED TOPSOIL [FOR GRASS SEEDING](#)

- Timing: Submit at handover.
- Contents:
 - Full description of all soil components.
 - Record of source for all soil components.
 - Record drawings showing the location and depth of all soils by type and grade.
 - Declaration of analysis: in accordance with BS 3882, Annex E.
- Number of copies: [As Contract Administrator](#).

635 DOCUMENTATION FOR COMPOST AND COMPOSTED MATERIALS [FOR IMPORTED SOIL IMPROVERS](#)

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

640 DOCUMENTATION FOR PREPARATION MATERIALS FOR ORGANIC MATERIALS

- Timing: Submit at handover.
- Contents:
 - Full description of all components.
 - Record of source for all components.
 - Analyst's report for each test carried out.
 - Supplier's declaration of compliance with BSI PD CR 13456.
- Number of copies: [As Contract Administrator](#).

650 NOTICE

- Give notice before:
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
- Period of notice: [As Contract Administrator](#).

655 MECHANICAL TOOLS

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

660 GRADING SUBSOIL

- General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
- Loosening:
 - Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Areas of thicker topsoil: Excavate locally.
- Avoid over compaction.

665 SUBSOIL SURFACE PREPARATION

- General: Excavate and/ or place fill to required profiles and levels, as section D20.
- Loosening:
 - Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Stones: Immediately before spreading topsoil, remove stones larger than **50 mm**.
- Remove from site: [Arisings, contaminants and debris and Builders rubble](#).

670 INSPECTING FORMATIONS

- Give notice: Before spreading topsoil for
 - [areas to receive forestry planting](#) ;
 - [lawn areas](#); and
 - [planting beds](#).
- Notice period: [As Contract Administrator](#).

675 PREPARATION OF UNDISTURBED TOPSOIL

- Standard: In accordance with BS 4428.
 - Grading and cultivation: [To suit cultivation operations specified in Q31](#).
- Hard ground: Break up thoroughly.
- Clearing: Remove visible roots and large stones with a diameter greater than **50 mm**.
- Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
- Fallow period (minimum): [Two months](#).
 - Weed control: At appropriate times [re-cultivate at fortnightly intervals to suppress weed growth](#).

680 SURPLUS TOPSOIL TO BE RETAINED

- Generally: Spread and level on site:
 - Locations: [Any areas where topsoil is required for new planting](#).
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.

685 SURPLUS MATERIALS TO BE REMOVED

- Topsoil: Remove from site [excess topsoil](#).
- Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

700 GRADING OF TOPSOIL

- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
- Give notice: If required levels cannot be achieved by movement of existing soil.

705 HANDLING TOPSOIL

- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit [less 3%, to BS 1377-2](#).

710 SPREADING TOPSOIL

- Temporary roads/ surfacing: Remove before spreading topsoil.
- Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
- Depths after firming and settlement (minimum): [150 mm](#).
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 LOOSE TIPPING OF TOPSOIL

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

718 FINAL CULTIVATION FOR GRASS SEEDING

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: [150 mm](#).
- Particle size (maximum): [2-8 mm](#).
- Timing: [Within a few days before planting](#).
- Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels: [25 mm above adjoining paving or kerbs](#).
- Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones with any dimension exceeding [20 mm](#).

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 25 mm.
- Below dpc of adjoining buildings: Not less than 150 mm.
- Planting beds: Higher than adjoining grass areas by 50 mm.
- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- Sportsfields: To even levels and within the following permitted deviations:
 - From levels or gradients shown on drawings: ± 75 mm.
 - From line between boning rods 30 m apart: ± 25 mm.
- Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch: Included.

805 APPLYING SOIL AMELIORANT TO SEEDED AREAS EXCEPT WILDFLOWER MEADOWS

- Type: Organic materials.
- Locations: All planting areas.
- Fully incorporate into topsoil to a depth of 150 mm.
- Application: Spread evenly.
 - Timing: Apply prior to cultivation.
 - Rate: To suit soil report recommendations.
- Timing: Prior to cultivation.
- Other requirements: Submit details of recent chemical and physical analysis before ordering.

825 APPLYING FERTILIZER TO PROPOSED GRASS AREAS TO SEEDED AREAS EXCEPT WILDFLOWER MEADOWS

- Application: Before final cultivation and three to five days before seeding/ turfing.
- Coverage:
 - Spread evenly, in transverse directions.
 - Rate: Submit Proposal .

830 APPLYING TOP DRESSING TO GRASS SEEDING

- Rate: Submit Proposal.
- Timing: Apply prior to cultivation.

840 APPLYING MYCORRHIZAL INOCULANT woodland planting.

- Depth: To manufacturer's/ supplier's recommendations.

845 APPLYING LOOSE MULCH FOR PLANTING BEDS

- Timing: Immediately after planting.
- Preparation: Ensure that soil is thoroughly moistened, applying water where necessary .
- Coverage of mulch (minimum):
 - Planting beds (depth): 1 m³ per 10 m².
 - Trees: Over an area of 1.2 x 1.2 m with the tree in the centre.
 - Container planting: 100 mm depth.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

COMPLETION

905 APPLYING MAINTENANCE FERTILIZER TO SOIL TO PLANTING BEDS

- Duration: Carry out the following operations from completion of seeding/ turfing until the end of the rectification period.
- Time of year: After flowering.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Rate: To manufacturer's recommendations.

910 APPLYING MAINTENANCE FERTILIZER TO GRASS SWARDS TO ALL GRASSED AREAS EXCEPT WILDFLOWER MEADOWS

- Duration: Carry out the following operations from completion of seeding/turfing until the end of the rectification period.
- Time of year: September.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Rate: To manufacturer's recommendations.

920 APPLYING MULCH

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

**Q30
Seeding/turfing**

Q30 Seeding/turfing

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS**115 SEEDED AND TURFED AREAS**

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

120 CLIMATIC CONDITIONS

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

145 WATERING

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

150 WATER RESTRICTIONS

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

160 NOTICE

- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Preparing seed bed.
 - Seeding or turfing.
 - Visiting site during maintenance period.
- Period of notice: [As Contract Administrator](#).

170 SETTING OUT

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

PREPARATION**210 HERBICIDE FOR ALL GRASSED AREAS**

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

212 SEED BED CLEANING BEFORE SOWING ALL GRASSED AREAS

- Operations: [As seed supplier's recommendations](#)..

250 SOIL REQUIREMENTS

- Type:
 - Seeded areas: [Soil for grass swards, as section Q28](#).
 - Turfed areas: [Soil for grass swards, as section Q28](#).
 - Reinforced grass areas: [Soil for grass swards, as section Q28](#).

SEEDING**310A GRASS SEED FRONT AND REAR LAWNS**

- Mixture: A19- 30% Corail Creeping Red Fescue,20% Escapade Perennial Ryegrass, 5%Highland Browntop Bent, 25% Rasia Chewings Fescue,20% Vesuvius Perennial Ryegrass.
- Application rate: 18–30 g/m².

311 GRASS SEED WETLAND MEADOW GRASS

- Supplier: Emersgate Seeds.
- Mixture reference: EM8.
- Application rate: 4 g/m².

319 QUALITY OF SEED FOR ALL GRASSED AREAS

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

330 SOWING

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

335 GRASS SOWING SEASON

- Grass seed generally: April to June or August to October.

340 PRE-EMERGENT HERBICIDE FOR ALL GRASSED AREAS

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

352 EDGES TO SEEDED AREAS ADJACENT TO PLANTING BEDS AND TREE PITS

- Timing: After seeded areas are well established.
- Edges: Clean straight lines or smooth curves.
 - Mulch and soil: Draw back to permit edging.
- Arisings: Remove.
- Completion: Respread soil and mulch.

PROTECTING/CUTTING**510 PROTECTIVE FENCING**

- Fencing type: Chestnut pale fencing to BS 1722-4.
 - Height: 1.1 m.
- Erection: On completion of seeding/ turfing.
- Removal: After grass is well established. Fencing will remain the property of the Contractor.

530 FIRST CUT OF GRASSED AREAS

- Timing: When grass is reasonably dry.
 - Height of initial growth: 40-75 mm.
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 40 mm.
- Mower type: Contractor's choice.
- Arisings: As schedule.

590 CLEANLINESS

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

MAINTENANCE**610 FAILURES OF SEEDING/TURFING**

- Duration: Carry out the following operations from completion of seeding/ turfing until: [the end of the rectification period](#).
- Defective materials or workmanship: Areas that have failed to thrive.
 - Exclusions: Theft or malicious damage.
- Method of making good: Recultivation and reseeded/ returfing.
- Timing of making good: [Submit proposals](#).

620 MAINTAINING GENERAL AMENITY GRASSED AREAS

- Duration: Carry out the following operations from completion of seeding/ turfing until: [the end of the rectification period](#).
- Maximum height of growth at any time: [50 mm](#).
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of [35 mm](#).
 - Arisings: [Remove](#).
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
 - Arisings: Remove.
- Weed control: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: [Contractor's choice](#).

620A MAINTAINING LAWN AREAS

- Duration: Carry out the following operations from completion of seeding/ turfing until: [practical completion](#).
- Maximum height of growth at any time: [35 mm](#).
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of [25 mm](#).
 - Arisings: [Remove](#).
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
 - Arisings: Remove.
- Weed control: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: [Contractor's choice](#).

**Q31
External planting**

Q31 External planting

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/ REQUIREMENTS

112 SITE CLEARANCE GENERALLY

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 200 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear scrub to ground level by flail mowing and remove arisings.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: Remove remnants of old fence posts and mesh.

118 SOIL CONDITIONS

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

120 CLIMATIC CONDITIONS

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

125 TIMES OF YEAR FOR PLANTING

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

130 MECHANICAL TOOLS

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

145 WATERING

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

150 WATER RESTRICTIONS

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

160 NOTICE

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

170 SOIL REQUIREMENTS

- Type
 - Planted beds: [Planting bed soil system, as section Q28](#).
 - Tree pits, shrub pits and other backfilling: [Plant pit backfilling soil system, as section Q28](#).
 - External container planting: [Container planting growing media system, as section Q28](#).
 - Mulch applied after planting: [Mulching and top dressing system, as section Q28](#).

200 PLANTS/ TREES - GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
 - Standard: [The relevant parts of BS 3936](#).
- Species: True to name.
- Origin/ Provenance: [As plant schedule](#).
Definition: Origin and Provenance have the meaning given in the National Plant Specification.

216 PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions and other criteria: To the relevant part of BS 3936.

225 BULBS/ CORMS/ TUBERS

- Condition: Firm, entire, not dried out or shrivelled.
- Health: Free from pests, diseases and fungus.
- Handling: Remove from packaging immediately.
- Storage: Permitted only when necessary.
 - Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
 - Duration: Minimum period.
 - Temperature: 18-21°C.

235 CONTAINER GROWN PLANTS/ TREES

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

245 LABELLING AND INFORMATION

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

246 LABELLING AND INFORMATION

- Standard: To BS 3936.

255 PLANTS/ TREES RESERVED AT SUPPLIER'S PREMISES

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

260 PLANT/ TREE SUBSTITUTION

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

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

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

275 PERMANENT IDENTIFICATION OF PLANTS

- Location: [As plant schedule](#).
- Labels: [Black plastics 75 mm x 100 mm with white weatherproof lettering attached to tree trunks at 1.5 m from ground level](#).
- Wording: [As plant schedule](#).

280 TREATMENT OF TREE WOUNDS

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

285 PROTECTION OF EXISTING GRASS

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

290 SURPLUS MATERIAL

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

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

300 HERBICIDE TO CLEAR OVERGROWN BEDS

- Locations: [All planting areas](#).
- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.
 - Duration (minimum): [As manufacturer's recommendation](#).

305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS

- Locations: [Whole site](#).
- General: Prevent weeds from seeding and perennial weeds from becoming established, [in accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotweed code of practice'](#).

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

400 RANDOM PLANT LAYOUT TO WOODLAND PLANTING

- Spacing: [Evenly, avoiding straight lines](#).
- Density: [As plant schedule](#).

401 REGULAR PLANT LAYOUT TO SHRUB PLANTING

- Spacing: [In regular, staggered rows](#).
- Density: [As plant schedule](#).

405 SHRUB PLANTING PITS

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: [Wide enough to accommodate roots when fully spread and 75 mm deeper than root system](#).
- Pit bottom improvement [Break up to a depth of 150 mm, incorporating soil ameliorant/ conditioner at 50 g/m²](#)

420 CLIMBING PLANTS

- Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
 - Branches: Lightly secured to supports.
- Climber supports: [Stainless steel wire](#).
 - Base height: [600 mm above ground](#).
 - Extent: [As drawing](#).
 - Centres: [350 mm](#)
 - Distance from wall: [75 mm](#).
- Fixings: [Stainless steel screw eyes](#).
 - Centres: [1.5 m](#).

435 CLIMBING PLANTS USED AS GROUND COVER

- Planting:
 - Canes or other supports: Remove.
 - Arrangement: Spread stems.
- Fixing: Pinned to ground to ensure good contact.

445 PLANTING BULBS/ CORMS/ TUBERS

- Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
- Backfilling: Finely broken soil. Lightly firm to existing ground level.
- Naturalized planting in existing grassed areas:
 - Scattering: Random. Plant bulbs/ corms/ tubers where they fall.
 - Planting: Neatly remove a plug of turf and replace after planting.

480 AFTER PLANTING

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
- Top dressing: [Mulching and top dressing system, as section Q28](#).
 - Depth: [100 mm](#).

486A SHRUB PROTECTION [WOODLAND BUFFER](#)

- Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Type: [Round](#).
- Material: [HDPE](#).
- Size: [Submit proposals](#).
- Colour: [Green](#).
- Support: [Single timber stake](#).
- General: Ensure that protection methods do not impede natural movement of shrubs or restrict growth.

PLANTING TREES505A TREE PITS [Specimen Trees](#)

- Sizes: [75 mm deeper than root system and wide enough to accommodate roots when fully spread](#).
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of [200 mm](#).
 - Treatment: [Soil ameliorant worked into pit bottoms](#).
- Pit sides: Scarify.
- Backfilling material: [Plant pit backfilling soil system, as section Q28](#).
- Accessories: [Perforated plastics irrigation/ ventilation pipe and Underground guying to BS 4043](#).

505B TREE PITS [Woodland Buffer Trees](#)

- Sizes: [75 mm deeper than root system and wide enough to accommodate roots when fully spread](#).
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of [200 mm](#).
 - Treatment: [Soil ameliorant worked into pit bottoms](#).
- Pit sides: Scarify.
- Backfilling material: [Plant pit backfilling soil system, as section Q28](#).
- Accessories: [n/a](#).

525 SEMIMATURE TREES

- Standard: Prepare roots and transplant to BS 4043.
- Backfilling material: As clause 585.
- Support: [Underground guying to BS 4043](#).
- Protection: [Not required](#).

535 STAKING GENERALLY

- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
 - Preservative treatment: [To provide a 20 year service life](#).
- Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
- Stake size (minimum): [50 x 50 mm](#).

555 SHORT SINGLE STAKING FOR [ALL NON SPECIMEN TREES](#)

- Staking: Position stake close to tree on windward side and drive vertically at least 300 mm into bottom of pit before planting.
 - Backfilling: Consolidate material around stake
- Height of stakes: Cut to approximately 600 mm above ground level.
- Ties: [Submit proposals](#).
- Tying: Secure tree firmly but not rigidly to stake with [one tie](#) within 25 mm of top of stake.

595 TREE PROTECTION

- Manufacturer: [Submit proposals](#).
 - Product reference: [Submit proposals](#).
- Type: [Round](#).
- Material: [HDPE](#).
- Size: [Submit proposals](#).
- Colour: [Submit proposals](#).
- Support: [Two timber stakes](#).
- General: Ensure that protection methods do not impede natural movement of trees or restrict growth.

WOODLAND/ MATRIX/ BUFFER ZONE PLANTING

600 WOODLAND WORK GENERALLY

- Services: Check for below and above ground services, including land drainage, in the vicinity. Give notice if they may be affected and obtain instructions before proceeding.
- Safety: Comply with Arboriculture and Forestry Advisory Group Safety leaflets.

605 EXISTING VEGETATION/ WEED CLEARANCE

- Surface vegetation clearance: [Screef an area one metre diameter around each planting location](#).
- Arisings: Remove.

617 REMOVING TREES AND HEDGES

- Identification: Clearly mark trees and hedges to be removed.
- Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
- Arisings: Remove.
- Tree stumps: [Remove mechanically to a minimum depth of 300 mm below ground level](#).

645 PLANTING IN TURF

- Preparation: Cut and upturn a turf of minimum [300 mm square](#).
- Notching: Make a vertical slit from the centre of the turf, to the side away from the prevailing wind.
 - Depth: To accommodate full depth of roots.
- Planting: Plant tree, close notch with root collar at ground level and firm the soil.

680 SETTING OUT

- Planting density: [As plant schedule](#).
- Layout: Random groups of no less than 3 or more than 7 of the same species, ensuring that no three plants are aligned in any one direction.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

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

720 FAILURES OF PLANTING

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - Exclusions: Theft or malicious damage after completion.
 - Rectification: Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: [In accordance with an agreed defects rectification programme](#).

730 PROTECTIVE FENCING

- Fencing type: [Cleft chestnut pale fencing, as section Q40](#).
- Erection: On completion of planting.
- Removal: [Fencing will remain the property of the Contractor. Remove and refill post holes following acceptance of rectified defects](#).

740 CLEANLINESS

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

750 PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: [By maintaining full thickness of mulch](#).
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Staking: Check condition of stakes, ties, guys and guards.
 - Broken or missing items: Replace.
 - Rubbing: Prevent.
 - Ties: Adjust to accommodate growth.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: [At each scheduled maintenance visit](#).
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Trees: Spray crown when in leaf during warm weather.
 - Timing: After dusk.
- Watering: [Contractor's choice](#).

760 PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: [As appropriate to the species](#).
 - Trees: Favour a single central leading shoot.
- Arisings: Remove.

770 WOODLAND PLANTING MAINTENANCE

- Watering: Only as necessary to prevent plants wilting.
- Loose plants: Refirm surrounding soil, without compacting.
- Weed control: Cut down and remove weeds prior to setting seed in a 1 m diameter area around each tree.
- Vegetation except trees and coppice shoots to be retained: Cut within the plantation area.
 - Height (maximum): 50 mm.
 - Arisings: Leave between rows.
- Mechanical, chemical or mulching methods of vegetation control: Submit proposals.
- Ditches and drains: Keep clear.
- Watering: Contractor's choice.

780 MAINTENANCE INSTRUCTIONS

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

790 FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.
Depth (minimum): 100 mm.
- Trees: Remulch.
Depth (minimum): 100 mm.

**Q40
Fencing**

Q40 Fencing

To be read with Preliminaries/ General conditions.

FENCING SYSTEMS

210 WOODEN POST AND RAIL FENCING

- Manufacturer: [Submit proposals](#).
- Product reference: [Submit proposals](#).
- Standard: To BS 1722-7, type [CPCR 125/3](#).
- Height: [1250 mm](#).
- Wood: [Sweet chestnut](#).
- Treatment: [Submit proposals](#).
- Finish: [Submit proposals](#).
- Maximum centres of posts: [1.8 m](#).
- Method of setting posts: [Submit proposals](#).
- Accessories: [None](#).
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-7.

310 CLOSE BOARDED FENCING

- Manufacturer: [Submit proposals](#).
- Product reference: [Submit proposals](#).
- Standard: To BS 1722-5, type [BCM 180A](#).
- Height: [1800 mm](#).
- Wood: [Softwood](#).
- Treatment: [Submit proposals](#).
- Finish: [Submit proposals](#).
- Boards/ rails: [Softwood feather edged boards on arris rails](#).
- Posts: [Wood](#).
- Centres of posts (maximum): [2.4 m](#).
- Method of setting posts: [Submit proposals](#).
- Accessories:
 - [Single leaf gate](#);
 - [Wood gravel board](#);
 - [Wood panel capping](#); and
 - [Wood post caps](#).
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-5.

GATES, POSTS AND STILES

570A GATES FOR FENCE Q40.310

- Manufacturer: [Submit proposals](#).
- Product reference: [Submit proposals](#).
- Sizes: [1830 mm clear opening](#).
- Posts: [Wood](#).
- Finish as delivered: [Unfinished](#).
- Fittings: [Two hook and band hinges, return spring and a heavy duty automatic latch](#).
- Finish: [N/A](#).
- Method of fixing: [Submit proposals](#).
- Accessories: [None](#).

ACCESSORIES

EXECUTION

710 INSTALLATION GENERALLY

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

715 COMPETENCE

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

720 SETTING POSTS IN CONCRETE

- Standard: To BS 8500-2.
- Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
- Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
- Admixtures: Do not use.
- Holes: Excavate neatly and with vertical sides.
- Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

730 EXPOSED CONCRETE FOUNDATIONS

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

765 CLEFT WOOD RAILS

- Length (maximum): 3.05 m.
- Fixing: Rail end section shaped to adequately fill the post mortice. Nail each rail to each prick post with two galvanized nails.
- Rails with split ends: Replace.

766 ARRIS RAILS

- Fixing:
 - Rail end section: Shaped to adequately fill the post mortice or recess.
 - Recessed posts: Rails bolted to each post.
 - Top rails: Fixed at both ends using One 8 mm diameter bolt .
- Rails with split ends: Replace.

770 SITE CUTTING OF WOOD

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

780 MAKING GOOD GALVANIZED SURFACES

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

790 SITE PAINTING

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

COMPLETION

910 CLEANING

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

920 FIXINGS

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

930 GATES

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