

# **LTWO001 Two Oaks landscape specifications**

**revision 001**

**04 November 2019**

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**Q10**

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

## Q10 Kerbs/ edgings/ channels/ paving accessories

To be read with Preliminaries/General conditions.

ALSO REFER TO PRODUCT REFERENCE REPORT ( SCH-MLA-ZZ-XX-SP-L-LAN-0001) FOR REFERENCE IMAGES AND FURTHER DETAILS AND LANDSCAPE DRAWING NOS SCH-MLA-ZZ-XX-DR-L-LAN-0006, SCH-MLA-ZZ-XX-DR-L-LAN-0007, SCH-MLA-ZZ-XX-DR-L-LAN-0008

### TYPES OF KERBS/EDGINGS AND CHANNELS

#### 112 PRECAST CONCRETE PIN KERB

- Standard: To BS EN 1340.
- Recycled content: Contractor's choice.
- Designations: EF Edging, flat top.
- Size (width x height x length): 50 x 150 x 915 mm.
- Special shapes: NONE.
- Finish: As cast.
- Colour: Silver grey.
- Bending strength: No requirement.
- Weathering resistance: Class 3.
- Abrasion resistance: No requirement.
- Slip/ skid resistance: ptv +60.
- Bedding: C7.5P semi-dry concrete bedding, C20P concrete at 25-55 mm slump haunch.
- Joints generally: Narrow mortar.
- Sealant movement joints: Not required.
- Accessories: None.

#### 112E PRECAST CONCRETE STEPS

- Recycled content: Contractor's choice.
- Designations: steps as per dDETAIL SCH-MLA-ZZ-XX-DR-L-LAN-0006.
- Size (width x height x length): 150 x 400 x 3000 mm.
- Special shapes: 10mm bullnose to top outer edge.
- Finish: As cast.
- Colour: White.
- Bending strength: No requirement.
- Weathering resistance: Class 3.
- Abrasion resistance: Class 4.
- Slip/ skid resistance: ptv +60.
- Bedding: 30 mm deep 3:1 mortar bedding.
- Joints generally: Narrow mortar.
- Sealant movement joints: Not required.
- Accessories: GRP antislip strip 50 mm width and 4 mm depth set into 2mm x 54 mm recessed groove with proprietary adhesive colour (black/beige).

#### 200 SPECIAL GALVANISED STEEL EDGING FOR RESIN BOUND GRAVEL AREA

- Manufacturer: Submit proposals.
  - Product reference: metal retaining edge.
- Size: 150mm High 8mm thickness, 3m length.
- Type/ Material: galvanised steel to BS EN ISO 1461.
  - Finish: galvanised.
  - Colour: Natural.
- Accessories: 5No fixing stakes and 2No connector strips per 3 m length.
- Bedding: Fresh concrete races.
- Joints: bolted through fixing plates with bolts.

200A SPECIAL IN SITU CONCRETE KERB TO ENGINEERS DETAIL

- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
- Size: SEE LANDSCAPE DETAILS NOS 4A, 4B, 5A, 5B/ SCH-MLA-ZZ-XX-DR-L-LAN-0006 .
- Type/ Material: CONCRETE.
  - Finish: Natural.
  - Colour: Natural.
- Accessories: TO ENGINEERS DETAIL .
- Bedding: TO ENGINEERS DETAIL .
- Joints: NARROW MORTAR.
- Sample: provide representative sample to show the quality of finish and colour including anti skate fin

200B SPECIAL EDGING AROUND GROUND FLOOR TERRACES - RAISED METAL PLANTER EDGE

- Manufacturer: Submit proposals.
  - Product reference: G316 stainless steel front plate returned as shown on detail 8B/ SCH-MLA-ZZ-XX-DR-L-LAN-0007 to form upper 60 mm lip and upper 75 mm lip.
- Size: 450mm High 4mm thickness.
- Type/ Material: G316 stainless steel.
  - Finish: stainless .
  - Colour: Standard .
- Accessories: galvanized steel support plate 6mm thick, galvanized support struts 4mm thick, 60 mm diameter 3mm thick galvanized steel brace as per detail 8B/ SCH-MLA-ZZ-XX-DR-L-LAN-0007 .
- Bedding: Self supporting.
- Joints: bolted through 8 mm thick fixing plates with 2 galvanised steel bolts .
- Other: detailed shop drawings to be produced for approval

200D SPECIAL ROOF LANDSCAPE L-SHAPED EDGE

- Manufacturer: Submit proposals.
  - Product reference: Roof landscape L-shaped edge.
- Size: 100-300mm High to finish flush (top edge profiled to suit, 1.5mm thickness, top bead 5mm, max length 2.4m, 100 x 90 mm pad foot.
- Type/ Material: aluminium.
  - Finish: milled.
  - Colour: Standard .
- Accessories: connector strips.
- Bedding: self supporting, held in place by weight of soil/balast .
- Joints: bolted through fixing plates with bolts .
- Other: slotted (10 mm slots as per detail 8D/SCH-MLA-ZZ-XX-DR-L-LAN-0007) to allow free drainage, detailed shop drawings to be produced for approval

200E PRESSURE TREATED TIMBER EDGING TO BUILDING/PLANTING INTERFACE:

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Size:
  - Edging board:
    - Size: 150 x 19 mm.
    - Fixing: Galvanized nails into posts.
  - posts:
    - Size: 450 x 50 x 50 mm.
    - Fixing: Drive into ground.
    - Centres: spacing 1m + corners/changes in direction.
    - Square section, angled and recessed top and pointed end
- Preservative treatment: submit proposals

## **ROADS/PAVING ACCESSORIES/MARKING/DEMARCATION**

### **395A ROAD MARKING (THERMOPLASTIC) FOR DISABLED CAR PARKING SPACES**

- Standard: Road Safety Markings Association standard specification document for road marking and road studs (StanSpec).
- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Colour: blue and white.
- Retroreflectivity to BS EN 1436: Class R2.

## **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.

### **540A CEMENT MORTAR BEDDING**

- 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.

### **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.

625A 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 2 mm max difference in level).
  - Recessed, filled joints: 2 mm.
    - Recess depth (maximum): 5 mm.
  - Unfilled joints: 2 mm.
- Sudden irregularities: Not permitted.

630 NARROW MORTAR JOINTS

- Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled, tightly butted and surplus mortar removed immediately.
  - Joint width: 3 mm.

**Q22**

**Asphalt roads/ pavings**



## Q22 Asphalt roads/ pavings

To be read with Preliminaries/ General conditions.

### TYPES OF PAVING

#### 160A STONE MASTIC ASPHALT PAVING FOR OPEN SPACE PATHWAYS option B

- System manufacturer: Submit proposals.
- Standard: To BS EN 13108-6.
- Subgrade improvement layer: to engineers' specifications.
- Preparatory work: to engineers' specifications.
- Geotextile: Not required.
  - Manufacturer: Not required.
  - Product reference: Not required.
- Granular sub-base: Not required.
- Regulating course: to engineers' specifications.
- Binder course: size ACC 10 close graded asphalt concrete, max 100/150 pen to BS EN 13108-1:2006.
- Surface course:
  - Manufacturer: Submit proposals.
  - Product reference: Duracolour BEIGE SMA 10 FD surf Mex C.
  - Slip/ Skid resistance: PTV +60.
  - - Application: 40 mm nominal thickness in one coat.
- Surface finish: Not required.
- Edge restraints: Concrete kerbs.
- Embedded features: Not required.

### PREPARATORY WORK/ REQUIREMENTS

#### 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.

#### 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 hot applied 40/60 paving grade bitumen.
- 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: to engineers' specifications.
  - Binder course: 13mm.
  - Surface course: 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: Tack coat to BS 434-1 or BS EN 13808.  
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: Tack coat to BS 434-1 or BS EN 13808.  
Application rate: As manufacturer's recommendation.  
Accuracy: Uniform, without puddles.
  - Finishing: Allow emulsion to break completely before applying surface.

## COMPLETION

### 395 SLIP RESISTANCE TESTING

- Surfaces to be tested: all walkable surfaces.
  - Surface condition: dry and wet.
- Timing: two weeks prior to handover, but after initial cleaning .
- Period of notice (minimum): 3 working days.
- Test standard: To BS 7976-2.
  - Testing authority: An approved laboratory.
  - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract administrator.
  - Report: Submit.
    - Format: As required under BS 7976.

**Q23**

**Gravel/ Hoggin/ Woodchip/ Resin bound roads/ paving/  
overlays**

## Q23 Gravel/ Hoggin/ Woodchip/ Resin bound roads/ paving/ overlays

To be read with Preliminaries/ General conditions.

ALSO REFER TO PRODUCT REFERENCE REPORT (SCH-MLA-ZZ-XX-SP-L-LAN-001) FOR REFERENCE IMAGES AND LANDSCAPE DRAWING NOS SCH-MLA-ZZ-XX-DR-L-LAN-0006, SCH-MLA-ZZ-XX-DR-L-LAN-0007, SCH-MLA-ZZ-XX-DR-L-LAN-0008

### TYPES OF SURFACING

- 120A COMPACTED GRAVEL Ballylusk
- Material: ballylusk compacted gravel.
    - Compacted thickness: 50 mm.
    - Source: [Ballylusk].
    - Colour: [buff].
    - Size: [6mm to dust].
  - Geotextile: Sheet.
    - Manufacturer: Contractor's choice.
    - Product reference: Contractor's choice.
  - Granular sub-base: well compacted cl804 .
    - Compacted thickness: Submit proposals.
  - Blinding layer: quarry dust.
  - Sub-base to engineer's detail
  - Completion: Compacted in 2 layers of 25 mm when damp to produce a firm, regular surface, stable in use, layed to fall.
- 160A LOOSE PLUM SLATE MULCH BUILDING/PLANTING INTERFACE
- Subgrade improvement layer: Not required.
    - Compacted thickness: Not applicable.
  - Geotextile: Sheet.
    - Manufacturer: Submit proposals.
    - Product reference: Submit proposals.
  - Blinding to sub-base: Not required.
  - Gravel: Loose laid and raked to uniform thickness.
    - Type: PLUM SLATE MULCH.
    - Source: Contractor's choice.
    - Colour: PLUM PURPLE.
    - Size: 50-100 mm diameter.
    - Thickness: 150 mm.
- 160B LOOSE RIVER COBBLES GREEN ROOF EDGE
- Subgrade improvement layer: Not required.
    - Compacted thickness: Not applicable.
  - Geotextile: Sheet.
    - Manufacturer: Submit proposals.
    - Product reference: Submit proposals.
  - Blinding to sub-base: Not required.
  - Gravel: Loose laid and raked to uniform thickness.
    - Type: WASHED RIVER PEBBLE.
    - Source: Contractor's choice.
    - Colour: WHITE.
    - Size: 50-100 mm diameter.
    - Thickness: 100-300 mm to finish flush.

- 225A PROPRIETARY RESIN BOUND GRAVEL FOR OPEN SPACE PATHWAYS option A
- Geomembrane: Not required.
    - Manufacturer: Not required.
    - Product reference: Not required.
  - Binder course: size AAC 10 close graded asphalt concrete, max 100/150 pen to BS EN 13108-1:2006.
    - Compacted thickness: 35 mm.
  - Water collection: Not required .
  - Geotextile: Not required.
    - Manufacturer: Not required.
    - Product reference: Not required.
  - Base course: AS PER ENGINEERS SPECIFICATION .
  - Surface course:
    - Manufacturer: Sureset.co.uk.
    - Product reference: RESIN BOUND GRAVEL.
    - Slip/ skid resistance: PTV +60.
    - Binder: Polyurethane with UV filter .
    - Chippings: natural aggregate.
    - Colour: Norwegian Bronze .
    - Aggregate size: 6mm.
    - Mix ratio (binder:aggregate): as per manufacturers specification.
  - Application: Thoroughly mixed and uniformly spread.
    - Spreading rate: as per manufacturers specification.
    - Thickness: 18 mm.
  - Finish: dressing
    - Silica sand dressing to enhance slip resistance ( to be brushed off afterwards)
    - Compaction to all layers: By troweling or other appropriate means, adequate to resist subsidence or deformation of the completed roads/ pavings when in use.

#### LAYING

- 315 MATERIALS
- Compatibility: Chippings suitable for use with respective binders/ emulsions/ resin/ epoxy.
- 320 SAMPLES
- Submit: Representative samples of all aggregates.
- 325 BLINDING TO SUB-BASE
- Type: to manufacturers' recommendations.
  - Laying: Compact. Seal interstices. Provide free drainage.
  - Compacted thickness: to manufacturers' recommendations.
- 330 HERBICIDE TO PAVING Q23/ Compacted gravel Ballylusk and resing bound gravel
- Type: Suitable for the application, location and conditions of use.
  - Weeds and moss: Grub up.
  - Application: As section A34, before surfacing.
- 340 LAYING GENERALLY
- Channels, gullies, etc: Keep clear.
  - Finished surfaces:
    - Lines and levels: To prevent ponding.
    - Overall texture: Even.
    - State at completion: Clean.

350 COLD WEATHER WORKING

- Frozen materials: Do not use.
- Freezing conditions: Do not lay pavings.
- Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
- Other dressings or overlays: As manufacturers' recommendations.

360 DRAINAGE FALLS

- Sealed surfaces:
  - Falls and cross falls (minimum): 1:40.
  - Camber (minimum): 1:50.
- Unsealed surfaces (minimum): 1:30.

370 LAYING GRANULAR SURFACES IN VEHICULAR AREAS

- Permissible deviation from required levels, falls and cambers (maximum): ±20mm.
- General: Spread and level in 150 mm maximum layers. As soon as possible compact each layer.
- Dry weather: Lightly water layers during compaction.

380 LAYING GRANULAR SURFACES IN PEDESTRIAN AREAS

- Permissible deviation from required levels, falls and cambers (maximum): ±12 mm.
- General: Spread and level in 100 mm maximum layers. As soon as possible, compact each layer.
- Dry weather: Lightly water layers during compaction.

390 PROTECTION FROM TRAFFIC AND PLANT

- Paved areas: Restrict access to prevent damage.

**COMPLETION**

400 SLIP RESISTANCE TESTING

- Surfaces to be tested: all walkable surfaces.
  - Surface condition: Dry and wet.
- Timing: Two weeks prior to handover, but after initial cleaning.
- Period of notice (minimum): 3 working days.
- Test standard: To BS 7976.
  - Testing authority: An approved laboratory.
  - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract administrator.
  - Report: Submit.
  - Format: As required under BS 7976.

**Q24**

**Interlocking brick/block roads/pavings**



## Q24 Interlocking brick/block roads/pavings

To be read with Preliminaries/ General conditions

ALSO REFER TO PRODUCT REFERENCE REPORT (SCH-MLA-ZZ-XX-SP-L-LAN-001) FOR REFERENCE IMAGES AND LANDSCAPE DRAWING NOS SCH-MLA-ZZ-XX-DR-L-LAN-0006, SCH-MLA-ZZ-XX-DR-L-LAN-0007, SCH-MLA-ZZ-XX-DR-L-LAN-0008

### TYPES OF PAVING

- 110A CONCRETE BLOCK PAVING SYSTEM MANHATTAN FOR COMUNITY SPACE
- Subgrade improvement layer: [AS PER ENGINEERS' SPECIFICATIONS].
    - Compacted thickness: [AS PER ENGINEERS' SPECIFICATIONS].
  - Granular sub-base: [AS PER ENGINEERS' SPECIFICATIONS].
    - Compacted thickness: [AS PER ENGINEERS' SPECIFICATIONS].
  - Base: [AS PER ENGINEERS' SPECIFICATIONS].
    - Thickness: [AS PER ENGINEERS' SPECIFICATIONS].
  - Laying course:
    - Material: flexible compliant with BS 7533-3  
Category: As per engineers specification.
    - Method of screeding, in accordance with BS 7533-3: As per engineers specification.
    - Nominal thickness after compaction: 30 mm.
  - Blocks: PC CONCRETE BLOCK PAVING
    - Manufacturer: Tobermore.  
Product reference: PC CONCRETE BLOCK PAVING MANHATTAN.
    - Sizes: 150x600 mm, 80 mm deep.
    - Special blocks: None.
    - Colour/ Finish: silver, mid-grey, graphite.
    - Recycled content: Contractor's choice.
    - Freeze/ thaw resistance: Class 3.
    - Abrasion resistance: Class 4.
    - Slip/ Skid resistance: PTV +60.
  - Jointing:
    - Material: In accordance with BS 7533-3.
    - Joint width: to manufacturer recommendations
  - Sealer/ Stabilizer: Not required.
  - Setting out:
    - Bond: half stone.
  - Accessories: none.

#### 117 PERMEABLE CONCRETE BLOCK PAVING - PARTIAL INFILTRATION FOR CAR PARKING BAYS

- Subgrade improvement layer: To engineers specification.
  - Compacted thickness: To engineers specification.
- Water collection system: To engineers specification.
  - Manufacturer: To engineers specification.
  - Product reference: To engineers specification.
- Geotextile below granular sub-base: To engineers specification.
- Granular sub-base: To engineers specification.
  - Compacted thickness: To engineers specification.
- Geotextile below laying course:
  - Manufacturer: To engineers specification.
  - Product reference: To engineers specification.
- Laying course:
  - Material: clean stone 2-6 mm aggregate size.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 50 mm.
- Blocks: To BS EN 1338.
  - Manufacturer: Tobermore.
  - Product reference: Hydropave tegula.
  - Sizes: 173x173mm x80mm depth; 208x173mm x80mm depth.
  - Special blocks: IN SITU CONCRETE KERB TO ENGINEERS' DETAIL.
  - Spacer nibs: Required.
  - Arrises: Unchamfered.
  - Colour/ Finish: BRACKEN (main), NATURAL (for lines).
  - Recycled content: Contractor's choice.
  - Requirements: as per manufacturers specification.
  - Freeze/ thaw resistance class: Class 3.
  - Abrasion resistance (mm): Class 4.
  - Slip/ Skid resistance: PTV + 60.
- Jointing:
  - Material: as per manufacturers specification.
  - Joint width: 3 mm.
  - Conventional sand jointing: Do not use.
- Setting out:
  - Bond: half stone.
  - Features: nature color stone for lining of parking spaces and bays.
- Accessories: in situ kerb surround.

#### 130A CONCRETE SETT PAVING SYSTEM TEGULA FOR TRESHOLDS

- Subgrade improvement layer: [AS PER ENGINEERS' SPECIFICATIONS].
  - Compacted thickness: [AS PER ENGINEERS' SPECIFICATIONS].
- Granular sub-base: [AS PER ENGINEERS' SPECIFICATIONS].
  - Compacted thickness: [AS PER ENGINEERS' SPECIFICATIONS].
- Base: [AS PER ENGINEERS' SPECIFICATIONS].
  - Thickness: [AS PER ENGINEERS' SPECIFICATIONS].
- Laying course: [flexible compliant with BS 7533-3].
  - Accessories: [None].
- Paving units: [PC CONCRETE SETT TEGULA].
  - Manufacturer: [Tobermore]
  - Colour: [slate]
  - Dimensions: [173x173 mm, 80 mm deep]
- Jointing: [2-3 mm flexible jointing].
  - Bond: [As details 5A/SCH-MLA-ZZ-XX-DR-L-LAN-0006, 14/SCH-MLA-ZZ-XX-DR-L-LAN-0007].
- Accessories: [None].

## EXECUTION

- 200 EXECUTION GENERALLY - CONCRETE BLOCK AND CLAY PAVER PAVING
- Standard: In accordance with BS 7533-3.
- 211 COLOUR BANDING
- General: Unless premixed by manufacturer, select blocks/ pavers/ setts vertically from at least 4 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: to be agreed.
    - Size (minimum): 1.5 x 1.5 m.
    - Features to be included:
      - Edging;
      - Kerb;
      - Recessed manhole cover infill; and
      - Junction with building facade.
  - 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.
- 240A ADVERSE WEATHER
- 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
- 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: Do not use.
  - 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.
- 490 LAYING PERMEABLE PAVING
- General: To BS 7533-3 and as per manufacturers specification.

495 IN SITU SURROUNDS TO OBSTRUCTIONS

- Locations: Where agreed on site.
- Material: To approval.
- 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.

495A IN SITU CONCRETE KERBS

- Locations: parking bay edges as per detail 5A/SCH-MLA-ZZ-XX-DR-L-LAN-0006 .
- Material: in situ concrete.
- Shape and size: to engineers' detail
- Colour: To approval.
- Timing: Lay and allow to cure in advance of laying blocks/ pavers/ setts.

500 REGULARITY OF PAVED SURFACES

- Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface):
  - Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
- Difference in level between adjacent paving units (maximum): 2 mm.
- Sudden irregularities: Not permitted.

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**

615 COMPLETION OF PAVING

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

620 SLIP RESISTANCE TESTING

- Surfaces to be tested: All walkable surfaces .
  - Surface condition: Dry and wet.
- Timing: Two weeks prior to handover, but after initial cleaning .
- Period of notice (minimum): 3 working days.
- Test standard: To BS 7976-2.
  - Testing authority: An approved laboratory.
  - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract administrator.
  - Report: Submit.
- Format: As required under BS 7976-2.

**Q25**

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

## Q25 Slab/brick/sett/cobble pavings

To be read with Preliminaries/ General conditions.

ALSO REFER TO PRODUCT REFERENCE REPORT (SCH-MLA-ZZ-XX-SP-L-LAN-01) FOR REFERENCE IMAGES AND DRAWING NOS SCH-MLA-ZZ-XX-DR-L-LAN-0006, SCH-MLA-ZZ-XX-DR-L-LAN-0007, SCH-MLA-ZZ-XX-DR-L-LAN-0008

### GENERAL

- 120A CONCRETE FLAG PAVING SYSTEM FOR GROUND FLOOR PRIVATE TERRACES
- Subgrade improvement layer: AS PER ENGINEERS SPECIFICATION.
    - Compacted thickness: AS PER ENGINEERS SPECIFICATION.
  - Granular sub-base: AS PER ENGINEERS SPECIFICATION.
    - Compacted thickness: AS PER ENGINEERS SPECIFICATION.
  - Base: AS PER ENGINEERS SPECIFICATION.
    - Thickness: AS PER ENGINEERS SPECIFICATION.
  - Bedding course: 50 mm cement mortar compliant with section 5.4.4.2 of BS 7533-4.
    - Accessories: None.
  - Paving units: TOBERMORE MAYFAIR FLAGS Textured Concrete flags (sealed finish).
    - Colour [buff]
    - Size [400x400x40 mm]
  - Jointing: 4-6 mm Cement based mortar class M6 to BS EN 998-2.
    - Bond: As indicated on details 14/SCH-MLA-ZZ-XX-DR-L-LAN-0007.
  - Accessories: edging: 2 rows of PC sett paving Tegula, color slate, in semi-dry concrete bedding C20P concrete at 25-50 mm slump haunch.
- 150A CONCRETE SETT PAVING SYSTEM TEGULA FOR SIDEWALK EDGING AND GROUND TERRACES EDGING
- Subgrade improvement layer: AS PER ENGINEERS' SPECIFICATIONS.
    - Compacted thickness: AS PER ENGINEERS' SPECIFICATIONS.
  - Granular sub-base: AS PER ENGINEERS' SPECIFICATIONS.
    - Compacted thickness: AS PER ENGINEERS' SPECIFICATIONS.
  - Base: AS PER ENGINEERS' SPECIFICATIONS.
    - Thickness: AS PER ENGINEERS' SPECIFICATIONS.
  - Laying course: cement mortar se.5.4.4.2. BS 7533-4.
    - Thickness: 30-50 mm deep as per details 5B/SCH-MLA-ZZ-XX-DR-L-LAN-0006 and 14/SCH-MLA-ZZ-XX-DR-L-LAN-0007.
  - Paving units: PC CONCRETE SETT TEGULA (sealed finish).
    - Manufacturer: [Tobermore]
    - Colour: [slate]
    - Dimensions: [173x173 mm, 80 mm deep]
  - Jointing: 2-3 mm flexible jointing.
    - Bond: As details 5A/SCH-MLA-ZZ-XX-DR-L-LAN-0006, 14/SCH-MLA-ZZ-XX-DR-L-LAN-0007.
  - Accessories: None.

## PRODUCTS

- 320A TACTILE FLAGS AND SLABS TO TOP AND BOTTOM OF CONCRETE STEPS
- Standard: To DD CEN/TS 15209.
  - Material: PRE-CAST CONCRETE .
    - Manufacturer: Contractor's choice.
    - Product reference: CORDUROY HAZARD WARNING PAVING TO PART M STANDARD..
  - Recycled content: Contractor's choice.
  - Nominal sizes: 400 x 400 mm x 50mm deep.
  - Colour: CONTRASTING TO ADJACENT PAVING.
  - Type of surface: Rib – type R1.
- 390 SAND FOR FLEXIBLE LAYING COURSE AND JOINTING OF CONCRETE FLAG PAVING TEGUL A.
- Standard: To BS 7533-4, unbound construction laying course and jointing material.
  - Purity: Free from deleterious salts, contaminants, lime and cement.
  - Procurement: Obtain from one source and ensure consistent grading.

## 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 flag paving;
      - Concrete sett paving.
    - Location: TO BE AGREED.
    - Size (minimum): 1.5 x 1.5 m.
    - Included features: Junction with building facade .
  - 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.

#### 630A LEVELS OF PAVING

- Permissible deviation from specified levels:
  - Generally:  $\pm 6$  mm.
- Height of finished paving above features:
  - At gullies: +3 to +5 mm.
  - At drainage channels and kerbs: +3 to +5 mm.

#### 635 REGULARITY OF PAVED SURFACES

- Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface):
  - Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
  - Precast concrete flags or natural stone slabs: 3 mm.
- Difference in level between adjacent paving units (maximum): 2 mm.
- Sudden irregularities: Not permitted.

#### 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 4 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): 2 days.
  - Vehicular traffic (minimum): 7 days.
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

#### 650 CEMENTITIOUS BASES AND SUB-BASES

- General: Protect from moisture loss, if not covered by another pavement course within 2 hours of completion.



655 **CONDITION OF SUB-BASES/ BASES BEFORE SPREADING LAYING COURSE**

- Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
- Granular surfaces: Lay and compact so as to be sound, clean, smooth and close-textured enough to prevent migration of bedding/ laying course materials into the sub-base during compaction and use, free from movement under compaction plant and free from compaction ridges, cracks and loose material.
- Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
- Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
- Levels and falls: Accurate and within the specified tolerances.
- Drainage outlets: Within 0-10 mm of the required finished level.
- Features in sand bedded paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
- Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

**COMPLETION**

915 **COMPLETION OF PAVING WITH DRY SAND OR FINE AGGREGATE FILLED JOINTS**

- Sand dressing: Leave a thin layer of dry jointing sand over the paving, sweep clean before practical completion.
- Final compaction of the surface course: In accordance with BS 7533-3.
- Vacuum cleaning machines: Not allowed.

930 **SLIP RESISTANCE TESTING**

- Surfaces to be tested: All paving types.
  - Surface condition: Dry and wet.
- Timing: Post final clean, prior to handover.
- Period of notice (minimum): 3 working days.
- Test standard: To BS 7976.
  - Testing authority: An approved laboratory.
  - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract administrator.
  - Report: Submit.
    - Format: As required under BS 7976.

**Q26**

**Special surfacings/ pavings for sport/ general amenity**

## Q26 Special surfacings/ pavings for sport/ general amenity

To be read with Preliminaries/ General conditions.

REFER TO THE PRODUCT REFERENCE REPORT SCH-MLA-ZZ-XX-SP-L-LAN-0001 FOR REFERENCES AND FURTHER DETAILS

### IMPACT ABSORBING SURFACINGS FOR PLAY AREAS

- 300 EXTENT OF IMPACT ABSORBING SURFACING
- General: Lay to the impact areas shown in the relevant parts of BS EN 1176.
- 301 EXTENT OF IMPACT ABSORBING SURFACING
- General: Lay impact absorbing surfacing as indicated on drawings.
- 310 BARK SURFACING
- Granular sub-base: As section Q20.
    - Thickness: as per playground manufacturers safety specification requirements.
  - Geotextile membrane:
    - Manufacturer: Terram.  
Product reference: membrane weed barrier water permeable.
    - Jointing: As manufacturer's recommendations.
  - Surface course: Submit proposals, material shall comply with BS EN 4790:1987 Fire tested .
    - Supplier: Submit proposals.  
Product reference: Submit proposals.
    - Grade: Playground grade bark free from dust, pests, disease, weeds, coarse angular fragments and sharp pieces.
    - Nominal particle size: 20-80 mm, well graded.
    - Wood content (maximum): 5%.
    - Ease of ignition: To BS 7188.
    - Additives, dyes or any substance harmful to humans or the environment: Not permitted.
    - Depth (minimum): 450 mm compacted to 300 mm.
  - Submit:
    - Ease of ignition: Evidence of testing to BS 7188.
    - Critical fall height: Evidence of testing to BS EN 1177.

### ASSOCIATED ACCESSORIES

- 430 EDGES
- Finish: Flush.
  - Edge detail: Concrete edging (PINKERB) as section Q10, as per detail drawing 1/SCH-MLA-ZZ-XX-DR-L-LAN-0006.

### EXECUTION

### COMPLETION

930 DOCUMENTATION

- General: For all types of surfacing, provide the following:
  - Name and contact details of installer.
  - Date of installation.
  - Name and contact details of manufacturer.
  - Type/ description/ reference of products used.
  - Manufacturer's recommended inspection and maintenance procedures to maintain safety and impact absorbing performance.
  - Manufacturer's recommended cleaning and maintenance methods, where relevant.

940 LABELLING

- Signs: Provide permanent labelling in approved locations on all types of surfacing stating:
  - Critical fall height;
  - Date of installation;
  - Manufacturer's name and contact details; and
  - Product name.

**Q28**

**Topsoil and soil ameliorants**

## Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

### SYSTEM OUTLINE

- 115A SOIL SYSTEM FOR TURF -
- Composition:
    - Soil: 40% Imported topsoil free draining SANDY - LOAM.
    - Ameliorants: 60% loksand mixed with the topsoil.
    - Accessories: 20mm wexford sand dressing to be applied after establishment and after a minimum of 5 cuts .
- 115B SOIL SYSTEM FOR REINFORCED TURF -
- Composition:
    - Soil: 20% Imported topsoil free draining SANDY - LOAM.
    - Ameliorants: 80% loksand mixed with the topsoil.
    - Accessories: 20mm wexford sand dressing to be applied after establishment and after a minimum of 5 cuts .
- 125 GREEN ROOF GROWING MEDIA SYSTEM TO EXTENSIVE GREEN ROOF
- Composition:
    - Topsoil: Soprema synthetic substrate panel as per architects specifications section Q37 .
    - Ameliorants: as per specifications Q37 .
    - Accessories: as per specifications Q37 .
- 125A GREEN ROOF GROWING MEDIA SYSTEM TO PODIUM CAR PARK ROOF
- Composition:
    - Topsoil: SPECIALIST INTENSIVE LIGHTWEIGHT ROOF GARDEN SOIL.
    - LECCA GRANULES ADDED TO MIX TO BRING LOADING DOWN TO MAXIMUM 1.23 TONNES/M3
    - Accessories: SANITIZED AND STABILIZED PEAT FREE COMPOST MULCH 50mm depth .
- 145A TREE PIT BACKFILLING SOIL SYSTEM FOR TREE PITS IN HARD STANDING AREAS
- Composition:
    - Topsoil at base: Imported Load bearing URBAN TREE-SOIL .
    - Topsoil backfill with approximately 2.25 m3 well drained top soil to BS 3882 for extended tree pit under paving : Imported Load Bearing URBAN TREE-SAND
  - COMPOSITION:
    - Aggregates;
    - Minerals;
    - Organic materials; and
    - Industrial by-products.
  - Accessories: UNDERGROUND ANCHORING SYSTEM PLATIPUS, MODULAR ROOT DIRECTOR SYSTEM RD 1400, ROOTCELL SOIL STRUCTURE SYSTEM WITH TWIN GEONET, IRRIGATION AND AERATION SYSTEM root rain'precinct and root rain 'precinct DI, GALVANISED STEEL TREE FRAME 1200 X 1200 MM SET ON CONCRETE FRAME AS PER DETAIL 1/SCH-MLA-ZZ-XX-DR-L-LAN-0008 .
  - Tree pit dimension: trees are planted in a continious trench refer to drawing no SCH-MLA-ZZ-XX-DR-L-LAN-0008
  - Sample: provide a sample for approval to Landscape architect and provide drainage test

145B TREE PIT BACKFILLING SOIL SYSTEM FOR STREET TREE PLANTING IN SOFT LANDSCAPED AREAS

- Composition:
  - Topsoil: Imported growing medium of Free draining nature and with a Sandy Loam texture .
  - Ameliorants:
    - Aggregates;
    - Minerals;
    - Organic materials; and
    - Industrial by-products.
  - Accessories: Fertilizer, TWIN STAKES&CROSS STRUT WITH NATURE TIE OR RUBBER BELT&FLAT BACK SPACER; LINEAR ROOT BARRIER WITH ROOT DEFLECTING RIBS AS PER DETAIL 2/SCH-MLA-ZZ-XX-DR-L-LAN-0008
  - IRRIGATION AND AERATION SYSTEM WITH 80 mm DIAMETER NON-REMOVABLE HDPE GRID INLET AND 60mm DIAMETER PERFORATED POLYPROPYLENE PIPE (BLACK, 8m LENGTH).
  - Tree pit dimensions: minimum of 1.2x1.2m x 1m deep
  - 150 MM CLEAN BROKEN STONE LAYER AS FREE DRAINING SUBBASE BENEATH TREE
  - Sample: Proved a sample for approval to Landscape architect and provide drainage test

145C TREE PIT BACKFILLING SOIL SYSTEM FOR ALL GROUND COVER, HEDGE AND SHRUB PLANTING

- Composition:
  - Topsoil: Imported growing medium of Free draining nature and with a Sandy Loam texture .
  - MINIMUM 2m<sup>3</sup> WELL DRAINED TOPSOIL TO BS 3882 PER TREE
  - Ameliorants:
    - Aggregates;
    - Minerals;
    - Organic materials; and
    - Industrial by-products.
  - Accessories: Fertilizer, TWIN STAKES & CRASS STRUT WITH NATURE TIE OR RUBBER BELT & FLAT BACK SPACER.
  - 150 mm DEPTH CLEAN BROKEN STONE LAYER FREE DRAINING SUBBASE BENEATH TREE

155A MULCHING AND TOP DRESSING SYSTEM FOR ALL PLANTED AREAS

- Composition:
  - Material: Sanitized and stabilized peat free compost mulch .
  - Depth: 50mm

155B MULCHING AND TOP DRESSING SYSTEM FOR ALL LAWN AREAS

- Composition:
  - Material: WEXFORD SAND.
  - depth: 25 mm

## PRODUCTS

### 300A PREPARATION MATERIALS GENERALLY

- Purity: Free of pests and disease.
- Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, stone, 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.

### 310 MATERIALS NOT PERMITTED

- Materials: Peat and River and canal dredgings .

### 310A TOP SOIL QUANTITY

- The contractor shall ensure that adequate top soil quantities are allowed for in his tender by visiting the site.

### 315 IMPORTED TOPSOIL TO BS 3882 FOR PLANTING BEDS

- 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: Contractor's choice.
  - Product reference: Contractor's choice.

### 330A ON SITE MANUFACTURED TOPSOIL/ GROWING MEDIUM FOR GRASS, SHRUB AND TREE PLANTING

- Quantity: Topsoil available on site, however, contractor shall make up/import any deficiency of top soil existing on site to complete the works as per the works requirements and as per Q28 clause 335
- Source: site with added ameliorants as necessary/required and stored as per Q28 clause 690
- Quality: as per BS 3882. Contractor shall carry out a test to establish topsoil available nutrients and texture. Contractor shall improve the topsoil quality as necessary to meet the BS 3882 requirements.
- Texture: Sandy loam to BS 3882- free draining
- Reaction, to BS 1377-3: pH 5.5-7.8
- Organic matter to BSI PD CR 13456: Minimum 5%
- Nutrient content: Minimum index values for nitrogen, phosphorus, potassium and magnesium to be as for BS 3882 multipurpose topsoil.
- Crumb structure: Made up of discernible crumbs.
- Stone size in any dimension (maximum): 10 mm



335 IMPORTED MANUFACTURED TOPSOIL, CUSTOM MIX FOR TREE PITS

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Source: Contractor's choice.
  - Product reference: Load Bearing Urban Tree soil and sand.
- Texture: Sandy loam.
- Reaction, to BS 1377-3: pH 5.5-7.8.
- Organic matter to BSI PD CR 13456: Minimum 5%.
- Nutrient content: Minimum index values for nitrogen, phosphorus, potassium and magnesium to be as for BS 3882 multipurpose topsoil.
- Crumb structure: Made up of discernible crumbs.
- Stone size in any dimension (maximum): 10 mm.

355 ORGANIC MATERIALS FOR PLANTING BEDS AND TREE PITS

- Type: Bone and blood meal.
- Source: Submit proposals.
  - Product reference: Submit proposals.

## EXECUTION

### 610A TOPSOIL ANALYSIS

- Soil to be analysed:
  - All Imported topsoil;
  - All Manufactured topsoil; and
  - Site sourced Topsoil stockpiles].
- Soil analyst: [contractor's choice].
- Samples: Collect in accordance with BS 3882.
- Submit:
  - Declaration of analysis: [see below table].
  - Report detailing soil analyst's recommendations.
- Declaration required for Soil Analysis Report:
  - Soil texture Clay ( <0.002mm) 5-35 %  
Silt (0.002-0.05mm) 0-30%  
Sand (0.05-2.0mm) 45-85% (of which at least 45% shall be fine to medium sand range (0.15mm-0.5mm))
  - Moisture content 12 – 30%
  - Conductivity <3300 µS/cm

#### Plant available nutrients:

Total nitrogen:	>0.15mg/l
Available Phosphorus	16-140mg/l
Available Potassium	121-1400 mg/l
Available Magnesium	51-600mg/l
Available Calcium	500-2500mg/l
Available copper EDTA	4-10mg/l
Available Zinc EDTA	5-15mg/l
Available Sodium	20-1200mg/l
Available Sulphate	200-1150mg/l
Available Iron	40-100mg/l
Hot water soluble Boron	0.5-3.0 mg/l
Organic Matter (LOI)	5 – 15 %w/w
pH value	6 – 8.5
Total carbon	3-6%w/w
Carbon: Nitrogen Ratio	7-18 : 1
CEC	10-25
Bulk Density	800 – 1,100 g/L

Soil Texture Diagram as in BS3882

### 620 IMPORTING TOPSOIL

- Give notice: Before stripping topsoil for transfer to site.
  - Notice period: 7 days.

### 625 SAMPLE LOADS FOR IMPORTED TOPSOIL

- 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 TREE PITS
- 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: Three.
- 650 NOTICE
- Give notice before:
    - Setting out.
    - Spreading topsoil.
    - Applying herbicide.
    - Applying fertilizer.
    - Visiting site during maintenance period.
  - Period of notice: 1 week.
- 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 lawn areas and planting beds.
  - Notice period: 7 days.
- 685 SURPLUS MATERIALS TO BE REMOVED
- Topsoil: Remove from site topsoil remaining after completion of all landscaping work.
  - Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

#### 690 TOPSOIL STORAGE HEAPS

- Location: Throughout the site.
- Height (maximum): 2.0 m.
- Width (maximum): 4.0 m.
  - Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
- Protection:
  - Do not place any other material on top of storage heaps.
  - Do not allow construction plant to pass over storage heaps.
  - Prevent compaction and contamination, by fencing and covering as appropriate.

#### 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.

#### 710A 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): 450 mm.
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
- Top soil depths:
  - Grass areas on podium roof: 200 mm
  - Planting and shrubs on podium roof: 400 mm
  - Planted areas and groundcover: 450 mm
  - Hedging: 600 mm

#### 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 PLANTING BEDS

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 250 mm.
- Particle size (maximum): 10 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;
  - 50 mm above adjoining lawns; and
  - Minimum 150 mm below dpc of adjoining buildings.
- Undesirable material brought to the surface:
  - Remove visible weeds.
  - Remove roots and large stones with any dimension exceeding 20 mm.

#### 718A FINAL CULTIVATION FOR GRASS AREAS/LAWNS

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 250 mm.
- Particle size (maximum): 10 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;
  - 50 mm above adjoining lawns; and
  - Minimum 150 mm below dpc of adjoining buildings.
- Undesirable material brought to the surface:
  - Remove visible weeds.
  - Remove roots and large stones with any dimension exceeding 10 mm.

#### 720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 20 mm.
- Below dpc of adjoining buildings: Not less than 150 mm.
- Planting beds: Higher than adjoining grass areas by 25 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:  $\pm 75$  mm.
  - From line between boning rods 30 m apart:  $\pm 25$  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.

#### 730 GREEN ROOF GROWING MEDIUM INSTALLATION

- Handling: Minimize.
  - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
  - Depth (maximum): 150 mm.
  - Sequence: Gently firm each layer before spreading the next.

#### 825 APPLYING FERTILIZER TO PROPOSED GRASS AREAS TO TURFED AREAS

- Application: Before final cultivation and three to five days before seeding/ turfing.
- Coverage:
  - Spread evenly, in transverse directions.
  - Rate: 50 g/m<sup>2</sup>.

830 APPLYING TOP DRESSING TO TURFING

- Rate: 5 kg/m<sup>2</sup>.
- Timing: Apply prior to cultivation.

845 APPLYING LOOSE MULCH FOR PLANTING BEDS

- Timing: Immediately after planting.
- Preparation: Clear all weeds.
- Coverage of mulch (minimum):
  - Planting beds (depth): 50 mm depth.
  - Trees: In a circular area of 500 mm radius measured from the tree stem.
  - Container planting: 50 mm depth.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

**COMPLETION**

905 APPLYING MAINTENANCE FERTILIZER TO SOIL TO GRASS AREAS

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

905A APPLYING MAINTENANCE FERTILIZER TO SOIL TO PLANTING BEDS

- Duration: Carry out the following operations from completion of planting until the end of the rectification period.
- Time of year: During February and March.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Rate: 50 g/m<sup>2</sup>.

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): 50 mm.
- Trees: Remulch.
  - Depth (minimum): 50 mm.
- Container planting: Remulch.
  - Depth (minimum): 50 mm.

**Q30**  
**Seeding/turfing**

## Q30 Seeding/turfing

To be read with Preliminaries/General conditions.

FOR FURTHER INFORMATION CONSULT PLANTING SCHEDULES AND DETAIL SHEET SCH-MLA-ZZ-XX-DR-L-LAN-0008

### 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: 3 working days.

#### 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: 2 weeks.

#### 212 SEED BED CLEANING BEFORE SOWING ALL GRASSED AREAS

- Operations: Kill pernicious weeds with selective contact herbicide. .



## 250 SOIL REQUIREMENTS

- Type:
  - Seeded areas: Mulching and top dressing system, as section Q28.
  - Turfed areas: Mulching and top dressing system, as section Q28.
  - Reinforced grass areas: Mulching and top dressing system, as section Q28.

## SEEDING

### 311 GRASS SEED FOR WILDFLOWER MEADOWS

- Supplier: Submit proposals.
  - Mixture reference: Submit proposals.
- Application rate: 25 g/m<sup>2</sup> grass seed.

### 312 SEED MIXTURE FOR WILDFLOWER MEADOWS

- Supplier: wildflower.ie.
  - Mixture reference: EC04 Hedgerow Wild Flower Mixture.
- Origin (as defined in the National Plant Specification): Native.
- Application rate: 1.5 g/m<sup>2</sup> + 25 g/m<sup>2</sup> grass seed mixture.

### 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: 4 equal sowings.

### 335 GRASS SOWING SEASON

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

### 336 WILDFLOWER SOWING SEASON

- Wildflower seed generally: March to May or August to September.

## TURFING

### 410 TURF TO BS 3969 FOR ALL GRASSED AREAS

- Standard: To BS 3969, free from undesirable grasses and weeds.
  - Grade: General purpose utility turf with perennial ryegrass.
- Source: Submit proposals.
- Herbicide treatment: Apply not less than four weeks and not more than three months before lifting.
- Dimensions: 1640 x 610 mm.

### 420 DELIVERY AND STORAGE

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.
- Certification:
  - Standard: To BS 3969.
  - Declaration: Species mix, including percentage of specified species.

### 423 INSPECTION OF TURF FOR ALL GRASSED AREAS

- Sampling method: To BS 3969.
- Give notice: Before lifting turf.
  - Period of notice: 1 week.

#### 430A TURFING GENERALLY

- Time of year: To be agreed.
- Timing of laying:
  - Spring and summer: Within 18 hours of delivery.
  - Autumn and winter: Within 24 hours of delivery.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine topsoil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: Mulching and top dressing system, as section Q28.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

#### PROTECTING/CUTTING

#### 510 PROTECTIVE FENCING

- Fencing type: Chestnut pale fencing to BS 1722-4.
  - Height: 1.2 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: Rotary.
- Arisings: Remove from site.

#### 550 AREAS NOT TO BE CUT

- Do not cut:  
Meadow grass containing wildflowers.

#### 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 reseeding/ returfing.
- Timing of making good: The next suitable season.

620 MAINTAINING GENERAL 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: 75 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: as required.

650A MAINTAINING GRASSED AREAS WITH PERENNIAL WILD FLOWERS

- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
- Preparation: Before each cut remove all litter and debris.
- Height and frequency of cut in first growing season:
  - Time of first cut: March/ April.
  - Height of first cut: 100 mm.
  - Frequency of subsequent cutting (minimum): Every 6-8 weeks until autumn .
  - Height of growth permitted (maximum): 500mm.
- Height and frequency of cut in second growing season:
  - Time of cut: Single cut in September.
  - Height of cut: 100 mm.
- Trimming: All edges.
  - Arisings: Remove two weeks after cut.
- Watering: as required.

**Q31**

**External planting**

## Q31 External planting

To be read with Preliminaries/General conditions.

ALSO REFER TO LANDSCAPE DRAWINGS AND DETAIL SHEETS

### 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 20mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear surface vegetation in areas shown on drawings using suitable nonresidual herbicide.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: none.

#### 118A SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
- Frozen or snow covered soil: Do not plant.

#### 120 CLIMATIC CONDITIONS

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

#### 125 TIMES OF YEAR FOR PLANTING

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

#### 130 MECHANICAL TOOLS

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

#### 145 WATERING

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

#### 150 WATER RESTRICTIONS

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

#### 160 NOTICE

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

#### 170 SOIL REQUIREMENTS

- Type
  - Planted beds: 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 National Plant Specification.
- Species: True to name.
- Origin/ Provenance: Contractor's choice.  
Definition: Origin and Provenance have the meaning given in the National Plant Specification.

#### 215 PLANTS/ TREES - SPECIFICATION CRITERIA

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

#### 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.

#### 246 LABELLING AND INFORMATION

- Standard: To BS 3936.

- 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: Black polyethylene bags .
  - Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped .
  - Planting: Upright or well balanced with best side to front.
- 280 TREATMENT OF TREE WOUNDS
- Cutting: Keep wounds as small as possible.
    - Cut cleanly back to sound wood using sharp, clean tools.
    - Leave branch collars. Do not cut flush with stem or trunk.
    - Set cuts so that water will not collect on cut area.
  - Fungicide/ Sealant: Do not apply unless instructed.
- 285 PROTECTION OF EXISTING GRASS
- General: Protect areas affected by planting operations using boards/ tarpaulins.
    - Excavated or imported material: Do not place directly on grass.
    - Duration: Minimum period.
- 290 SURPLUS MATERIAL
- Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

## **PLANT CONTAINERS**

## **PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS**

- 300 HERBICIDE TO CLEAR OVERGROWN BEDS
- Locations: Shrub beds.
  - Type: Suitable for suppressing perennial weeds.
  - Timing: Allow fallow period before cultivation.
    - Duration (minimum): Two weeks.
- 305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS
- Locations: All planting areas.
  - General: Prevent weeds from seeding and perennial weeds from becoming established, by contractor's choice of herbicide.

## **PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS**

- 400 RANDOM PLANT LAYOUT TO ALL BEDS
- Spacing: Random groups of 3-11 plants of the same species..
  - Density: As plant schedule.
- 401 REGULAR PLANT LAYOUT TO ALL BEDS
- Spacing: In regular, staggered rows.
  - Density: As plant schedule.

- 405 SHRUB PLANTING PITS
- Timing: Excavate 1-2 days (maximum) before planting.
  - Sizes: 150 mm wider than roots when fully spread and 200 mm deep.
  - Pit bottom improvement Not required.
- 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.
- 470 FORMAL HEDGES
- Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
  - Planting: In trenches large enough to take full spread of roots. Set out plants evenly.
- 471 NATURALIZED HEDGES
- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.
- 472 FENCING SUPPORT FOR NEW HEDGES
- Type: Timber post and general pattern wire mesh, as section Q40.
  - Timing: Before planting hedge.
  - Support: Lightly secure hedge plants to fence wires at appropriate intervals.
- 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: 50 mm.

## **PLANTING TREES**

- 505 TREE PITS
- Sizes: As plant schedule.
  - 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 150 mm.
    - Treatment: clean broken stone layer as free draining subbase.
  - Pit sides: Scarify.
  - Backfilling material: Plant pit backfilling soil system, as section Q28.
  - Accessories:
    - Twin stakes & cross strut with nature tie or rubber belt, and flat back spacer or Platipus tree anchoring system
    - Tree pit drainage layer ;
    - Irrigation and aeration systems; and
    - Root barrier or modular root director system.
- 505A TREE PITS SURFACES FOR TREES PLANTED IN HARD SURFACES
- Material: Self binding gravel 6mm to dust
    - Colour: Buff
    - Depth: 50 mm



- 510 TREE PIT ROOT BARRIERS
- Locations: As detail 2/SCH-MLA-ZZ-XX-DR-L-LAN-0008 .
  - Manufacturer: Submit proposals.
    - Product reference: linear root barrier with root deflecting ribs .
  - Depth of top of root barrier below finished soil level: 10 mm.
  - Installation: With sides vertical.
- 512A TREE PIT ACCESSORIES
- Locations: As detail 1/SCH-MLA-ZZ-XX-DR-L-LAN-0008 .
  - Manufacturer: Submit proposals.
    - Product reference: Tree steel frame 1200 x 1200 mm set on concrete frame.
  - Type: Galvanised steel.
  - Overall width: 50 x 50 x 6mm galvanised steel angular section
- 515A TREE PIT IRRIGATION AND AERATION SYSTEM (FOR TREES PLANTED INTO HARD SURFACING)
- Product reference: Root rain Precinct DI and Root rain Precinct
  - Supplier: [www.greenleafireland.com](http://www.greenleafireland.com)
- 515B TREE PIT MODULAR ROOT DIRECTOR SYSTEM (FOR TREES PLANTED INTO HARD SURFACING)
- Product reference: Root director RD1400
  - Material: 100% recycled plastic
  - Ribbed construction to prevent root swirl
  - Supplier: [www.greenleafireland.com](http://www.greenleafireland.com)
- 515C ROOT SOIL STRUCTURE SYSTEM LOADED WITH TOPSOIL (FOR TREES PLANTED INTO HARD SURFACING)
- Product reference: Root soil structure system
  - Used in double row to all 4 sides of tree
  - Supplier: [www.greenleafireland.com](http://www.greenleafireland.com)
  - Accessories: Twin geonet and layer of clean pea gravel above the root soil structure system as per detail 1/SCH-MLA-ZZ-XX-DR-L-LAN-0008
- 515D TREE PIT IRRIGATION AND AERATION SYSTEM (FOR TREES PLANTED INTO SOFT SURFACING)
- Product reference: Fixed 80 mm diameter non-removable HDPE grid inlet and 60 mm diameter perforated polypropylene pipe
    - Color: black
    - Length: 8 m
- 515E TREE PIT DRAINAGE
- Depth of excavation: Increase from specified size to allow for aggregate layer, with base slightly falling to outlet.
  - Aggregate layer: Clean gravel or broken stone, with no fines, graded 40 to 20 mm.
    - Depth: 150mm.
  - Completed pits: Test for free drainage before planting.

**565A LONG DOUBLE STAKING FOR TREES PLANTED IN SOFT LANDSCAPED SURFACES**

- Staking: Drive stakes vertically at least 300 mm into bottom of pit on either side of tree position before planting.
  - Backfilling: Consolidate material around stakes.
- Material: Softwood, pressure impregnated with approved preservative
- Height of stakes: Cut off just below lowest branch of tree.
- Cross bar: Wood, as stake.
  - Firmly fix on windward side of tree and as close as possible to stem.
- Ties: NATURE TIE OR RUBBER BELT.
- Tying: Secure tree firmly but not rigidly to cross bar.

**575A TREE ANCHORING SYSTEM FOR trees planted in hard surfacing**

- Anchoring system: Platipus tree anchoring system
- Product reference: plati-mat RF3P
- Supplier: www.platipus-anchors.com
- Accessories: 3 proprietary earth anchors, multistrand galvanised wire, ratchet tensioner and 3 plati-mats

**575B SHORT DOUBLE STAKING FOR SEMI MATURE TREES IN SOFT LANDSCAPED SURFACES**

- Staking: Drive stakes vertically at least 300 mm into bottom of pit on either side of tree position before planting.
  - Backfilling: Consolidate material around stakes.
- Material: Softwood, pressure impregnated with approved preservative
- Height of stakes: Cut to approximately 600 mm above ground level.
- Cross bar: Wood, as stake.
  - Firmly fix on windward side of tree and as close as possible to stem.
- Ties: NATURE TIE OR RUBBER BELT.
- Tying: Secure tree firmly but not rigidly to cross bar.

**595A TREE ROOT PROTECTION OF EXISTING RETAINED TREES**

- Aluexcel AE 100 m Edge restraint
  - Supplier: Kinley Systems or equal approved
  - rigid
  - 4mm profile, 50 mm height, top bead 6mm
- Spiral steel spike at regular intervals as per manufacturers specification
- Concrete pad foundation
- Terram Geocell 200 mm deep filled with angular (5-45 mm size), without fines clause 804 fixed with U pins (1-2 m centers)
- Tensar TriAx TC 160 Geogrid on geotextile layer BGT100 on layer of Silica or sharp sand

**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: During the next suitable planting season.

#### 730 PROTECTIVE FENCING

- Fencing type: General pattern wire mesh 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 use of approved non-residual herbicides.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that 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: As schedule.
- 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: as required.

#### 750A MAINTENANCE SCHEDULE

- Frequency of maintenance visits: minimum once per month during establishment period

#### 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.

#### 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: I provide a schedule of any ongoing maintenance problems experienced during the rectification period .

#### 790 FINAL MULCHING

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

**Q35**

**Landscape maintenance**

## Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

### GENERALLY

#### 110 NOTICE

- Give notice before:
  - Application of herbicide.
  - Application of fertilizer.
  - Watering.
  - Each site maintenance visit.
- Period of notice: 7 days.

#### 130 REINSTATEMENT

- Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstate to original condition.

#### 155 WATERING

- Supply: Potable mains water.
- Quantity: Wet full depth of topsoil .
- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.
- Frequency: As necessary for the continued thriving of all planting.

#### 160 WATER RESTRICTIONS

- General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

#### 170 DISPOSAL OF ARISING

- General: Unless specified otherwise, dispose of arisings as follows:
  - Biodegradable arisings: Remove to recycling facility.
  - Grass cuttings: Remove to recycling facility.
  - Tree roots and stumps: Remove from site.
  - Shrub and tree prunings: Remove to recycling facility .
  - Litter and nonbiodegradable arisings: Remove from site.

#### 180 CHIPPING OR SHREDDING

- General: Not permitted on site.

#### 190 LITTER

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

#### 195 PROTECTION OF EXISTING GRASS

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

#### 197 CLEANLINESS

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

## GRASSED AREAS

### 210 MAINTENANCE OF GRASSED AREAS

- General: Maintain turf in a manner appropriate to the intended use.
- Soil and grass:
  - Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
  - Waterlogging and compaction: Prevent.
  - Damage: Repair trampling, abrasion or scalping.
- Ornamental lawns: Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
  - Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.

### 211 MAINTENANCE OF GRASSED AREAS

- Standard: To BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:
  - Objectives: To BS 7370-3, table 6.
  - Programme: To BS 7370-3, clause 11.
  - Mowing methods: To BS 7370-3, table 3.

### 220 GRASS CUTTING GENERALLY

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

### 225 TREE STEMS

- Precautions: Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other hand held mechanical tools carefully to avoid damage to bark.

### 226 TREE STEMS

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

### 235 BULBS AND CORMS IN GRASSED AREAS

- Before flowering: Do not cut.
- Interval between end of flowering and start of grass cutting (minimum): Six weeks.

### 250 LEAF REMOVAL

- Operations: Collect fallen leaves.
- Special requirements: Remove by hand raking.
- Disposal: Remove from site for recycling.

### 255 FIRST CUT OF LAWNS

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

### 260 MOWING LAWNS

- Grass height: Maintain between 25 and 50 mm .
- Arisings: Remove.

- 272 MAINTAINING GRASSED AREAS WITH PERENNIAL WILD FLOWERS
- Preparation: Before each cut remove litter and debris.
  - Height and frequency of cut in first growing season:
    - Time of first cut: March/ April.
    - Height of first cut: 100 mm .
    - Frequency of subsequent cutting (minimum): Every six to eight weeks until autumn .
    - Height of growth permitted (maximum): 150 mm.
  - Height and frequency of cut in second growing season:
    - Time of cut: Single cut in September.
    - Height of cut: 100 mm.
  - Trimming: All edges.
    - Arisings: Remove.
  - Watering: as required.
- 309 EDGES TO SEEDED AREAS
- Location: Planting beds and around newly planted trees.
  - Timing: After seeded areas are well established.
  - Edges: Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
  - Arisings: Remove.
- 320 LEVELLING HOLLOWES AND BUMPS IN TURF
- Standard: To BS 7370-3, clauses 12.4 and 12.5.
- 325 RELIEVING SURFACE COMPACTION IN TURF
- Standard: To BS 7370-3.
  - Method: Spiking.
  - Top dressing: Fine sand.
    - Depth: 2-5 mm.
- 330 SELECTIVE HERBICIDE
- Location: All lawns.
  - Herbicide: Contractor's choice.
  - Areas not to be sprayed: Wildflower areas.
- 345 CONTROL OF JAPANESE KNOTWEED
- Operations: Spot treat in June and September during suitable weather conditions and when plants are growing vigorously.
  - Herbicide: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.
  - Application: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.
  - Arisings: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.
- 350 FERTILIZER - SPRING APPLICATION
- Type: Slow release.
  - Application rate: 60 g/m<sup>2</sup>.
- 360 FERTILIZER - AUTUMN APPLICATION
- Type: Slow release.
  - Application rate: 60 g/m<sup>2</sup>.

**380A REINSTATEMENT OF DAMAGED LAWNS**

- Damaged turf: Remove to a depth of 40 mm.
- Preparation: Cultivate substrate to a fine tilth.
- Reinstatement: Contractor's choice of returfing or topsoiling and reseeding:
  - Returfing: Quality and appearance to match existing.
  - Reseeding: Fill with fine topsoil to BS 3882 multi purpose class, free from debris and weeds, but free from stones greater than 20 mm in any dimension.  
Reseed with a seed mix to match existing grass in quality and appearance.
- Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

**381 REINSTATEMENT OF WORN OR DAMAGED LAWNS**

- Worn or damaged areas: Make good by returfing or reseeding:
  - Returfing standard: To BS 7370-3, Clause 12.2.
  - Reseeding standard: To BS 7370-3, Clause 12.6.
- Turf or seed: To match existing in appearance and quality.
- Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

**SHRUBS/TREES/HEDGES**

**500 ESTABLISHMENT OF NEW PLANTING**

- Duration: Two full growing seasons from the date of planting.
- Weed control:
  - Method: Keep planting beds clear of weeds by use of suitable herbicides.
  - Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
- Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Watering: as required.

**502 ESTABLISHMENT OF NEW PLANTING - FERTILIZER**

- Time of year: March or April.
- Type: Slow release.
- Spreading: Spread evenly. Carefully lift and replace any mulch materials.
  - Application rate: As manufacturer's recommendations.

**510 TREE STAKES AND TIES**

- Inspection/ Maintenance times: As scheduled and immediately after strong winds.
- Stakes:
  - Replace loose, broken or decayed stakes to original specification.
  - If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
- Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
  - Where chafing has occurred, reposition or replace ties to prevent further chafing.
- Removal of stakes and ties: Two years after planting.
  - Fill stake holes with lightly compacted soil.

**515 TREE GUY WIRES**

- Inspection/ Maintenance times: Immediately after strong winds.
- Operations:
  - Replace or resecure loose or missing guy wires.
  - Adjust to suit stem growth and to provide correct and uniform tension.
- Removal: Immediately after strong winds.



#### 520 REFIRMING OF TREES AND SHRUBS

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

#### 540 PRUNING GENERALLY

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

#### 545 PRUNING OF EXCESSIVE OVERHANG

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

#### 550 PRUNING OF EXCESSIVE HEIGHT

- Timing: Annually.
- Operations: Remove excessive height As instructed.

#### 555 PRUNING TREES AND SHRUBS

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

#### 570 FORMATIVE PRUNING OF YOUNG TREES

- Standard: Type and timing of pruning operations to suit the plant species.
- Time of year: Do not prune during the late winter/ early spring sap flow period.
- Young trees up to 4 m high:
  - Crown prune by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader.
  - Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- Whips or feathered trees: Do not prune.
- Operatives: Member of the Arboricultural Association.

#### 575 PRUNING ORNAMENTAL SHRUBS

- General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
- Suckers: Remove by cutting back level with the source stem or root.

#### 580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES

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

- 600 TRIMMING RAPIDLY ESTABLISHING HEDGES
- General: Allow to reach planned height as rapidly as possible.
    - Form: Trim back lateral branches moderately.
- 605 TRIMMING SLOWLY ESTABLISHING HEDGES
- Operations:
    - Timing: Cut back hard in June and September to encourage bushy growth down to ground level.
    - Form: Allow to reach planned dimensions only by gradual degrees, depending on growth rate and habit.
- 620 REMOVAL OF DEAD PLANT MATERIAL
- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.
- 630 DEAD AND DISEASED PLANTS
- Removal: As soon as possible.
  - Replacement: In the next suitable planting season .
- 635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS
- Dead and damaged plants: Remove.
  - Mulch/ matting materials:
    - Carefully move to one side and dig over the soil, leaving it fit for replanting.
    - Do not disturb roots of adjacent plants.
  - Replacement plants:
    - Use pits and plants: To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
    - Additional requirements: None.
  - Dressing: Slow release fertilizer:
    - Type: Contractor's choice.
    - Application rate: As manufacturer's recommendations.
- 645 WEED CONTROL GENERALLY
- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high .
  - Adjacent plants, trees and grass: Do not damage.
- 650 HAND WEEDING
- General: Remove weeds entirely, including roots.
  - Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
  - Completion: Rake area to a neat, clean condition.
  - Mulch: Reinstate to original depth.
- 657 HERBICIDE TO KILL REGROWTH
- Type: Suitable foliar acting herbicide to kill regrowth.
  - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 670 WEED CONTROL WITH SUMMER HERBICIDE
- Type: Suitable foliar acting herbicide.
  - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 680 SOIL AERATION
- Compacted soil surfaces:
    - Prick up: To aerate the soil of root areas and break surface crust.
    - Size of lumps: Reduce to crumb and level off.
    - Damage: Do not damage plants and their roots.

- 685 SOIL LEVEL ADJUSTMENT
- Level of soil/mulch at edges of beds: Reduce to 50 mm below adjacent grass or hard surface.
    - Arisings (if any): Spread evenly over the bed.

- 690 MAINTENANCE OF LOOSE MULCH
- Thickness (minimum): 50 mm.
    - Top up: Every three months.
  - Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
  - Weeding: Remove weeds growing on or in mulch by herbicide treatment.

- 695 FERTILIZING ESTABLISHED TREES AND SHRUBS
- Time of year: During April or May.
  - Type of fertilizer: Slow release.
  - Application: Spread evenly.
    - Rate: 90 g/m<sup>2</sup>.

- 700 SNOW REMOVAL FROM SHRUBS/ TREES
- Standard: To BS 7370-4.
  - Plants subject to snow removal: As instructed.
  - Timing: When instructed.

- 705 WINTER LEAF REMOVAL
- Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
  - Arisings: Remove to recycling facility.

#### **TREE WORK**

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

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

- 820 PREVENTION OF WOUND BLEEDING
- Standard: To BS 3998, clause 8.

- 825 PREVENTION OF DISEASE TRANSMISSION
- Standard: To BS 3998, clause 9 and Appendix B.

### 830 CLEANING OUT AND DEADWOODING

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

### 835 CUTTING AND PRUNING GENERALLY

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

### 845 CROWN LIFTING

- Clearances: Remove branch systems to give clearance.
  - Height: 2.5 m above footpaths.
- Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

### 855 CUTTING TREE ROOTS

- Excavating: Use hand tools only.
- Protected area: Do not cut roots within an area which is the larger of:
  - The branch spread of the tree.
  - An area with a radius of half the tree's height, measured from the trunk.
- Outside protected area: Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
- Cutting:
  - Cutting: Make clean smooth cuts with a hand saw.
  - Wounds: Minimize. Avoid ragged edges.
  - Finishing: Pare cut surfaces smooth with a sharp knife.
- Backfilling:
  - Protection: Cover cut roots with clean sharp sand.
  - Material: Backfill with original topsoil.

### 865 BARK DAMAGE

- Wounds:
  - Do not attempt to stop sap bleeding.
  - Bark: Remove ragged edges using a sharp knife.
  - Wood: Remove splintered wood from deep wounds.
  - Size: Keep wounds as small as possible.
- Liquid or flux oozing from apparently healthy bark: Give notice.

## **HARD LANDSCAPE AREAS/FENCING**

### **910 HARD SURFACES AND GRAVEL AREAS**

- Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
- Hard surfaces: Remove litter, leaves and other debris.
- Surface gutters and channels: Remove mud, silt and debris.
- Drainage gullies: Empty traps and flush clean.
- Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.
- Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
- Stain removal: In accordance with BS 7370-2, table 4.

**Q40**  
**Fencing**

## Q40 Fencing

To be read with Preliminaries/ General conditions.

ALSO REFER TO DRAWING SHEET NO SCH-MLA-ZZ-XX-DR-L-LAN-0007

### FENCING SYSTEMS

#### 140 GENERAL PATTERN WIRE MESH FENCING

- Manufacturer: Contractor's choice.
  - Product reference: Submit proposals.
- Standard: To BS 1722-2.
- Height: 750mm.
- Mesh: Rectangular, 1H 60/4/15 to BS EN 10223-5.
- Posts and struts: Round wood.
  - Treatment: Alkaline Copper Quaternary (ACQ).
  - Finish: None.
- Maximum centres of posts:
  - Straining posts: 150 m in straight runs and at all ends, corners, changes of direction and acute variations in level.
  - Intermediate posts: 3.5 m.
- Method of setting posts and struts:
  - Straining posts: 450 mm square or 300 mm diameter holes, 900 mm deep filled to two thirds depth with concrete.
  - Struts: 300 x 450 mm holes, 450 mm deep filled to not less than half the depth with concrete.
  - Intermediate posts: Minimum 75 mm surround or 300 mm diameter holes, 750 mm deep filled to not less than half the depth with concrete.
- Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-2.

#### 220A STEEL FENCING BOUNDARY TYPE 1

- Manufacturer: [Submit proposals].
  - Product reference: [Submit proposals]
  - Standard: To BS 1722-9
  - Height: [1200 mm ON TOP OF 600mm WALL].
  - Panel: Constructed using solid round bars at maximum 100 mm gap
  - Rails: 2 no horizontal flat rails welded at each punched hole
  - Posts and bars:
    - Corner/ End posts: [Circular hollow section].
    - Intermediate bars/ Joiner posts: [SOLID ROUND BAR RAILING].
    - Material: hot dipped galvanised steel to BS EN ISO 1461:2009
    - Finish: [Powder coated to BS 1722-16, RAL ].
    - Colour: [black].
    - Centres of posts: 2420 mm
  - Method of setting posts:
    - Erect posts plumb and level
    - Intermediate/ Joiner posts: Driven.
- BOUNDARY WALL 500 X 225 MM SELECTED BRICK, 100 MM CONCRETE BLOCK TO REAR TO ARCHITECTS DETAIL
- GRANITE COPING
  - Material: Silver Granite, Machine-cut
  - Finish: Bush-Hammered
- Accessories: As drawing SCH-MLA-ZZ-XX-DR-L-LAN-0007.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

#### 220B STEEL FENCING SAFETY FENCING FOR UNDERGROUND PARKING GARAGE RAMP ACCESS

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals
- Standard: To BS 1722-9
- Height: 950mm on top of 150 mm (above ground level) parking garage wall.
- Panel: Constructed using solid round bars at maximum 100 mm gap
- Rails: 2 no horizontal flat rails welded at each punched hole
- Posts and bars:
  - Corner/ End posts: [Circular hollow section].
  - Intermediate bars/ Joiner posts: [SOLID ROUND BAR RAILING].
  - Material: hot dipped galvanised steel to BS EN ISO 1461:2009
  - Finish: [Powder coated to BS 1722-16, RAL ].
  - Colour: [black].
  - Centres of posts: 2420 mm
- Method of setting posts:
  - Intermediate/ Joiner posts: Driven.
- Accessories: As detail 11B/SCH-MLA-ZZ-XX-DR-L-LAN-0007 .
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

#### 220C STEEL FENCING BOUNDARY TYPE 2

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals
- Standard: To BS 1722-9
- Height: 1800 mm.
- Panel: Constructed using solid round bars at maximum 100 mm gap
- Rails: 2 no horizontal flat rails welded at each punched hole
- Posts and bars:
  - Corner/ End posts: Circular hollow section.
  - Intermediate bars/ Joiner posts: SOLID ROUND BAR RAILING.
  - Material: hot dipped galvanised steel to BS EN ISO 1461:2009
  - Finish: Powder coated to BS 1722-16, RAL .
  - Colour: black.
  - Centres of posts: 2750 mm
- Method of setting posts:
  - Erect posts plumb and level in 25n concrete bases minimum size 350 x 350 x 600 mm or as recommended by supplier set 100 mm below ground level.
- Accessories: none.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

#### 250A PREFABRICATED WOOD PANEL FENCING (BOUNDARY TYPE 3)

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Standard: To BS 1722-11.
- Type of infill: Hit&Miss Timber board fencing 1800x150x25mm.
  - Treatment: pressure treated larch.
  - Finish: Submit proposals.
- Height: 1800.
- Posts: Concrete.
  - Treatment: Contractor's choice.
  - Finish: Contractor's choice.
- 300 mm concrete base
- Method of setting posts:
  - As drawing 11D/SCH-MLA-ZZ-XX-DR-L-LAN-0007
  - Concrete depth: Filled to not less than half the hole depth.
- Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-11.



260A CONCRETE POST AND PANEL FENCING (BOUNDARY TYPE 4)

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Precast concrete elements: To BS EN 12839.
  - Height: 2000 mm.
- Panel types: hollow blockwork wall rendered.
- Post spacing: to engineers' detail.
- Method of setting posts: Submit proposals.
- Accessories: None.

430 PROPRIETARY FENCING FENCING FOR PLAYGROUND

- Manufacturer: Irish fencing.
  - Product reference: IRFEN - BOW TOP RAILING C03-12.
- Height: 1200 mm.
- Materials: galvanised steel.
  - Treatment: Submit proposals.
  - Finish: Powder coated to BS 1722-16 to RAL 7016 .
- Centres of posts (maximum): As manufacturer's recommendations.
- Method of setting posts: As manufacturer's recommendations.
- Accessories: Self closing Single leaf gate at pedestrian entrance .

430A FENCING POST FOOTINGS/FOUNDATIONS

- to be as per engineers' specifications.

**GATES, POSTS AND STILES**

540 STILES ENTRANCE PILLARS TO BOUNDARY TYPE 1

- Manufacturer: Submit proposals.
- Standard: To BS 5709.
- Size: 2200 X 800 X 800 mm.
- Materials: brick pillar with granite coping and trim.
  - Treatment: Submit proposals.
  - Finish: Submit proposals.
- Posts: None.
- Fittings: granite coping and trim as drawing 11B/ SCH-MLA-ZZ-XX-DR-L-LAN-0007 .
- Method of setting posts: Submit proposals.
- Accessories: As drawing 11B/SCH-MLA-ZZ-XX-DR-L-LAN-0007 .

570A GATES FOR PLAYGROUND RAILING

- Manufacturer: Irish Fencing.
  - Product reference: Submit proposals.
- Sizes: 1000 mm clear opening.
- Posts: galvanised steel.
- Finish as delivered: powder coated to RAL 7016 .
- Fittings: Heavy duty Self closing gate system with anti finger trap system .
  - Finish: Hot dip galvanized to BS EN ISO 1461 and Powder coated to BS 1722-16 .
- Method of fixing: as per manufacturers specification.
- Accessories: anti finger trap system .

## **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.

### **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.

### **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.

## **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.

**Q41**

**Barriers/ guardrails**

## Q41 Barriers/ guardrails

To be read with Preliminaries/ General conditions.

TO BE READ WITH LANDSCAPE DRAWING SHEET NO SCH-MLA-ZZ-XX-DR-L-LAN-0006

### TYPES OF BARRIERS/ GUARDRAILS

#### 240A HANDRAIL SYSTEMS TO ENTRANCE STAIRS AND RAMPS

- System manufacturer: Submit design and cost proposals.
- Material: STAINLESS STEEL GRADE 316 POSTS, FSC APPROVED HARDWOOD HAND RAILS.
  - Cross section: 50mm DIAMETER.
- Stainless steel posts
  - Finish: BRUSHED.
- Height above ground surface (to upper surface of handrail):
  - Upper handrail: 1100 mm .
  - Lower handrail: Not applicable.
- Accessories: None.
- Shop drawings to be provided for approval

### PERFORMANCE/ INSPECTION/ TESTING

#### 300 CONTRACTOR'S STRUCTURAL DESIGN

- Design responsibility: BY SPECIALIST MANUFACTURER, OR ENGINEER.
- Requirement:
  - Generally: As section B51. Submit drawings and schedules in accordance with the designated code of practice and to satisfy the performance criteria specified in section B51.
  - Modifications: None.
  - Additional requirements: None.
- Member sizes and locations: Submit proposals.
- Design and production information: As preliminaries.
- Timing of submissions: TIMELY MANNER FOR REVIEW .

### INSTALLATION

#### 405 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
  - UKAS Sector Scheme 2A sub categories: TO BE AGREED.
  - UKAS Sector Scheme 2C sub categories: TO BE AGREED.

#### 420 ALIGNMENT

- Erection: Fences/ barriers to present a flowing alignment. Tops of posts to follow ground profile.
- Tolerance:  $\pm 30$  mm of prescribed alignment and, within any 10 m length,  $\pm 15$  mm from the straight or required radius.

#### 430 ERECTION GENERALLY

- Protection: Coat all internal and external surfaces of aluminium and steel posts below and up to 150 mm above ground level, with two coats of bituminous paint to BS 6949 type 2, unless other applied surface finish is specified.
- Prevention of electrolytic corrosion: Isolate dissimilar metals.
- Steel components: Do not drill, cut or weld after galvanizing.

500 PRESERVATIVE TREATED TIMBER

- Surfaces exposed by minor cutting and drilling: Treat with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

510 PREPARATION FOR SITE PAINTING

- Preparation and application: As soon as possible after installation of barriers/ guardrails.

**COMPLETION**

900 DOCUMENTATION

- Contents:
  - General product information.
  - Installation information.
  - Inspection and maintenance reports.
- Number of copies: 3.
- Submission: Two weeks prior to date when principal contractor expects work to be practically complete.

**Q50**

**Site/street furniture/equipment**

## Q50 Site/street furniture/equipment

To be read with Preliminaries/ General conditions.

ALSO REFER TO PRODUCT REFERENCE REPORT SCH-MLA-ZZ-XX-SP-L-LAN-0001 FOR REFERENCES AND FURTHER DETAILS

### SITE AND STREET FURNITURE

#### 210 CYCLE STANDS

- Manufacturer: Benkert.
  - Product reference: C500 900mm x1000x 60mm section.
- Material: Steel.
  - Finish: As manufactured.
  - Colour: metallic grey.
- Number of stands: as indicated on the Landscape drawings .
- Accessories: None.
- Method of fixing: Root, 300 mm below ground, set in concrete base.

#### 225 SEATS WITH BACK REST IN THE PUBLIC REALM

- Manufacturer: DAE, supplier Public Spaces .
  - Product reference: Ban Seat .
- Material: Galvanised steel structure with hardwood timber slats .
  - Finish: As manufactured.
  - Colour: None.
- Size: 3370mm x730mm x 812mm.
- Accessories/ Special requirements: backrest.
- Method of fixing: as per manufacturers recomendation.

#### 225A SEATS individual

- Manufacturer: Public Spaces .
  - Product reference: K3 .
- Material: Reinforced Concrete .
  - Finish: plain, water repellent .
  - Colour: white.
- Size: refer to product reference report.
- Accessories/ Special requirements: None.
- Method of fixing: root fixed as per manufacturers recomendation.

#### 225B SEATS individual with Arm Rests

- Manufacturer: publicspaces.eu .
  - Product reference: arlo-01-f .
- Material: hardwood and galvanised steel .
  - Finish: As manufactured.
  - Colour: Black.
- Size: 450x578x852mm.
- Accessories/ Special requirements: Armrests to each end.
- Method of fixing: as per manufacturers recomendation.

230 TABLES

- Manufacturer: publicspaces.eu.
  - Product reference: picnic table arlo-01-g and picnic table benches arlo-01-a.
- Material: hardwood and galvanised steel.
  - Finish: As manufactured.
  - Colour: none.
- Size: picnic table 2000x900x750mm and benches 1800x450x450mm.
- Accessories/ Special requirements: None.
- Method of fixing: to be ground fixed as per manufacturers recommendations.

345A INTERPRETATION PANEL FOR INFORMATION RELATED TO ARCHAEOLOGICAL WORKS CARRIED OUT ON SITE

- Supplier: Submit proposals.
  - Product reference: Submit proposals.
- Material: timber, steel.
- Method of fixing: To manufacturer recommendation.

350A NESTING BOXES FOR BATS

- Manufacturer: Schwegler.
  - Product reference: Schwegler bat box 2F.
- Dimensions: Height: 330 mm, Diameter: 160 mm  
Weight: 4kg.
- Material: Schwegler Woodcrete (mix of wood, concrete and clay)
  - Finish: painted.
  - Colour: Black with grey front panel.
- Accessories/ Special requirements: hanger and aluminium tree-friendly nail, to be fixed min 3m above ground.
- Method of fixing: Tree-mounted.
- Location: as per drawing SCH-MLA-ZZ-XX-DR-L-LAN-0001

350B NESTING BOXES FOR BATS

- Manufacturer: Schwegler.
  - Product reference: Schwegler bat tube 2FR.
- Dimensions: Height 475 mm x Width 200 mm x Depth 125 mm.  
Entrance: Height 90 mm x Width 150 mm x Depth 20 mm.  
Weight: 9.8kg.
- Material: Schwegler Woodcrete (mix of wood, concrete and clay)  
Accessories/ Special requirements: to be built into external wall.
- Method of fixing: wall-mounted, above apartment lifts, see architects' details.
- Location: as per architects' details

**INSTALLATION**

510 CONCRETE FOUNDATIONS GENERALLY

- Standard: To BS 8500-2.
- Concrete: as per engineers spec.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 SETTING COMPONENTS IN CONCRETE

- Holes: as per engineers spec.
- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.



530 PRESERVATIVE TREATED TIMBER

- Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.
- Heavily worked sections: Re-treat.

540 BUILDING IN TO MASONRY WALLS

- Components being built in: Accurately positioned and securely supported. Set in mortar and pointed neatly to match adjacent walling.
- Temporary support: Maintain for 48 hours (minimum) and prevent disturbance.

545 ERECTION OF TIMBER AND PREFABRICATED STRUCTURES

- Checking: 5 days (minimum) before proposed erection date, check foundations, holding down bolts, etc.
- Inaccuracies or defects in prepared bases or supplied structures: Report immediately. Obtain instructions before proceeding.

550 DAMAGE TO GALVANIZED SURFACES

- Minor damage in areas up to 40 mm<sup>2</sup> (including on fixings and fittings): Make good.
  - Material: 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: Sufficient to provide a zinc coating at least equal to the original layer.

560 SITE PAINTING

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

**Q52**

**Play and sports equipment**

## Q52 Play and sports equipment

To be read with Preliminaries/ General conditions.

### GENERAL

#### ALSO REFER TO PRODUCT REFERENCE REPORT SCH-MLA-ZZ-XX-L-LAN-0001

- 115 PLAYGROUND TO CENTRAL OPEN SPACE and WESTERN GREEN and CRECHE
- Equipment: refer to **Product Reference Report SCH-MLA-ZZ-XX-L-LAN-0001**
    - Bespoke FSC certified hardwood teepee BS EN 1176 compliant
    - Fairytale throne with 6 persons seats, product number: NR0204 supplied and manufactured by www.kompan.com, FSC certified hardwood, BS EN 1176 compliant
    - Track Ride Tower, product number NR01027, supplied and manufactured by www.kompan.com, FSC certified hardwood and galvanised steel, BS EN 1176 compliant
    - Double Combination Swing, product number NR0907, supplied and manufactured by www.kompan.com, FSC certified hardwood and galvanised steel, BS EN 1176 compliant
    - Entry seesaw for four persons, product number NR0106, supplied and manufactured by www.kompan.com, FSC certified hardwood and galvanised steel, BS EN 1176 compliant
    - Pony springer NR0102, supplied and manufactured by www.kompan.com, FSC certified hardwood and galvanised steel, BS EN 1176 compliant.
    - System manufacturer: www.kompan.com.
  - Surfacing: Bark, as section Q26.
  - Containment: concrete pin kerb and proprietary fencing for playground 1200 mm high, galvanised steel powder coated.
  - Accessories: 2 no. benches, 1no. bin, perimeter fence and two self closing gates with anti finger trap system.
- 115A NATURAL PLAY AREA NORTH-EAST OPEN SPACE
- Equipment: refer to **Product Reference Report SCH-MLA-ZZ-XX-L-LAN-0001**
    - Climbing and balancing logs 500-1000mm in diameter, 2-6m length, from felled trees;
    - Climbing and balancing boulders 500-1000mm from construction works
    - Stepping stones 300mm diameter, 800mm length, hardwood logs cut
    - Embankment slide, product number NR0308 supplied and manufactured by www.kompan.com, FSC certified hardwood and galvanised steel, BS EN 1176 compliant .
  - Surfacing: Bark, as section Q26 for slide safety zone, otherwise mowed grass

### SYSTEM PERFORMANCE

- 215 PLAYGROUND DESIGN
- Design criteria: for Central Open Space.
    - Age range: 2-6 / 3-8 / 4/15 4/12.
    - Population served: Local community.
    - Frequency of use: Continuous.

## PRODUCTS

- 320A NATURAL PLAY ELEMENTS for northeast open space
- Standard: To BS EN 1176-1.
  - Manufacturer: reclaimed from site clearance works and site works if possible.
    - Product reference: reclaimed from site clearance works and site works if possible.
  - Age range: all ages.
  - Materials: hardwood logs and stone boulders and hardwood poles stepping stones .
    - Finish: smooth planed and sanded vertices to remove any sharp edges or splinters for timber logs, for boulders edges and corners to be rounded as per reference image in Product Reference Report.
    - Colour: as per natural material.
  - Length: logs shall be 500-1000 diameter x 2-6m length, boulders shall be 500-1000 dia., stepping stones shall be 300mm dia x 800mm length.
  - Height: stepping stones shall be 150-400mm above ground height.
  - Features: na.
  - Method of fixing: Logs and Boulders shall be free standing, to be arranged on site under supervision of landscape architect, stepping stones shall be tar dipped base set into ground .
- 340 COMBINED PLAY STRUCTURE TO PLAYGROUND
- Standard: To BS EN 1176-1.
  - Manufacturer: KOMPAN.
    - Product reference: TRACK RIDE TOWER product number NR01176.
  - Age range: 6-12.
  - Components:
    - Climbing net;
    - Climbing ramp with hand and foot grips;
    - Tower
    - Track Ride Zip Line.
  - Materials: Galvanized steel, Polyethylene, FSC certified hardwood .
    - Finish: None.
    - Colour: Manufacturer's standard.
  - Highest platform height: 2.2m.
  - Features: Vandal proof fixings.
  - Method of fixing: Manufacturer's standard.
- 355 IMAGINATIVE PLAY STRUCTURE Bespoke Hardwood Teepee
- Standard: To BS EN 1176-1.
  - Manufacturer: Kompan.
    - Product reference: -.
  - Age range: Under 2-6.
  - Components: Timber Teepee Structure.
  - Materials: Wood.
    - Finish: None.
    - Colour: Manufacturer's standard.
  - Highest platform height: NA.
  - Features: submit proposals.
  - Method of fixing: submit proposals.

- 355A IMAGINATIVE PLAY STRUCTURE Fairy Tale Throne with 6 Pole Seats
- Standard: To BS EN 1176-1.
  - Manufacturer: Kompan.
    - Product reference: NR0204.
  - Age range: 2-6.
  - Components: Timber Seat and 6 pole seats.
  - Materials: Wood.
    - Finish: None.
    - Colour: Manufacturer's standard.
  - Highest platform height: NA.
  - Features: submit proposals.
  - Method of fixing: Manufacturer's standard.
- 390 ROCKING EQUIPMENT TO PLAYGROUND
- Standard: To BS EN 1176-1 and -6.
  - Manufacturer: Kompan.
    - Product reference: Entry Seesaw for Four Persons, Product Number NR0106.
  - Age range: 4-12.
  - Type: See-saw.
  - Number of seats: 4.
  - Materials: Galvanized steel and FSC certified hardwood .
    - Finish: None.
    - Colour: Manufacturer's standard.
  - Features: Non-bump see-saw mechanism.
  - Method of fixing: Manufacturer's standard.
- 390A ROCKING EQUIPMENT TO PLAYGROUND
- Standard: To BS EN 1176-1 and -6.
  - Manufacturer: Kompan.
    - Product reference: Pony Springer, NR0102.
  - Age range: 3-8.
  - Type: Sit-on rocker, single.
  - Number of seats: 1.
  - Materials: Galvanized steel and FSC certified hardwood .
    - Finish: None.
    - Colour: Manufacturer's standard.
  - Features: -.
  - Method of fixing: Manufacturer's standard.
- 420A SLIDE TO NATURAL PLAY AREA
- Standard: To BS EN 1176-1 and -3.
  - Manufacturer: Kompan.
    - Product reference: NR0308.
  - Age range: 4-12.
  - Format: Embankment Slide Straight.
  - Materials: Stainless steel, FSC certified hardwood .
    - Finish: None.
    - Colour: Manufacturer's standard.
  - Deck height: 1.5 m.
  - Slide width: 1.5 m.
  - Method of fixing: Manufacturer's standard.
  - Surfacing: bark chippings as per Q26 for slide safety zone as per manufacturers recommendations

- 440 SWINGING EQUIPMENT TO PLAYGROUND
- Standard: To BS EN 1176-1 and -2.
  - Manufacturer: KOMPAN.
    - Product reference: Double Combination Swing, Product No. NR0907.
  - Age range: 4-12.
  - Type: 2.
  - Frame: Traditional.
    - Bays: 2.
    - Materials: FSC certified Wood and Galvanised Steel.
    - Finish: None.
    - Colour: Manufacturer's standard.
    - Height: as per product dimensions.
  - Seats: Basket and Cradle and Flat.
    - Materials: Manufacturer's standard.
    - Ground clearance: Manufacturer's standard.
  - Features: Anti-wrap chain.
  - Method of fixing: Manufacturer's standard.

### **EXECUTION**

- 710 PLAY EQUIPMENT INSTALLATION GENERALLY
- Standard: To manufacturer's written instructions provided in accordance with BS EN 1176-1.
- 720 CONCRETE FOUNDATIONS GENERALLY
- Standard: To BS 8500-2.
  - Concrete: Designated, not less than GEN 1 or Standard prescribed, not less than ST2.
  - Admixtures: Do not use.
  - Foundation holes: Neat vertical sides.
  - Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.
- 725 SETTING COMPONENTS IN CONCRETE
- Holes: to manufacturers specification.
  - Components: Accurately positioned and securely supported.
  - Concrete fill: Fully compacted as filling proceeds.
  - Concrete foundations exposed to view: Finished to weathering profile to shed water and trowel smooth.
  - Temporary component support: Maintain undisturbed for minimum 48 hours.
- 740 PRESERVATIVE TREATED TIMBER
- Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.
- 750 DAMAGE TO GALVANIZED SURFACES
- Minor damage in areas up to 40 mm<sup>2</sup> (including on fixings and fittings): Make good.
    - Materials: 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: Sufficient to provide a zinc coating at least equal to the original layer.
- 760 SITE PAINTING
- Timing: Prepare surfaces and apply finishes as soon as possible after installing components.

## COMPLETION

- 910 INSPECTION
- Standard: Rospa report and inspection to be carried out.
  - Timing: 2 weeks after request by contract administrator.
  - Period of notice (minimum): 3 working days.
- 920 CLEANING
- General: Leave the works in a clean, tidy condition.
  - Surfaces: Clean immediately before handover.
- 930 TESTING
- Standard: To BS EN 1176-1.
- 950 DOCUMENTATION
- Standard: To BS EN 1176-1.
  - Contents:
    - Copies of test reports.
    - General product information.
    - Installation information.
    - Inspection and maintenance information.
  - Number of copies: 3.
  - Submission: 2 weeks prior to date when work is expected to be practically complete .
- 970 OPERATING TOOLS
- Tools: Supply tools required for operation, maintenance and cleaning purposes.
- 980 RETENSIONING ROPES ON COMBINED PLAY STRUCTURE.
- Timing: In accordance with equipment manufacturer's maintenance and inspection instructions .
  - Period of notice (minimum): 3 working days.