



GCH-IBI-XX-XX-SP-L-700-0002 Rev: C02

Gorton Community Hub - Landscape

Landscape Specification CONSTRUCTION

Revisions

Date	Revision	Rev
2022/05/13	Added Clause Q40/570F Double leaf vehicle gates, Q40/570D and Q40/570E Automatic vehicle barriers to visitor car park, Q22/110A Coloured Asphalt to vehicle areas. Amended Clause Q50:210 to Langley Design Sheldon Cycle Shelter.	C02

Notes

- Specification to be read in conjunction with IBI Group drawings
- Any discrepancies in Specification or between Specification and drawings to be reported to IBI Group

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F10

BRICK/ BLOCK WALLING **UNCHANGED**

CLAUSES - NOT USED

TYPES OF WALLING

110A CLAY FACING BRICKWORK

1. Description: To external retaining walls
2. • Bricks: To BS EN 771-1.
 - Manufacturer: To be confirmed.
3. Product reference: To be confirmed.
 - Durability designation: F2.
 - Mean compressive strength (minimum): 27 N/mm².
 - Water absorption: Less than 12%.
 - Recycled content: None permitted.
 - Special shapes:
 - BS 4729 type I.SA.4.1 rebated stretcher.
 - BS 4729 type I.SA 5.1 rebated stretcher external return.
 - o • Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:0.5:4.5 cement:lime:sand 6 N/mm² (mortar class M6) generally but 1:0.25:3
4. cement:lime: sand 12 N/mm² (mortar class M12) incorporating Styrene Butadiene additive to copings, unprotected cills and top 3 courses of freestanding walls.
 - Additional requirements: Coloured mortar: Tarmac Building Products Ltd, pre-mixed lime:sand mortar in colour to CA's requirements from manufacturer's full range .
 - o • Bond: Half lap stretcher.
 - o • Joints: Generally square recessed, 10 mm deep, well ironed but flush, well ironed to window and door opening reveals and to tops and splayed sections of copings.
 - o • Features: None.

TESTING - NOT USED

WORKMANSHIP GENERALLY

430 CONDITIONING OF CLAY BRICKS AND BLOCKS

1. Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
2. Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

500 LAYING GENERALLY

1. Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
2. AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
3. Clay block joints
 - Thin layer mortar: Lay blocks on a full bed.
 - Interlocking perpend: Butted.
4. Bond where not specified: Half lap stretcher.
5. Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

635 JOINTING

1. Profile: Consistent in appearance.

690 ADVERSE WEATHER

1. General: Do not use frozen materials or lay on frozen surfaces.
2. Air temperature requirements: Do not lay bricks/ blocks:
 - In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
 - In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising, or as manufacturer's/ supplier's recommendations.
 - In thin layer mortar when outside the limits set by the mortar manufacturer.
3. Temperature of walling during curing: Above freezing until hardened.
4. Newly erected walling: Protect at all times from:
 - Rain and snow.
 - Drying out too rapidly in hot conditions and in drying winds.

ADDITIONAL REQUIREMENTS FOR FACEWORK

750 COLOUR CONSISTENCY OF MASONRY UNITS

1. Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
2. Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
3. Finished work: Free from patches, horizontal stripes and racking back marks.

760 APPEARANCE

1. Brick/ block selection: Do not use units with damaged faces or arrises.
2. Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
3. Quality control: Lay masonry units to match relevant reference panels.
 - Setting out: To produce satisfactory junctions and joints with built-in features and components.
 - Coursing: Evenly spaced using gauge rods.
4. Lifts: Complete in one operation.
5. Methods of protecting facework: Submit proposals.

780 GROUND LEVEL

1. Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

830 CLEANLINESS

1. Facework: Keep clean.
2. Mortar on facework: Allow to dry before removing with stiff bristled brush.
3. Removal of marks and stains: Rubbing not permitted.

F31

PRECAST CONCRETE SILLS/LINTELS/COPINGS/FEATURES **UNCHANGED**

CLAUSES

5A DESIGNATED CONCRETE PRECAST

1. Description: Copings to rw01 and rw02
2. Concrete: Designated to BS 8500-2:
3. Reinforcement: None
4. Cover to reinforcement (nominal): None
5. Finish to visible faces: SMOOTH COLOUR AS CAST
6. Other requirements: None

20 MOULDS

1. Permissible fabrication and operating tolerances: Length 0 to +6 mm, other dimensions ± 3 mm.

30 CASTING AND CURING

1. Placement of concrete: Thoroughly compact.
2. Immature components: Avoid movement, vibration, overloading, physical shock, rapid cooling and thermal shock.
3. Protection from weather: Do not expose panels to direct sunlight and drying winds until at least five days after casting.

40 LAYING

1. Mortar for bedding and jointing: As section Z21.
 - Type: Site batched and mixed
 - Mix: 1:3 masonry cement:sand
2. Bedding components: On full bed of mortar.
3. Bedding one piece sills/ thresholds: Leave clear of mortar except at end bearings and beneath masonry mullions.
 - On completion: Point with mortar to match adjacent work.

TYPES OF COMPONENT - NOT USED

GENERAL REQUIREMENTS - NOT USED

FAIR FACED COMPONENTS - NOT USED

INSTALLATION - NOT USED

Q10

KERBS/ EDGINGS/ CHANNELS/ PAVING ACCESSORIES **UNCHANGED**

CLAUSES

2 TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS.

TYPES OF KERBS/EDGINGS AND CHANNELS

110 PROPRIETARY PRECAST CONCRETE

1. Description: Pin kerb pk ground level
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls or equal approved
4. - Product reference: Pin kerb
5. Recycled content: as manufactured
6. Designations: EF Edging, flat top
7. Size (width x height x length): 50 x 150 x 915 mm
8. Special shapes: None
9. Finish: As cast
10. Colour: Grey
11. Bedding: Concrete haunching
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

110A HBK. PROPRIETARY PRECAST CONCRETE

1. Description: Hbk. upstand 125mm
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls or equal approved
4. - Product reference: Half Battered kerb
5. Recycled content: as manufactured
6. Designations: HB2 Kerb, half battered
7. Size (width x height x length): 125 x 255 x 915 mm
8. Special shapes: Right and Left hand dropper kerbs as required
9. Finish: As cast
10. Colour: Grey
11. Bedding: Concrete haunching
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

110B BK. PROPRIETARY PRECAST CONCRETE

1. Description: Bk. upstand 6mm
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls or equal approved
4. - Product reference: PCC Bull-nosed kerb
5. Recycled content: as manufactured
6. Designations: BK Kerb, bullnosed

7. Size (width x height x length): 125 x 150 x 915 mm
8. Special shapes: None
9. Finish: As cast
10. Colour: Grey
11. Bedding: Concrete haunching
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

110C DK. PROPRIETARY PRECAST CONCRETE

1. Description: Dk ground level
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls or equal approved
4. - Product reference: PCC Drop kerb
5. Recycled content: as manufactured
6. Designations: DK Drop Kerb
7. Size (width x height x length): 915 x 125 x Varies mm
8. Special shapes: None
9. Finish: As cast
10. Colour: Grey
11. Bedding: Concrete haunching
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

110D HBK2. PROPRIETARY PRECAST CONCRETE

1. Description: Hbk2. upstand 200mm
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls or equal approved
4. - Product reference: PCC Drop kerb
5. Recycled content: as manufactured
6. Designations: DK Drop Kerb
7. Size (width x height x length): 125 x 255 x 915 mm
8. Special shapes: Right and Left hand dropper kerbs as required
9. Finish: As cast
10. Colour: Grey
11. Bedding: Concrete haunching
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

110E CK CONTAINMENT KERB

1. Description: Ck. upstand 300mm
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls or equal approved
4. - Product reference: PCCtitan kerb

5. Recycled content: as manufactured
6. Designations: n/a
7. Size (width x height x length): as manufactured - to achieve 300mm upstand
8. Special shapes: n/a
9. Finish: As cast
10. Colour: Grey
11. Bedding: Concrete haunching
12. Joints generally: Narrow mortar
13. Sealant movement joints: Not required
14. Accessories: None

150 CONCRETE BLOCK

1. Description: E1. edgings
2. Standard: To BS EN 1338.
3. Manufacturer: Tobermore
 - Product reference: Fusion
4. Recycled content: Contractor's choice
5. Size: 100x100x60mm
6. Special shapes: NONE
7. Finish: As cast
8. Colour: Graphite
9. Bedding: As drawing GCH-IBI-XX-XX-DR-L-700-0002
10. Joints generally: Stack bond arrangement DUAL COURSE As drawing GCH-IBI-XX-XX-DR-L-700-0002
11. Sealant movement joints: Not required

150A E2. CONCRETE BLOCK

1. Description: E2. edgings
2. Standard: To BS EN 1338.
3. Manufacturer: Tobermore
 - Product reference: Braemar
4. Recycled content: Contractor's choice
5. Size: 200x100x80mm
6. Special shapes: NONE
7. Finish: As cast
8. Colour: Innis Black
9. Bedding: As drawing GCH-IBI-XX-XX-DR-L-700-0002
10. Joints generally: Soldier course arrangement As drawing GCH-IBI-XX-XX-DR-L-700-0002
11. Sealant movement joints: Not required

ROADS/PAVING ACCESSORIES/ MARKING/ DEMARCATION

395 ROAD MARKING (THERMOPLASTIC)

1. Standard: Road Safety Markings Association standard specification document for road marking and road studs (StanSpec).
2. Manufacturer: Contractor's choice
 - Product reference: Contractor's choice

3. Colour: Yellow
4. Retroreflectivity to BS EN 1436: Class R2

LAYING

510 LAYING KERBS, EDGINGS AND CHANNELS

1. 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.
2. 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.
3. 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

1. 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

1. Standard: To BS 8500-2.
2. Designated mix: Not less than GEN0 or Standard mix ST1.
3. Workability: Very low.

540 CEMENT MORTAR BEDDING

1. General: To section Z21.
2. 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).
3. Bed thickness: 12-40 mm.

610 ANGLE KERBS

1. Usage: Internal and external 90° changes of direction.
2. Cutting of mitres: Not permitted.

620 ACCURACY

1. Deviations (maximum)
 - Level: ± 6 mm.
 - Horizontal and vertical alignment: 3 mm in 3 m.

625 REGULARITY OF PAVED SURFACES

1. 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).
2. Difference in level between adjacent units (maximum)
 - Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
 - Recessed, filled joints: 2 mm.
 - o Recess depth (maximum): 5 mm.
 - Unfilled joints: 2 mm.

3. Sudden irregularities: Not permitted.

630 NARROW MORTAR JOINTS

1. 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 **REVISED**

CLAUSES

2 TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.

TYPES OF PAVING

(T2) 110 ASPHALT CONCRETE PAVING TO PEDESTRIAN AREAS **REVISED**

1. Description: T2. to pedestrian areas
2. Standard: To BS EN 13108-1
3. Subgrade improvement layer: To engineers specification
 - Compacted thickness: To engineers specification
4. Geotextile: To engineers specification
 - Manufacturer: To engineers specification
 - o Product reference: To engineers specification
5. Granular sub-base: To engineers specification
 - Compacted thickness: To engineers specification
6. Base: To engineers specification
 - Paving grade: To engineers specification
 - Compacted thickness: To engineers specification
7. Binder course: To engineers specification
 - Paving grade: To engineers specification
 - Compacted thickness: To engineers specification
8. Surface course: To engineers specification
 - Paving grade: To engineers specification
 - Slip/ Skid resistance: To engineers specification
 - Compacted thickness: To engineers specification
9. Reclaimed content
 - Standard: To BS EN 13108-8.
 - Value (maximum): To engineers specification
10. Surface treatment: To engineers specification
11. Other requirements: To engineers specification

110 (T1) ASPHALT CONCRETE PAVING TO VEHICULAR AREAS **REVISED**

1. Description: T1. to vehicular areas
2. Standard: To BS EN 13108-1
3. Subgrade improvement layer: To engineers specification
 - Compacted thickness: To engineers specification
4. Geotextile: To engineers specification
 - Manufacturer: To engineers specification
 - o Product reference: To engineers specification
5. Granular sub-base: To engineers specification
 - Compacted thickness: To engineers specification
6. Base: To engineers specification

- Paving grade: To engineers specification
- Compacted thickness: To engineers specification
- 7. Binder course: To engineers specification
 - Paving grade: To engineers specification
 - Compacted thickness: To engineers specification
- 8. Surface course: To engineers specification
 - Paving grade: To engineers specification
 - Slip/ Skid resistance: To engineers specification
 - Compacted thickness: To engineers specification
- 9. Reclaimed content
 - Standard: To BS EN 13108-8.
 - Value (maximum): To engineers specification
- 10. Surface treatment: To engineers specification
- 11. Other requirements: To engineers specification

110 T1(C) COLOURED ASPHALT CONCRETE PAVING TO VEHICULAR AREAS (A) ADDED

1. Description: T1 (C). to vehicular areas
2. Standard: To BS EN 13108-1
3. Subgrade improvement layer: To engineers specification
 - Compacted thickness: To engineers specification
4. Geotextile: To engineers specification
 - Manufacturer: To engineers specification
 - o Product reference: To engineers specification
5. Granular sub-base: To engineers specification
 - Compacted thickness: To engineers specification
6. Base: To engineers specification
 - Paving grade: To engineers specification
 - Compacted thickness: To engineers specification
7. Binder course: To engineers specification
 - Paving grade: To engineers specification
 - Compacted thickness: To engineers specification
8. Surface course: To engineers specification
 - Paving grade: To engineers specification
 - Slip/ Skid resistance: To engineers specification
 - Compacted thickness: To engineers specification
9. Reclaimed content
 - Standard: To BS EN 13108-8.
 - Value (maximum): To engineers specification
10. Surface treatment: To engineers specification.
11. Other requirements: Coloured tarmac Green to contractors details

PREPARATORY WORK/ REQUIREMENTS - NOT USED

LAYING

310 LAYING GENERALLY

1. Preparation: Remove all loose material, rubbish and standing water.
2. Adjacent work: Form neat junctions. Do not damage.
3. Channels, kerbs, inspection covers etc: Keep clean.
4. 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

1. Frozen materials: Do not use.
2. 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

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

COMPLETION - NOT USED

Q25

SLAB/BRICK/SETT/COBBLE PAVINGS **UNCHANGED**

CLAUSES - NOT USED

GENERAL - NOT USED

SYSTEM PERFORMANCE - NOT USED

PRODUCTS

315A CONCRETE FLAGS

1. Description: P2. pre cast concrete paving
2. See drawing: GCH-IBI-XX-DR-L-700-0002
3. Standard: To BS EN 1339.
 - Manufacturer: Tobermore
 - o Product reference: Braemar
4. Recycled content: Contractor's choice
5. Colour: Jura Grey
 - Finish: Smooth, matt
 - Nominal sizes: 300 x 300 x 80 mm
6. Arrises: Square
7. Water absorption and freeze/ thaw resistance class: n/a
8. Bending strength class: n/a
9. Abrasion resistance class: n/a
10. Slip/ Skid resistance: n/a
11. Breaking load class: n/a
12. Arrangement: Stack bond

320 TACTILE FLAGS AND SLABS

1. Description: Ground level predestrain crossing
2. Standard: To DD CEN/TS 15209.
3. Material: Precast concrete
 - Manufacturer: Marshalls or equal approved
 - o Product reference: Tactile rib paving
4. Recycled content: As manufacturers
5. Nominal sizes: 400 x 400 mm
6. Colour: Red
7. Type of surface: Rib – type R1

335A CONCRETE SETTS

1. Description: P1. pre cast concrete block paving
2. See drawing: GCH-IBI-XX-DR-L-700-0002
3. Manufacturer: Tobermore
 - Product reference: Braemar
4. Recycled content: Contractor's choice
5. Colour: Cara Slate
6. Finish: n/a

7. Sizes: 200 x 100 x 80mm
8. Slip/ Skid resistance: No requirement
9. Integral accessories: None
10. Arrangement: Stretcher bond

335B CONCRETE SETTS

1. Description: P3. pre cast concrete block paving
2. See drawing: GCH-IBI-XX-DR-L-700-0002
3. Manufacturer: Tobermore
 - Product reference: Braemar
4. Recycled content: Contractor's choice
5. Colour: Cara Slate
6. Finish: n/a
7. Sizes: 300 x 200 x 80mm
8. Slip/ Skid resistance: No requirement
9. Integral accessories: None
10. Arrangement: Stretcher bond

370 CEMENT FOR SITE MIXED MORTAR

1. Description: To all group level paving areas
2. Standard: As section Z21.

390 SAND/ FINE AGGREGATE FOR UNBOUND LAYING COURSE AND JOINTING OF CONCRETE FLAG PAVING

1. Description: Ground level paving
2. Standard: To BS 7533-4, unbound construction laying course and jointing material.
3. Purity: Free from deleterious salts, contaminants, lime and cement.
4. Procurement: Obtain from one source and ensure consistent grading.

EXECUTION

620 ADVERSE WEATHER

1. 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.
2. Paving with mortar joints and/ or bedding
 - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
3. 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

1. Appearance: Smooth and even with regular joints and accurate to line, level and profile.

2. Falls: To prevent ponding.
3. 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.
4. Slopes: Lay paving units upwards from the bottom of slopes.
5. Paving units: Free of mortar and sand stains.
6. Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 LEVELS OF PAVING

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

635 REGULARITY OF PAVED SURFACES

1. 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.
2. Difference in level between adjacent paving units (maximum): 2 mm.
3. Sudden irregularities: Not permitted.

637 REGULARITY OF PAVED SURFACES

1. 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.
2. 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.
3. Sudden irregularities: Not permitted.

640 COLOUR BANDING

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

645 PROTECTION

1. Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
2. Materials storage: Do not overload pavings with stacks of materials.
3. Handling: Do not damage paving unit corners, arrises, or previously laid paving.
4. Mortar bedded pavings: Keep free from traffic after laying:
 - Pedestrian traffic (minimum): 2 days
 - Vehicular traffic (minimum): 7 days
5. Access: Restrict access to paved areas to prevent damage from site traffic and plant.

650 CEMENTITIOUS BASES AND SUB-BASES

1. 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

1. Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
2. 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.
3. Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
4. Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
5. Levels and falls: Accurate and within the specified tolerances.
6. Drainage outlets: Within 0-10 mm of the required finished level.
7. Features in sand bedded paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
8. Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

660 DRAINAGE HOLES IN EXISTING BASES

1. Location: Impervious layers of existing road/ paving.
2. Drainage: Form regular grid of holes, through base and any additional build up, down to sub-base:
 - Spacing in both directions: 750 mm
 - Minimum clear opening: 25 mm
 - Do not weaken or excessively disturb road/ paving.
3. Completion: Remove jagged or protruding edges. Fill voids with contractor's choice of material Ram down to form flush smooth surface.

670 LAYING GRANULAR LAYER OVER EXISTING BASES

1. Thickness TBC by Engineer.
2. Compaction: TBC by Engineer
3. Blinding: TBC by Engineer

685 LAYING GEOTEXTILE SHEET OVERLAYS

1. Location: Immediately below sand bedding course.
2. Laying: Fit neatly at edge restraints and other features that interrupt sand bedding course, e.g. drainage fittings, channels, manholes and kerbs.
3. Edge detail: Turn sheet up to form an upstand against features, height not less than thickness of sand bedding.
4. Width: TBC
5. Jointing: Lap by TBC.

695 SITE MIXED MORTAR

1. Description: -jointing for concrete flag paving
2. Mix: 1:3 cement:sand
3. Consistency: Contractors preference
4. Admixtures: None

700 SITE MIXED FINE CONCRETE

1. Description: Where required
2. Standard: In accordance with BS 7533-7.

710 LAYING FLAG AND SLAB PAVING – SAND/ FINE AGGREGATE LAYING COURSE AND JOINTING

1. Standard: In accordance with BS 7533-4.
2. Flag installation and cutting: To Interpave 'Concrete flag paving'.
3. Laying course
 - Nominal thickness after compaction: 50 mm to be confirmed by engineer
4. Joint width: 2-5 mm.

735 LAYING CONCRETE SETT PAVING – MORTAR-BEDDED

1. Laying: Spread and level a bed of mortar. Individually lay and hammer down the setts so that tops are level, leaving joints open.
2. Laying course
 - Nominal thickness after compaction: To engineers specification
3. Jointing: Fill joints and finish neatly. Clean mortar from face of setts before it sets.
4. Joint width (nominal): To engineers specification
 - Recess mortar joints below sett surface by: To engineers specification

COMPLETION - NOT USED

Q28

TOPSOIL AND SOIL AMELIORANTS **UNCHANGED**

CLAUSES - NOT USED

SYSTEM OUTLINE

115 TOPSOIL SYSTEM FOR TURFING AND SEEDING

1. Description: For all grassed areas
2. Composition
 - Soil: Imported topsoil to BS 3882
 - Ameliorants: Sanitized and stabilized composted materials
 - Accessories: None

PRODUCTS

300 PREPARATION MATERIALS GENERALLY

1. Purity: Free of pests and disease.
2. Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
3. 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.
4. Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
5. Objectionable odour: None.
6. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

305 PERMITTED MATERIALS

1. Materials: Composted green/ food waste certified to PAS 100
2. Give notice: before ordering or using.
3. Declaration of compliance in accordance with BS EN 13650: Required

310 MATERIALS NOT PERMITTED

1. Materials: Products containing peat and River and canal dredgings

360 SANITIZED AND STABILIZED COMPOSTED MATERIALS CERTIFIED TO PAS 100

1. Description: Tree and shrub areas
2. Standard: In accordance with PAS 100.
3. Source: Contractor's choice
 - Product reference: Submit proposals
4. Horticultural parameters
 - pH (1:5 water extract): 7.0-8.7.
 - Electrical conductivity (maximum, 1:5 water extract): 200 mS/m.
 - Moisture content (m/m of fresh weight): 35-55%.

- Organic matter content (minimum): 25%.
 - Grading (air dried samples): 99% passing 25 mm screen, and 90% passing: 10 mm screen mesh aperture
 - Carbon:Nitrogen ratio (maximum): 20:1.
5. Texture: Friable.
 6. Objectionable odour: None.
 7. Composting Association certification: Required
 8. Declaration of analysis: Submit.
 9. Additional analyses: Not required
 10. Samples: Supply 5 kg sample before ordering

380 MYCORRHIZAL INOCULANT

1. Description: To all shrub areas
2. Manufacturer: Contractor's choice
 - Product reference: Submit proposals

EXECUTION

650 NOTICE

1. Give notice before
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
2. Period of notice: 3 working days

665 SUBSOIL SURFACE PREPARATION FOR:

1. General: Excavate and/ or place fill to required profiles and levels, as section D20.
2. 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.
3. Stones: Immediately before spreading topsoil, remove stones larger than: 50 mm
4. Remove from site: Arisings, contaminants and debris

670 INSPECTING FORMATIONS

1. Give notice: Before spreading topsoil for planting beds.
2. Notice period: 7 days

675 PREPARATION OF UNDISTURBED TOPSOIL

1. Standard: In accordance with BS 4428.
 - Grading and cultivation: Category C
2. Hard ground: Break up thoroughly.
3. Clearing: Remove visible roots and large stones with a diameter greater than 50 mm.
4. Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
5. Fallow period (minimum): Three months

- Weed control: At appropriate times treat with a suitable translocated nonresidual herbicide.

685 SURPLUS MATERIALS TO BE REMOVED

1. Topsoil: Remove from site: topsoil remaining after completion of all landscaping work
2. Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

690 TOPSOIL STORAGE HEAPS

1. Location: SUBMIT PROPOSALS
2. Height (maximum): 1.0 m
3. Width (maximum): 3.0 m
 - Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
4. 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

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

705 HANDLING TOPSOIL

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

710 SPREADING TOPSOIL ON:

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

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

1. Above adjoining paving or kerbs: 25 mm
2. Below dpc of adjoining buildings: Not less than: NA

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

820 APPLYING GENERAL FERTILIZER

1. Description: For flowering shrubs
2. Application: Spread evenly, carefully incorporating below mulch materials.
 - Timing: Immediately before cultivation.
 - Application rate: MANUFACTURERS / SUPPLIERS RECOMMENDATIONS
 - Other requirements: NONE

840 APPLYING MYCORRHIZAL INOCULANT

1. Description: To all shrub area
2. Depth: To manufacturer's/ supplier's recommendations

845 APPLYING LOOSE MULCH

1. Description: To all planting areas
2. Timing: Immediately after planting
3. Preparation: Ensure that soil is thoroughly moistened, applying water where necessary
4. Coverage of mulch (minimum)
 - Planting beds (depth): 50 mm depth
 - Trees: 50 mm depth
 - Container planting: NA
5. Finished level of mulch: 50 mm below adjacent grassed or paved areas

COMPLETION

905 APPLYING MAINTENANCE FERTILIZER TO SOIL

1. Description: On all planting areas
2. Duration: Carry out the following operations from completion of seeding/ turfing until practical completion.
3. Time of year: March or April
4. Application: Evenly spread, carefully incorporating below mulch materials.
5. Rate: To manufacturer's recommendations

Q30

SEEDING/TURFING UNCHANGED

CLAUSES

2 TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS.

GENERAL INFORMATION/REQUIREMENTS

115 SEEDED AND TURFED AREAS

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

120 CLIMATIC CONDITIONS

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

145 WATERING

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

150 WATER RESTRICTIONS

1. 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

1. Give notice before
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Preparing seed bed.
 - Seeding or turfing.
 - Visiting site during maintenance period.
2. Period of notice: 3 working days

170 SETTING OUT

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

PREPARATION

210 HERBICIDE

1. Description: For all grassed areas
2. Type: Suitable for suppressing perennial weeds.
3. Timing: Allow fallow period before cultivation.
 - Duration: 2 weeks

212 SEED BED CLEANING BEFORE SOWING

1. Description: All grassed areas
2. Operations: Kill pernicious weeds with selective contact herbicide.

250 SOIL REQUIREMENTS

1. Type
 - Seeded areas: Soil for grass swards, as section Q28
 - Turfed areas: NA
 - Reinforced grass areas: NA

SEEDING

311 GRASS SEED

1. Description: Amenity grass
2. Supplier: GERMINAL SEEDS
 - Mixture reference: A22 LOW MAINTENANCE
3. Application rate: As per manufacturers

320 QUALITY OF SEED

1. Description: For all grassed areas
2. Freshness: Produced for the current growing season.
3. Certification: Blue label certified varieties.
 - Standard: EC purity and germination regulations and Department for Environment, Food and Rural Affairs Higher Voluntary Standard.
 - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
4. Samples of mixtures: Submit when requested.

330 SOWING

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

335 GRASS SOWING SEASON

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

TURFING - NOT USED

PROTECTING/CUTTING

530 FIRST CUT OF GRASSED AREAS

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

MAINTENANCE

620 MAINTAINING

1. Description: General grassed areas
2. Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the maintenance period.
3. Maximum height of growth at any time: 50 mm
4. Preparation: Before each cut remove all litter and debris.
5. Cutting: As and when necessary to a height of 35 mm.
 - Arisings: Remove
6. Bulb planting areas: Do not cut until bulb foliage has died down.
7. Trimming: All edges.
 - Arisings: Remove.
8. Weed control: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
9. Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
10. Areas of settlement: Make good.
11. Watering: As necessary to ensure establishment and continued thriving of planting.

Q31

EXTERNAL PLANTING **UNCHANGED**

CLAUSES

2 TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS.

GENERAL INFORMATION/ REQUIREMENTS

112 SITE CLEARANCE GENERALLY

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. Stones: Remove those with any dimension exceeding 75mm.
3. Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
4. Vegetation: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings
5. Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
6. Additional requirements: WHERE THERE IS ANY EVIDENCE ON SITE OF HORSETAIL OR JAPANESE KNOTWEED CONTACT THE ADMINISTRATOR IMMEDIATELY

118 SOIL CONDITIONS

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

120 CLIMATIC CONDITIONS

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

125 TIMES OF YEAR FOR PLANTING

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

130 MECHANICAL TOOLS

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

145 WATERING

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

150 WATER RESTRICTIONS

1. 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

1. 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.
2. Period of notice: Three working days

200 PLANTS/ TREES – GENERAL

1. Condition: Materially undamaged, sturdy, healthy and vigorous.
2. Appearance: Of good shape and without elongated shoots.
3. Hardiness: Grown in a suitable environment and hardened off.
4. Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
5. Budded or grafted plants: Bottom worked.
6. Root system and condition: Balanced with branch system.
 - Standard: The relevant parts of BS 3936
7. Species: True to name.
8. Origin/ Provenance: Grown in the United Kingdom for at least one growing season, unless otherwise approved
9. Definition: Origin and Provenance have the meaning given in the National Plant Specification.

216 PLANTS/ TREES – SPECIFICATION CRITERIA

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

235 CONTAINER GROWN PLANTS/ TREES

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

245 LABELLING AND INFORMATION

1. General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - Full botanical name.
 - Total number.
 - Number of bundles.
 - Part bundles.

- Supplier's name.
 - Employer's name and project reference.
 - Plant specification, in accordance with scheduled National Plant Specification categories.
2. Additional information: Submit on request: Country of origin and Name or designation of rootstock of budded or grafted plants.

246 LABELLING AND INFORMATION

1. Standard: To BS 3936.

255 PLANTS/ TREES RESERVED AT SUPPLIER'S PREMISES

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

260 PLANT/ TREE SUBSTITUTION

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

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

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

280 TREATMENT OF TREE WOUNDS

1. 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.
2. Fungicide/ Sealant: Do not apply unless instructed.

285 PROTECTION OF EXISTING GRASS

1. 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

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

PLANT CONTAINERS

292 PREFABRICATED PLANT CONTAINERS

1. Manufacturer: Street Design

- Product reference: Stratum Roof Planters
- 2. Material: Aluminium
- 3. Dimensions/ Shape: Height-1.5m Length-2m Depth-2m
- 4. Lining: As manufactured
- 5. Accessories: 3 of 7 planters to have attached 'Bexley' timber benches attached to manufacturers specification

298 WATERPROOFING LINING

1. Material: To manufacturers specification
2. Base protection: To manufacturers specification
3. Installation of liner
 - Fully supported on the base.
 - Closely fitting to the sides of container.

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

300 HERBICIDE

1. Description: To clear overgrown beds
2. Locations: All planting areas
3. Type: Suitable for suppressing perennial weeds.
4. Timing: Allow fallow period before cultivation.
 - Duration (minimum): Two weeks

305 WEED CONTROL

1. Description: For invasive non-native weeds
2. Locations: All planting areas
3. General: Prevent weeds from seeding and perennial weeds from becoming established, by hand weeding.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

405 SHRUB PLANTING PITS

1. Timing: Excavate 1-2 days (maximum) before planting.
2. Sizes: 150 mm wider than roots when fully spread and 450 mm deep
3. Pit bottom improvement Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.

480 AFTER PLANTING

1. Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
2. 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.
3. Top dressing: Mulching and top dressing system, as section Q28
 - Depth: 50 mm

PLANTING TREES

505 TREE PITS

1. Sizes: As drawing GCH-IBI-XX-XX-DR-L-700-0004
2. Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.

3. Pit bottoms: With slightly raised centre. Break up to a depth of: 150 mm
 - Treatment: Backfill to 175mm depth with no fine broken stone or clean gravel drainage layer with Terram 1000 membrane laid over the top
4. Pit sides: Scarify.
5. Backfilling material: Plant pit backfilling soil system, as section Q28. 85% approved topsoil, 15% peat tree compost, approved slow release fertilizer to the top 400mm of the tree pit only. Subsoil should be tested to make sure that it is freely draining and of a sandy structure. If this is not the case GreenBlue Urban Rootspace Rootsoil 20 should be used.
6. Accessories: - Tree pit drainage layer as drawing GCH-IBI-XX-XX-DR-L-700-0004;- Perforated plastics irrigation/ ventilation pipe; and- Root barrier

510 TREE PIT ROOT BARRIERS

1. Locations: GCH-IBI-XX-XX-DR-L-700-0004
2. Manufacturer: Contractor's choice
 - Product reference: Submit proposals
3. Depth of top of root barrier below finished soil level: 25 mm
4. Installation: With sides vertical.

535 TREE STAKES

1. Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
 - Preservative treatment: To provide a 20 year service life
2. Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
3. Stake size (minimum): 65 mm diameter

545A DOUBLE STAKING FOR EXTRA HEAVY STANDARD TREES

1. Description: Heavy standard trees
2. Position: Either side of tree position and perpendicular to wind direction.
3. Driving: Vertically at least 300mm into bottom of pit before planting
4. Backfilling: Consolidate material around stake.
5. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
6. Ties: Adjustable butyl ties
7. Horizontal bracing: Timber cross bar, 75mm x 35mm x900mm
8. Fixing: Firmly fix using nails on windward side of tree and as close as possible to the stem without making contact with the bank. position cross bar horizontally and 25mm from top of stakes. Nails for fixing ties: to BS 12.1-1, galvanised, minimum 25mm long and with 10mm heads.
9. Nails for fixing cross bars to BS 12.2-1, galvanised round wire, minimum 75mm long and 3.75 guage.

WOODLAND/ MATRIX/ BUFFER ZONE PLANTING - NOT USED

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

1. Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
2. Frequency of maintenance visits: As necessary for the continued thriving of all planting

720 FAILURES OF PLANTING

1. 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.
2. Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
3. Timing of making good: During the next suitable planting season

740 CLEANLINESS

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

750 PLANTING MAINTENANCE GENERALLY

1. 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 suitable herbicides
2. 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.
3. Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. 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
5. Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
6. Trees: Spray crown when in leaf during warm weather.
 - Timing: After dusk.
7. Watering: When instructed

760 PLANTING MAINTENANCE – PRUNING

1. General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: In accordance with the agreed maintenance schedule
 - Trees: Favour a single central leading shoot.
2. Arisings: Remove.

790 FINAL MULCHING

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

6. Depth (minimum): 50 mm

Q35

LANDSCAPE MAINTENANCE **UNCHANGED**

CLAUSES

2 TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.

GENERALLY

110 NOTICE

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

130 REINSTATEMENT

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

155 WATERING

1. Supply: submit proposals
2. Quantity: Wet full depth of topsoil
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Frequency: As necessary for the continued thriving of all planting.

160 WATER RESTRICTIONS

1. 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

1. 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

1. General: Not permitted on site.

181 MECHANICAL EQUIPMENT

1. General: Minimize.
2. Prohibited equipment: Chippers
3. Timing: Use of mechanical equipment allowed between the hours of 10:00 am and 4:00 pm only

190 LITTER

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

GRASSED AREAS

210 MAINTENANCE OF GRASSED AREAS

1. General: Maintain turf in a manner appropriate to the intended use.
2. 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.
3. 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.
4. Litter and fallen leaves: Remove regularly to maintain a neat appearance.

220 GRASS CUTTING GENERALLY

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

225 TREE STEMS

1. 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.

250 LEAF REMOVAL

1. Operations: Collect fallen leaves.
2. Special requirements: None
3. Disposal: Remove from site for recycling

255 FIRST CUT OF

1. Description: All grassed areas
2. Height of initial growth: 75 mm
3. Preparation
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
4. Height of first cut: 40 mm
5. Mower type: Contractor's choice
6. Arisings: Remove

320 LEVELLING HOLLOWS AND BUMPS IN TURF

1. Standard: To BS 7370-3, clauses 12.4 and 12.5.

350 FERTILIZER – SPRING APPLICATION

1. Type: Slow release

2. Application rate: to manufacturers recommendation

360 FERTILIZER – AUTUMN APPLICATION

1. Type: Slow release
2. Application rate: to manufacturers recommendation

381 REINSTATEMENT OF WORN OR DAMAGED LAWNS

1. 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.
2. Turf or seed: To match existing in appearance and quality.
3. Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

FLOWER BEDS/ SEASONAL BEDDINGS

450 PLANTING BEDS OF ANNUALS

1. Clearance: Remove previous season's bedding, including all bulbs, litter and debris.
2. Preparation: Dig over beds using a spade or hand held mechanical cultivator:
 - Annual weeds: Bury.
 - Perennial weeds: Carefully dig out.
3. Fertilizer: Either in autumn or spring spread and incorporate Organic fertilizer .
 - Application rate: As manufacturer's recommended rate
4. Annual bedding plants
 - Standard: To BS 3936-7.
 - Setting out: Plant out As planting plan and schedule, including edging plants, main layer, specimen or pot plants, corms, bulbs or tubers.
5. Watering: Keep plants watered as necessary before planting out and water in after planting.
6. Failed planting: Replant as necessary any plants, or areas of plants, that have failed to thrive.

460 BEDS OF PERENNIALS OR PERENNIALS AND ANNUALS

1. Plant supports: Stake and tie plants using bamboo canes.
 - Length: To suit plant height
 - Maintain throughout the growing season.
2. Gaps in planting: Refill by replanting.
3. Watering
 - New plants: Before and after planting out.
 - Ongoing: As necessary for the continued thriving of all planting.
4. Operations at end of growing season
 - Trim: Older flowering stems of herbaceous perennials.
 - Remove: Redundant plant supports, litter, debris and arisings.
 - Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
 - Top dress: Apply sanitized and stabilized compost top dressing.

470 FLOWER BEDS GENERALLY

1. Operations
 - Remove: Dead flower heads, fallen leaves, litter and debris.
 - Weeds: Thoroughly hand weed.

- Cultivate: Lightly hoe.
 - Trim: Clip grass edges.
2. Fungicide: Contractor's choice
 3. Insecticide: Contractor's choice

SHRUBS/TREES/HEDGES

500 ESTABLISHMENT OF NEW PLANTING

1. Duration: For length of maintenance contract
2. Weed control
 - Method: Keep planting beds clear of weeds by maintaining full thickness of mulch.
 - 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.
3. Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
4. Watering: As appropriate to determine good establishment

502 ESTABLISHMENT OF NEW PLANTING – FERTILIZER

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

510 TREE STAKES AND TIES

1. Inspection/ Maintenance times: As scheduled and immediately after strong winds
2. 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.
3. 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.
4. Removal of stakes and ties: Two years after planting
 - Fill stake holes with lightly compacted soil.

520 REFIRMING OF TREES AND SHRUBS

1. Timing: After strong winds, frost heave and other disturbances.
2. Refirming: Tread around the base until firmly bedded.
3. 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.

525 TREE GUARDS

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

540 PRUNING GENERALLY

1. 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.
2. Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
 3. Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
 4. Disease or infection: Give notice if detected.
 5. Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

545 PRUNING OF EXCESSIVE OVERHANG

1. Timing: As instructed
2. Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
3. Special requirements: None

570 FORMATIVE PRUNING OF YOUNG TREES

1. Standard: Type and timing of pruning operations to suit the plant species.
2. Time of year: Do not prune during the late winter/ early spring sap flow period.
3. 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.
4. Whips or feathered trees: Do not prune.
5. Operatives: Member of the Arboricultural Association

575 PRUNING ORNAMENTAL SHRUBS

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

580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES

1. 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.

620 REMOVAL OF DEAD PLANT MATERIAL

1. 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.

635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS

1. Dead and damaged plants: Remove.
2. Mulch/ matting materials
 - Carefully move to one side and dig over the soil, leaving it fit for replanting.
3. Do not disturb roots of adjacent plants.

4. 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
5. Dressing: Slow release fertilizer:
 - Type: Organic
 - Application rate: As manufacturer's recommendations

645 WEED CONTROL GENERALLY

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

650 HAND WEEDING

1. General: Remove weeds entirely, including roots.
2. Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
3. Completion: Rake area to a neat, clean condition.
4. Mulch: Reinstate to original depth.

655 WEED CUTTING BY HAND OR MACHINE

1. Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 25 mm.
2. Herbicides: Do not use

680 SOIL AERATION

1. 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

1. 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

1. Thickness (minimum): 50 mm
 - Top up: Every three months
2. Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
3. Weeding: Remove weeds growing on or in mulch by hand weeding.

705 WINTER LEAF REMOVAL

1. Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
2. Arisings: Remove to recycling facility

TREE WORK

810 TREE WORK GENERALLY

1. Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.

2. Protection: Avoid damage to neighbouring trees, plants and property
3. Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
4. 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.
5. Appearance: Leave trees with a well balanced natural appearance.
6. Chain saw work: Operatives must hold a Certificate of Competence.
7. Tree work: To be carried out by an approved member of the Arboricultural Association.

815 ADDITIONAL WORK

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

820 PREVENTION OF WOUND BLEEDING

1. Standard: To BS 3998, clause 8.

825 PREVENTION OF DISEASE TRANSMISSION

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

835 CUTTING AND PRUNING GENERALLY

1. Tools: Appropriate, well maintained and sharp.
2. 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.
3. Removing branches: Do not damage or tear the stem.
4. 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.
5. Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
6. Large branches: Remove only with prior approval
 - Remove in small sections and lower to ground with ropes and slings.
7. Dead branches and stubs: When removing, do not cut into live wood.
8. Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
9. Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

855 CUTTING TREE ROOTS

1. Excavating: Use hand tools only.
2. 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.
3. Outside protected area: Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
4. Cutting
 - Cutting: Make clean smooth cuts with a hand saw.
 - Wounds: Minimize. Avoid ragged edges.
 - Finishing: Pare cut surfaces smooth with a sharp knife.

5. Backfilling
 - Protection: Cover cut roots with clean sharp sand.
 - Material: Backfill with original topsoil.

860 REMOVING TREES, SHRUBS AND HEDGES

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

865 BARK DAMAGE

1. 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.
2. Liquid or flux oozing from apparently healthy bark: Give notice.

WATER AREAS - NOT USED

HARD LANDSCAPE AREAS/FENCING

920 FENCING

1. Fences: Inspect and repair to maintain protection against rabbit.

930 GRAFFITI REMOVAL

1. Method: Contractors choice
2. Subsequent treatment: Contractors choice
 - Finish: Contractors choice

Q40 FENCING **REVISED**

CLAUSES

2 TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.

FENCING SYSTEMS

126A F1. WELD MESH FENCING

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: EuroGuard® Regular Fencing
2. Height: 1520 mm
3. Gates:
 - Type: Refer to clauses 570A, 570B, 570C in this section for details
 - Operation: NA
 - Control: N/A
4. Finish/ Colour:
 - Fencing: Black RAL 9005
 - Gates: NA
5. Accessories: None

126B F2. WELD MESH FENCING

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: EuroGuard® Regular Fencing
2. Height: 2410 mm
3. Gates:
 - Type: NA
 - Operation: NA
4. Control: N/A
5. Finish/ Colour:
 - Fencing: Black RAL 9005
 - Gates: NA
6. Accessories: None

126C F3. WELD MESH FENCING

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: EuroGuard® Regular Fencing with dog leg fixing
2. Height: varies - review drawings
3. Gates:
 - Type: NA

- Operation: NA
- Control: N/A
- 4. Finish/ Colour:
 - Fencing: Black RAL 9005
 - Gates: NA
- 5. Accessories: None

126D F4. WELD MESH FENCING

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: EuroGuard® Regular Fencing
2. Height: 1000mm
3. Gates:
 - Type: NA
 - Operation: NA
4. Control: N/A
5. Finish/ Colour:
 - Fencing: Black RAL 9005
 - Gates: NA
6. Accessories: None

340A STEEL VERTICAL BAR BALUSTRADE

1. DESIGN INTENT ONLY _ FABRICATOR TO SUBMIT PROPOSALS
2. Manufacturer: Submit proposals
 - Product reference: Submit proposals
3. Standard: To BS 1722-9.
4. Height: MIN 1100
5. Verticals: 12 mm square bar, square to view. blunt top
6. Centres of verticals: MAX 100
7. Posts: RHS, 40 x 40 x 3 mm
 - Finish: Hot-dip galvanized to BS EN ISO 1461 and Polyester powder-coated, as section Z31
 - o Colour: RAL 9005
8. Centres of posts (maximum): 2.8 m.
9. Method of setting posts/ stays/ legs: Submit proposals
10. Accessories: None
11. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

GATES, POSTS AND STILES

570A G1. DOUBLE LEAF SWING GATES

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: Euroguard Regular Weld Mesh

2. Size: Double unit
3. [Width: 1484mm gate panels x2
4. [Height: 2.4m to continue height of adjoining fence
5. Infill: Standard
6. Finish: Galvanized and powder coated to BS EN 13438 Coloured to RAL 9005
7. Accessories: None

570B G2. DOUBLE LEAF SWING GATES

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: Euroguard Regular Weld Mesh
2. Size: Double unit
3. [Width: 1434mm gate panels x2
4. [Height: 2.4m
5. Infill: Standard
6. Finish: Galvanized and powder coated to BS EN 13438 Coloured to RAL 9005
7. Accessories: None

570C G3. SINGLE LEAF SWING GATE

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: Euroguard Regular Weld Mesh
2. Size: single unit
3. Width: 1.5m gate panel
4. Height: 1.5m to continue height of attached F1. fence
5. Infill: Standard
6. Finish:
7. Galvanized and powder coated to BS EN 13438
8. Coloured to RAL 9005.
9. Accessories: None

570D RCB. AUTOMATIC VEHICLE BARRIER TO VISITOR CAR PARK ENTRANCE REVISED

1. Manufacturer: Avon
 - Web: Avon Barrier - HVM Security Barriers, Road Blockers, Bollards, Sliding Gates (avon-barrier.com)
 - Email:
 - Product reference: Avon EB500 Parking Barrier or similar approved
2. Boom length: 4000mm
3. Barrier cabinet Slate Grey RAL 7015
4. Accessories: Controlled remotely from building

570E RCB. AUTOMATIC VEHICLE BARRIER TO VISITOR CAR PARK EXIT A ADDED

1. Manufacturer: Avon

- Web: Avon Barrier - HVM Security Barriers,Road Blockers,Bollards,Sliding Gates (avon-barrier.com)
 - Email:
 - Product reference: Avon EB500 Parking Barrier or similar approved
2. Boom length: 4000mm
 3. Barrier cabinet Slate Grey RAL 7015
 4. Accessories: Controlled remotely from building with induction loop

570F G4. DOUBLE LEAF VEHICLE SWING GATES (A) ADDED

1. Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: Euroguard Regular Weld Mesh
2. Size: Double unit
3. [Width: Overall width of double leaf gate : 4300mm
4. [Height: 2.4m
5. Infill: Standard
6. Finish: Galvanized and powder coated to BS EN 13438Coloured to RAL 9005
7. Accessories: Automated operation controlled by fob, remotely from intercom and upon activation of fire alarm

ACCESSORIES - NOT USED

EXECUTION

710 INSTALLATION GENERALLY

1. 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

1. Standard: To BS 8500-2.
2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
3. 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.
4. Admixtures: Do not use.
5. Holes: Excavate neatly and with vertical sides.
6. Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

780 MAKING GOOD GALVANIZED SURFACES

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

COMPLETION

910 CLEANING

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

920 FIXINGS

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

930 GATES

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

Q50

SITE/STREET FURNITURE/EQUIPMENT **REVISED**

CLAUSES

2 TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.

GATES, BARRIERS AND PARKING CONTROLS

190 BUMPER COLUMN PROTECTOR **ADDED**

1. Description: Bumper column protector
2. Manufacturer: Barricade Fabrications
 - Product reference: HB1.CP6
3. Material: Steel
 - Finish as delivered: Powder Coated
 - Colour: RAL 1003
4. Height above ground: 600mm
5. Special features: NA
6. Method of fixing: Base plate bolted to existing in situ concrete paving

196A REMOVABLE BOLLARD (RB) **REVISED**

1. Manufacturer: Marshalls plc.
 - Web: www.marshalls.co.uk.
 - Email: info@marshalls.co.uk.
 - Product reference: RT R14 Heavy Duty Telescopic Bollard
2. Colour: Grey Aluminium
3. Finish: Galvanized PPC
4. Fixing: Telescopic
5. Accessories: 10 pin 'anti drill' push button lock

196B FIXED BOLLARD (B) **ADDED**

1. Manufacturer: Marshalls plc.
 - Web: www.marshalls.co.uk.
 - Email: info@marshalls.co.uk.
 - Product reference: RhinoGuard 25/20 168Ø Protective Bollard Mild Steel Powder Coat Sleeve (No Grooves)
2. Colour: Grey Aluminium RAL 9007
3. Finish: Galvanised and PPC
4. Fixing: Root Fixed
5. Accessories: As supplied
6. Material: Mild Steel
7. Sectional size: 168mm Diameter
8. Top: Flat (no grooves)
9. Method of fixing: Concrete footing to suppliers Details

SITE AND STREET FURNITURE

210 CYCLE STANDS **REVISED**

1. Manufacturer: Broxap
 - Product reference: BXMW/GS/Sheffield-Stand
2. Material: Stainless steel
 - Finish: Brushed
 - Colour: RAL 9005
3. Number of stands: 16
4. Accessories: Anti-graffiti coating
5. Method of fixing: Base plate screwed to concrete base. To be confirmed by Engineer.

210A CYCLE SHELTER **REVISED**

1. Manufacturer: Langley Design
 - Product reference: Sheldon Cycle Shelter SCS316
2. Material: Stainless steel and timber
 - Finish: Hot dip galvanized to BS EN ISO 1461 and Polyester powder coated as section Z31
 - Colour: Metal Roof to be in Merlin Grey
3. Number of stands: 16 - 2nr racks of 8 hoops- capacity 32 cycles
4. Accessories: Anti-graffiti coating
5. Method of fixing: To manufactureres specification

240A LB. LITTER BINS

1. Description: Lb
2. Manufacturer: BROXAP
 - Product reference: BX45G 2550-E
3. Size:
4. [Height: 1020mm]
5. [Width: 535mm]
6. [Depth: 535mm]
7. [Capacity: 120litres]
8. Material: Steel
 - Finish: As manufacturer
 - Colour: RAL 9005
9. Accessories/ Special requirements: Hinged, locking lid
10. Method of fixing: Base plate bolted to 400 x 400 x 400 mm concrete base 100 mm below paving surfaceFoundation to be confirmed by Engineer

INSTALLATION - NOT USED

Z21

MORTARS UNCHANGED

CLAUSES - NOT USED

CEMENT GAUGED MORTARS

110 CEMENT GAUGED MORTAR MIXES

1. Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

120 SAND FOR SITE MADE CEMENT GAUGED MASONRY MORTARS

1. Standard: To BS EN 13139.
2. Grading: 0/2 (FP or MP).
 - Fines content where the proportion of sand in a mortar mix is specified as a range (e.g. 1:1: 5-6):
 - o Lower proportion of sand: Use category 3 fines.
 - o Higher proportion of sand: Use category 2 fines.
3. Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.

131 READY-MIXED LIME:SAND FOR CEMENT GAUGED MASONRY MORTARS

1. Standard: To BS EN 998-2.
2. Lime: Nonhydraulic to BS EN 459-1.
 - Type: CL 90S.
3. Pigments for coloured mortars: To BS EN 12878.

135 SITE MADE LIME:SAND FOR CEMENT GAUGED MASONRY MORTARS

1. Permitted use: Where a special colour is not required and in lieu of factory made ready-mixed material.
2. Lime: Nonhydraulic to BS EN 459-1.
 - Type: CL 90S.
3. Mixing: Thoroughly mix lime with sand, in the dry state. Add water and mix again. Allow to stand, without drying out, for at least 16 hours before using.

160 CEMENTS FOR MORTARS

1. Cement: To BS EN 197-1 and CE marked.
 - Types: Portland cement, CEM I.
 - o Portland limestone cement, CEM II/A-L or CEM II/A-LL.
 - o Portland slag cement, CEM II/B-S.
 - o Portland fly ash cement, CEM II/B-V.
 - Strength class: 32.5, 42.5 or 52.5.
2. Portland slag cement, CEM II/B-S.
3. Portland fly ash cement, CEM II/B-V.
 - Strength class:
4. White cement: To BS EN 197-1 and CE marked.
 - Type: Portland cement, CEM I.
 - Strength class: 52.5.
5. Sulfate resisting Portland cement
 - Types: To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.

- o To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
 - Strength class: 32.5, 42.5 or 52.5.
- 6. To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
 - Strength class:
- 7. Masonry cement: To BS EN 413-1 and CE marked.
 - Class: MC 12.5.

180 ADMIXTURES FOR SITE MADE CEMENT GAUGED MORTARS

1. Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
2. Other admixtures: Submit proposals.
3. Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

190 RETARDED READY TO USE CEMENT GAUGED MORTAR

1. Standard: BS EN 998-2.
2. Lime for cement:lime:sand mortars: Nonhydraulic to BS EN 459-1.
 - Type: CL 90S.
3. Pigments for coloured mortars: To BS EN 12878.
4. Time and temperature limitations: Use within limits prescribed by mortar manufacturer.
 - Retempering: Restore workability with water only within prescribed time limits.

210 MAKING CEMENT GAUGED MORTARS

1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
 - Mix proportions: Based on dry sand. Allow for bulking of damp sand.
2. Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
 - Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
3. Working time (maximum): Two hours at normal temperatures.
4. Contamination: Prevent intermixing with other materials.

LIME:SAND MORTARS - NOT USED

Z31

POWDER COATINGS **UNCHANGED**

TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.

120 POWDER COATING MATERIALS

1. Manufacturer: Obtain from one only of the following: CONTRACTORS CHOICE.
2. Selected manufacturer: Submit details before commencement of powder coating including:
 - Name and contact details.
 - Details of accreditation schemes.
 - Technical data of product including current Agrément certificates.

210 WORKING PROCEDURES

1. Comply with the follow following standards.
 - Aluminium components: To BS 6496 or BS EN 12206-1.
 - Steel components: To BS EN 13438.
 - Safety standards: Powder coating. Application of coating powders by electrostatic spraying'.
 - Health and safety guidance: Health and Safety Executive 'Reducing risk associated with using coating powders - employers' web page.

220 POWDER COATING APPLICATORS

1. Applicator requirements
 - Approved by powder coating manufacturer.
 - Currently certified to BS EN ISO 9001.
 - Comply with quality procedures, guarantee conditions, standards and tests required by powder coating manufacturer.
 - Selected applicator: Submit details before commencement of powder coating including:
 - o Name and contact details.
 - o Details of accreditation schemes.

225 GUARANTEES

1. Powder coating manufacturer and applicator guarantees
 - Submit sample copies before commencement of powder coating.
 - Submit signed project specific copies on completion of work.

230 CONTROL SAMPLES

1. Sequence: Prior to ordering materials for the works, obtain approval of appearance for:
 - Powder coated samples: Of various grades and forms of background metal to be used, showing any colour, texture and gloss variation.
 - Fabrication samples: Showing joint assembly, how powder coating is affected and how any cut metal edges are finished and protected.
 - Where manual application is required, controlled samples should be coated and inspected for colour and gloss stability.
2. Samples to include the following information
 - Product reference.
 - Colour.
 - Reference number.

- Name.
- Gloss level.

320 PRETREATMENT OF STEEL COMPONENTS

1. Condition of components to be pretreated
 - Free from corrosion and damage.
 - All welding and jointing completed and finish off as specified.
 - Free from impurities including soil, grease and oil.
 - Suitable for and compatible with the pretreatment process.
2. Conversion coating requirements: To BS EN 13438.
3. Rinsing requirements: Use demineralized water. Drain and dry.

430 EXTENT OF POWDER COATINGS

1. Application: To visible component surfaces, and concealed surfaces requiring protection. Coated surfaces will be deemed 'significant surfaces' for relevant BS 6496 or BS EN 13438 performance requirements.

460 STEEL FABRICATIONS

1. Unit assembly: Wherever practical, before powder coating.
2. Exposure of uncoated background metal: Not acceptable.
3. Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

470 FIXINGS

1. Exposed metal fixings: Powder coat together with components, or coat with matching repair paint system applied in accordance with the powder coating manufacturer's recommendations.

480 DAMAGED COMPONENTS – REPAIR OR REPLACEMENT

1. Before delivery to site: Check all components for damage to powder coatings. Replace damaged components.
2. Site damage: Submit proposals for repair or replacement.

510 PROTECTION

1. Powder coated surfaces of components: Protect from damage during handling and installation, or by subsequent site operations.
2. Protective coverings must be
 - Resistant to weather conditions.
 - Partially removable to suit building in and access to fixing points.
3. Protective tapes in contact with powder coatings must be
 - Low tack, self adhesive and light in colour.
 - Applied and removed in accordance with tape and powder coating manufacturers' recommendations. Do not use solvents to remove residues as these are detrimental to the coating.
4. Inspection of protection: Carry out monthly. Promptly repair any deterioration or deficiency.

520 PROTECTION IN HAZARDOUS LOCATIONS

1. Minimum thickness of 60 microns across significant and/ or primary surfaces.
2. Minimum thickness of 25 microns on non-significant and/ or secondary faces ensuring a coherent film layer.

3. All cut edges, drilled holes and mitres to be fully sealed.
4. Cleaning: Carried out once every three to twelve months (dependent on proximity to pollutant).

535 DOCUMENTATION

1. Submit the following information for each batch of powder coated components
 - Supplier.
 - Trade name.
 - Colour.
 - Type of powder.
 - Method of application.
 - Batch and reference number.
 - Statutory requirements.
 - Test certificates.
 - Maintenance instructions.

540 COMPLETION

1. Protection: Remove any protective coverings.
2. Cleaning and maintenance of powder coatings: Carry out in accordance with procedures detailed in powder coating manufacturer and applicator guarantees.



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