



Kirklees Council

TCF HECKMONDWIKE BUS STATION

Landscape Specification

Landscape and Urban Design



Kirklees Council

TCF HECKMONDWIKE BUS STATION

Landscape Specification

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Contents

F21 Natural stone/ ashlar walling/ dressings	1
F22 walling.....	4
F30 Accessories/ sundry items for brick/ block/ stone walling	6
L37 External stair, ramps, handrail and balustrades systems	7
Q05 Biodiversity and environmental conservation.....	10
Q10 Kerbs/ edgings/ channels/ paving accessories	11
Q25 Slab/ brick/ sett/ cobble pavings	13
Q28 Topsoil and soil ameliorants	15
Q30 Seeding/ turfing.....	19
Q31 External planting.....	22
Q37 Green roofs	30
Q38 Green walls.....	33
Q40 Fencing.....	35
Q50 Site/ street furniture/ equipment.....	37

F21

Natural stone/ ashlar walling/ dressings

Types of walling/ dressings

110 Walled Planter HS04

1. Description: Cladding
2. Stone: To BS EN 771-6.
 - 2.1. Name (traditional): Fairstone Traditional Tumbled Walling
 - 2.2. Petrological family: Sandstone
 - 2.3. Colour: Autumn Bronze
 - 2.4. Origin: N/A
 - 2.5. Finish: Tumbled
 - 2.6. Supplier: Marshalls Ltd, Landscape House,
Premier Way, Lowfields Business Park,
Elland HX5 9HT
01422 312000
 - 2.7. Unit dimension tolerances: +/- 15mm
 - 2.8. Dimensions: 310x70mm plan size
 - 2.9. Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
3. Mortar: Steintech SBR Mortar with bond bridge primer (or equal equivalent) to all adjoining surfaces including concrete block retaining wall and joints. Colour: Buff
 - 3.1. Standard: To BS EN 998-2
4. Bond: Half lap stretcher
5. Joints: Flush.
 - 5.1. Width: 5mm

110 A Walled Planter HS04

1. Description: Coping
2. Stone: To BS EN 771-6.
 - 2.1. Name (traditional): Cromwell Flat Coping Stone
 - 2.2. Petrological family: Sandstone
 - 2.3. Colour: Buff
 - 2.4. Finish: Tumbled
 - 2.5. Supplier: Marshalls
 - 2.6. Unit dimension tolerances: +/- 15mm
 - 2.7. Compressive strength
 - 2.8. Dimensions : 600x136x50mm (600mm wide wall) 300x136x50mm (300mm wide wall)
 - 2.9. Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
3. Mortar: Steintech SBR Mortar with bond bridge primer (or equal equivalent) to all adjoining surfaces including concrete block retaining wall and joints. Colour: Buff

- 3.1. Standard: To BS EN 998-2
- 4. Joints: Flush.
 - 4.1. Width: 5mm

110 B Coping Units To cycle parking retaining wall HS09

- 1. Description: Hawks View Flamed Coping
- 2. Stone: To BS EN 771-6.
 - 2.1. Name (traditional): Hawks View Flamed Coping
 - 2.2. Petrological family: Sandstone
 - 2.3. Colour: Buff
 - 2.4. Finish: Flame to match surrounding paving
 - 2.5. Dimensions: 245 x 900 x 63 (225 mm wide wall)
 - 2.6. Supplier: Marshalls
 - 2.7. Compressive strength
 - 2.7.1. Mean value (minimum): No less than 20 N/mm²
 - 2.7.2. Characteristic value (minimum): 17.5 N/mm²
 - 2.8. Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
- 3. Mortar: Steintech SBR Mortar with bond bridge primer (or equal equivalent) to all adjoining surfaces including concrete block retaining wall and joints. Colour: Buff
 - 3.1. Standard: To BS EN 998-2
- 4. Joints: Flush.
 - 4.1. Width: 5 mm
 - 4.2. Pointing: N/A

General production

250 Cutting and dressing of stone

- 1. Timing: After seasoning but before delivery to site.
- 2. Accuracy
 - 2.1. Exposed and joint surfaces: Square, true planes free from hollow or rough areas.
 - 2.2. Dimensions: Maintain specified joint widths.
- 3. Orientation for natural bed of stones: Appropriate to properties of stones and positions in walling/ dressings.

260 Identification of stone units

- 1. Marking: Clearly and indelibly on concealed faces to indicate the natural bed and position in the finished work.

Laying and jointing

300 Reference panels

- 1. General: Complete areas of specified walling types and obtain approval of appearance before proceeding further.

2. Walling type
 - 2.1. Location: Planter Wall
 - 2.2. Size: 2m x 2m
 - 2.3. Features: cladding and coping

315 Adverse weather

1. General: Do not use frozen materials or lay on frozen surfaces.
2. Air temperature: Do not lay stones:
 - 2.1. In cement gauged mortars: At or below 3°C and falling or below 1°C and rising.
 - 2.2. In hydraulic lime:sand mortars: At or below 5°C and falling or below 3°C and rising.
3. Temperature of walling during curing: Above freezing until mortar hardened.
4. Newly erected walling: Protect at all times from:
 - 4.1. Rain and snow.
 - 4.2. Drying out too rapidly in hot conditions and in drying winds.

325 Laying generally

1. Stone selection: Do not use units with damaged faces or arrises.
2. Accuracy
 - 2.1. Courses: Level and true to line.
 - 2.2. Faces, angles and features: Plumb.
 - 2.3. Setting out: Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
3. Absorbent stones: Dampen in warm weather to reduce suction. Do not soak.
4. Mortar joints
 - 4.1. Laying: Full bed of mortar with all joints and voids filled.
 - 4.2. Temporary distance pieces: Lead or stainless steel. Remove when mortar is sufficiently strong.
 - 4.3. Appearance: Neat and consistent.
5. Cleanliness: Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains not permitted.

330 Walling below ground level

1. Extent of facework below finished level of adjoining ground or external works (minimum): 150 mm.
Ω End of Section

F22 Walling

Structural requirements - Not Used

Types of walling

110 Concrete Block Units

1. Description: Concrete Block Units to Planter Retaining Wall (215 x 440 mm & 215 x 190 mm)
2. Cast stone units: Concrete Masonry Units to **BS EN 771-3**
 - 2.1. Manufacturer: Submit Proposals
 - 2.1.1. Product reference: Submit Proposals
 - 2.2. Finish: As Manufactured
 - 2.3. Colour: As Manufactured
3. Mortar: sand / cement mortar
4. Mix: 4:1 masonry cement / sand with added plasticiser for workability
 - 4.1. Sand: To BS EN 13139; crushed stone with grading to approval.
5. Joints: Flush.
 - 5.1. Width: 5 mm

General requirements

255 Compressive strength

1. Cube strength: Sampling to BS 1217. Testing to BS EN 12390-1, 2 and 3 as appropriate, with compaction and curing representative of the methods used in production of the cast stone components.

340 Mixes generally

1. Constituent materials and mix design: Achieve constant colour and texture for each finish type.
2. Aggregates for facing mixes: Free from particles which may cause 'popouts', or unsightly marking or staining.
3. Total chloride ion content (maximum): Cl 0.40.
4. Admixtures containing calcium chloride: Do not use.

370 Quality of finishes

1. Appearance standard: As established by samples.

380 Inspection

1. Completed components: Make available for inspection before delivery to site. Give notice when ready for inspection.

Laying and jointing

430 Adverse weather

1. General: Do not use frozen materials and do not lay on frozen surfaces.
2. Temperature: Do not lay blocks/ dressings:

- 2.1. In cement gauged mortars when the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and walling is thoroughly protected).
- 2.2. In hydraulic lime:sand mortars when the air temperature is at or below 5°C and falling or below 3°C and rising.
3. Freezing conditions: Maintain temperature of the work above freezing until mortar has fully set.
4. Precipitation: Protect newly erected walling against rain and snow by covering when precipitation occurs and at all times when work is not proceeding.
5. Hot and dry conditions: Prevent newly erected masonry from drying out too rapidly.
6. Remedial work: Rake out and replace mortar damaged by frost and where instructed, rebuild damaged work.

440 Laying generally

1. Selection: Do not use units with damaged faces or arrises.
2. Accuracy
 - 2.1. Courses: Level and true to line.
 - 2.2. Faces, angles and features: Plumb.
 - 2.3. Setting out: Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
3. Absorbent units: Dampen in warm weather to reduce suction.
4. Mortar joints
 - 4.1. Laying: Full bed of mortar with all joints and voids filled.
 - 4.2. Temporary distance pieces: Lead or stainless steel. Remove when mortar is sufficiently strong.
 - 4.3. Appearance: Neat and consistent.
5. Cleanliness: Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains, not permitted.
6. Cutting of reinforced units: Not permitted.

Ω End of Section

F30

Accessories/ sundry items for brick/ block/ stone walling

455 Installation of coping/

1. Placement: Bed in one operation to ensure maximum bond between masonry units and mortar.

Ω End of Section

L37

External stair, ramps, handrail and balustrades systems

General

150 Handrail systems SF07

1. Description: To Cycle parking steps
2. System manufacturer: To match Architectural Specification for Front entrance steps of Hub
3. Material: To match Architectural Specification for Front entrance steps of Hub
 - 3.1. Cross section: To match Architectural Specification for Front entrance steps of Hub
 - 3.2. Finish: To match Architectural Specification for Front entrance steps of Hub
4. Height (to upper surface of handrail)
 - 4.1. Above pitch line: 1000mm
 - 4.2. Above landing: 1100mm
5. Accessories: None

160 Balustrade systems SF06

1. Description: Top of cycle parking retaining wall
2. System manufacturer: To match Architectural Specification for Front entrance steps of Hub
3. Guarding
 - 3.1. Material: To match Architectural Specification for Front entrance steps of Hub
 - 3.2. Finish: To match Architectural Specification for Front entrance steps of Hub
4. Rail
 - 4.1. Cross section: To match Architectural Specification for Front entrance steps of Hub
 - 4.2. Material: To match Architectural Specification for Front entrance steps of Hub
 - 4.3. Finish: To match Architectural Specification for Front entrance steps of Hub
5. Height (to upper surface of rail)
 - 5.1. Above landing: 1100mm above top of wall height
6. Accessories: None

System performance - Not Used

Products

315 Manufactured stone step unit

1. Description: To cycle parking steps
2. Manufacturer: Marshalls
 - 2.1. Product reference: Hawks View Flamed step units with contrasting integral nosing
3. Standard: To BS EN 771-5.
4. Size
 - 4.1. Going: 280mm
 - 4.2. Rise: 150mm
5. Colour: As Manufactured
6. Finish: Flamed

- 6.1. Slip resistance value of integral tread - water wet (minimum): 62
- 6.2. Slip resistance value of integral nosing - water wet (minimum): 62
 - 6.2.1. Colour of integral nosing: LRV to BS 8493 contrast of 30 (minimum) with tread. Submit proposals.
7. Accessories: none

Fabrication

510 Fabrication generally

1. Design: Complete the detailed design and obtain approval prior to commencing fabrication.
2. Shop drawings: Submit.
3. Structural calculations: Submit.
4. Frameworks: Assemble and brace, including temporary members required for installation.
5. Contact between dissimilar metals: Avoid.
6. Fixings: Fully bolt together. Tighten bolts.
7. Temporary support: Do not subject members to non-design loadings.

Execution

610 Loading

1. Site activities: Restrict, to ensure that design loads are not exceeded, or submit proposals for temporary supports.

620 Concrete foundations generally

1. Standard: To BS 8500-2.
2. Concrete: Designated not less than GEN 1 or standard prescribed not less than ST2.
3. Admixtures: Do not use.
4. Foundation holes: Neat vertical sides.
5. Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

650 Installation generally

1. Fasteners: To section Z20.
2. Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
3. Temporary support: Do not use finished work as temporary support or strutting for other work.
4. Applied finishes: Substrates to be even, dry, sound and free from contaminants. Make good substrate surfaces and prepare/ prime as finish manufacturer's recommendation before application.

660 Installation of manufactured stone elements

1. Selection: Do not use damaged units.
2. Accuracy
 - 2.1. Courses: Level and true to line.
 - 2.2. Faces, angles and features: Plumb.

- 2.3. **Setting out:** Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
3. **Absorbent units:** Dampen in warm weather to reduce suction.
4. **Cleanliness:** Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains, not permitted.
5. **Cutting of reinforced units:** Not permitted.

662 Adverse weather

1. **General:** Do not use frozen materials and do not lay on frozen surfaces.
2. **Working limits:** Do not lay blocks/ dressings:
 - 2.1. **Cement gauged mortars:** When the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and work is thoroughly protected).
 - 2.2. **Hydraulic lime:sand mortars:** When the air temperature is at or below 5°C and falling or below 3°C and rising.
3. **Temperature of the work:** Maintain above freezing until mortar has fully set.
4. **Newly erected work:** Protect from precipitation; Prevent rapid drying in hot conditions.
5. **Remedial work:** Rake out and replace mortar damaged by frost.
 - 5.1. **Damaged work:** Rebuild.

670 Installation of tread inserts/ nosings

1. **Treads:** Fully cured, sound and level.
2. **Fixing**
 - 2.1. **Location/ position:** In accordance with BS 8300-1
 - 2.2. **Fixings:** As manufacturer's recommendations
 - 2.2.1. **Centres:** As manufacturer's recommendations

Completion - Not Used

Ω End of Section

Q05

Biodiversity and environmental conservation

System outline - Not Used

Performance - Not Used

Products

310 Source of living material

1. Description: All planting
2. Origin/ Provenance: British provenance

Execution - Not Used

Record keeping/ monitoring/ surveys - Not Used

Documentation - Not Used

Ω End of Section

Q10

Kerbs/ edgings/ channels/ paving accessories

To be read with preliminaries/ general conditions.

10 Precast concrete Kerb HS03

1. Description: Conservation X Kerb
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls
 - 3.1. Product reference: Conservation X Kerb
4. Recycled content: up to 48.3%
5. Designations: ER Edging, round
6. Size (width x height x length): 145x145x915mm
7. Finish: Includes a solid unit with texture surface
8. Colour: Charcoal
9. Bedding: Cement mortar
10. Joints: Tooled mortar
11. Sealant movement joints: At 15 m (maximum) centres

40 Laying kerbs, edgings and channels

1. Standard: To BS 7533-6.
2. Cutting: Neat and accurate and without spalling. Form neat junctions.
 - 2.1. Long units' (450 mm and over) minimum length after cutting: 300 mm.
 - 2.2. Short units' minimum length after cutting: The lower of one third of their original length or 50 mm.
3. 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.
4. 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.

41 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.

42 Cement mortar bedding

1. General: To section Z21.
2. Mix: (Portland cement:sand): 1:3.
 - 2.1. Portland cement: Class CEM I 42.5 to BS EN 197-1.
 - 2.2. Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
3. Bed thickness: 12-40 mm.

45 Accuracy

1. Deviations (maximum)

- 1.1. Level: ± 6 mm.
- 1.2. Horizontal and vertical alignment: 3 mm in 3 m.

50 Tooled mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled and tooled to a neat flush profile.
 - 1.1. Joint width: 10 mm

51 Tooled coloured mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled and raked out to a depth of 10 mm for pointing.
 - 1.1. Joint width: 10 mm.
2. Pointing: Joints refilled and tooled to a neat flush profile.
 - 2.1. Pointing mortar: 1:3 cement:sand.
 - 2.2. Colour: Dark grey

80 Regularity of paved surfaces

1. Maximum undulation of (non-tactile) paving surface: 3 mm.
 - 1.1. 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)
 - 2.1. Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
 - 2.2. Recessed, filled joints: 2 mm.
 - 2.2.1. Recess depth (maximum): 5 mm.
 - 2.3. Unfilled joints: 2 mm.
3. Sudden irregularities: Not permitted.

Ω End of Section

Q25 Slab/ brick/ sett/ cobble pavings

To be read with preliminaries/ general conditions

50A Natural stone slabs HS01

1. Description: Hawks View Flamed Paving
2. Standard: To BS EN 1341.
3. Supplier: Marshalls
 - 3.1. Product reference: Hawks View
 - 3.2. Quarry: Kota region, Rajasthan, Indian
4. Petrographical description/ stone type: Light beige bluish grey and light reddish brown fine grained Sandstone
5. Finish: Flamed
6. Sizes: 600 mm x 600 mm x 63 mm
 - 6.1. Plan dimension deviation class: P1
 - 6.2. Diagonal deviation class: D2
 - 6.3. Thickness deviation class: T2
7. Arrises: Square
8. Breaking strength: Class 4
9. Slip resistance: Dry 86 Wet 62
10. Surface treatment: None

50B Natural stone slabs HS06

1. Description: Hawks View Flamed Setts
2. Standard: To BS EN 1341.
3. Supplier: Marshalls
 - 3.1. Product reference: Hawks View
 - 3.2. Quarry: Kota region, Rajasthan, Indian
4. Petrographical description/ stone type: Light beige bluish grey and light reddish brown fine grained Sandstone
5. Finish: Flamed
6. Sizes: 200 mm x 100 mm x 63 mm
 - 6.1. Plan dimension deviation class: P2
 - 6.2. Diagonal deviation class: D2
 - 6.3. Thickness deviation class: T2
7. Arrises: Square
8. Breaking strength: No requirement Class 4
9. Slip resistance: Dry 86 Wet 62
10. Surface treatment: None

52 Concrete block HS02

1. Description: Conservation Sett

2. Standard: To BS EN 1339.
 - 2.1. Manufacturer: Marshalls
 - 2.1.1. Product reference: Conservation Sett
3. Recycled content: As manufactured
4. Colour: Silver grey
 - 4.1. Finish: Split fashion
 - 4.2. Nominal sizes: 100 x 100 x 100 mm
5. Arrises: Square
6. Water absorption and freeze/ thaw resistance class: As manufactured
7. Bending strength class: As manufactured
8. Abrasion resistance class: As manufactured
9. Slip/ Skid resistance: >45
10. Breaking load class: As manufactured

54 Tactile flags and slabs HS05

1. Description: Hazard Warning to external steps
2. Standard: To DD CEN/TS 15209.
3. Material: Precast concrete
 - 3.1. Manufacturer: Marshalls
 - 3.1.1. Product reference: Hazard Warning
4. Nominal sizes: 450 x 450 mm
5. Colour: Natural Charcoal
6. Type of surface: Solid unit with profiled surface

76 Laying flag and slab paving – mortar laying course and jointing

1. Standard generally: In accordance with BS 7533-4.
2. Flag installation and cutting: To Interpave 'Concrete flag paving'.
3. Laying and jointing: Joint width (nominal): 5 mm

320 Tactile Lambeth Deterrent flags HS10

7. Description: Deterrent flags between carriage way and planter wall
8. Material: Concrete
 - 8.1. Manufacturer: Marshalls
 - 8.1.1. Product reference: Tactile Lambeth Paving
9. Nominal sizes: 600 x 600 mm
10. Colour: Natural buff
11. Type of surface: Solid unit with profiled surface

Ω End of Section

Q28

Topsoil and soil ameliorants

System outline - Not Used

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:
 - 3.1. Corrosive, explosive or flammable.
 - 3.2. Hazardous to human or animal life.
 - 3.3. 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.

315 Imported topsoil to BS 3882

1. **Description:** Planting areas for rain gardens, trees and shrubs
2. **Quantity:** Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
3. **Standard:** To BS 3882.
4. **Classification:** Multipurpose
 - 4.1. Soil textural class to BS 3882, Figure 1: Loamy sand
5. **Source:** Submit proposals
 - 5.1. **Product reference:** Submit proposals

315a Imported low fertility topsoil

1. Wildflower mounds require low fertility imported topsoil.
2. Wildflower mounds to be built up using sub soil but topped with 150mm low fertility top soil.

340 Lightweight growing medium

1. **Description:** Sedum and ornamental grass matting to be installed on the roof of the hub.
2. **Standard:** Refer to TCF-WSP-KHBH-XXX-DR-LE-000001 and architectural details

Execution

620 Importing topsoil

1. **Give notice:** Before stripping topsoil for transfer to site.
 - 1.1. **Notice period:** 5 days

625 Sample loads

1. Description: For imported topsoil
2. Deliver to site a sample load: 5kg
3. Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
 - 3.1. Notice period: 5 days

630 Documentation for imported topsoil

1. Description: All planted areas
2. Timing: Submit at handover.
3. Contents
 - 3.1. Full description of all soil components.
 - 3.2. Record of source for all soil components.
 - 3.3. Record drawings showing the location and depth of all soils by type and grade.
 - 3.4. Declaration of analysis: in accordance with BS 3882, clause 6 and Table 1.

655 Mechanical tools

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

660 Grading subsoil for:

1. Description: All planting areas
2. Standard: In accordance with BS 8601.
3. General: Grade to smooth flowing contours to achieve specified finished levels of sub soil. Refer to drawing number TCF-WSP-KHBH-XXX-DR-LE-000003 Soft Details for dimensions of mounds.
4. Areas of thicker subsoil: Excavate locally.
3. Avoid compaction.
4. Excess subsoil: Remove.

665 Subsoil surface preparation for:

1. Description: All planted areas
2. Standard: In accordance with BS 3882.
3. General: Excavate and/ or place fill to required profiles and levels, as per NBS section D20.
4. Loosening
 - 4.1. When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly to specified depth
 - 4.1.1. Stiff clay and cohesive subsoils: 300mm
 - 4.1.2. Rock and chalk subgrades: Lightly scarify to promote free drainage.
 - 4.2. Wet conditions: Do not loosen subsoils.
5. Stones: Immediately before spreading topsoil, remove stones larger than 50 mm.
6. Remove from site: Arising, contaminants and debris / builders' rubble

670 Inspecting formations

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

690 Topsoil storage heaps

1. Location: Submit proposals
2. Height (maximum): 1.5 m
3. Width (maximum): 2.0 m
 - 3.1. Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
4. Protection
 - 4.1. Do not place any other material on top of storage heaps.
 - 4.2. Do not allow construction plant to pass over storage heaps.
 - 4.3. 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.
 - 2.1. Hollows and ridges: Not permitted.
3. Give notice: If required levels cannot be achieved by movement of existing soil.

705 Handling topsoil

1. Standard: In accordance with BS 3882.
2. Aggressive weeds: Give notice and obtain instructions before moving topsoil.
3. Plant: Select and use plant to minimize disturbance, trafficking and compaction.
4. Contamination: Do not mix topsoil with:
 - 4.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
 - 4.2. Other grades of topsoil.
5. Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
6. Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall, or when the moisture content is greater than the plastic limit. Never handle topsoil during frozen ground conditions or if the air temperature falls below 3 degree.

710 Spreading topsoil on:

1. Description: All planted areas.
2. Standard: In accordance with BS 3882.
3. Temporary roads/ surfacing: Remove before spreading topsoil. Remove before spreading soil.
4. Layers
 - 4.1. Depth (maximum): Refer to drawing TCF-WSP-KHBH-XXX-DR-LE-000003
 - 4.2. Gently firm each layer before spreading the next.
5. Depth after firming and settlement:
6. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 Loose tipping of topsoil

1. Standard: In accordance with BS 3882.
2. 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.

720 Finished levels of topsoil after settlement

1. In relation to adjoining paving, kerbs or hard surfaces: 25 mm below
2. In relation to dpc of adjoining buildings: Not less than 150 mm below.
3. In relation to adjacent grass areas: 25 mm
4. Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
5. Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
6. Adjoining soil areas: Marry in.
7. Thickness of turf or mulch: Included.

730 Green roof growing medium installation

1. Handling: Minimize.
 - 1.1. Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.

Ω End of Section

Q30

Seeding/ turfing

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.

170 Setting out

1. **Boundaries:** Mark clearly.
2. **Delineation:** In straight lines or smoothly flowing curves as shown on drawings. Refer to TCF-WSP-KHBH-XXX-DR-LE-000001

Preparation

210 Herbicide

1. **Type:** Suitable for suppressing perennial weeds.
2. **Timing:** Allow fallow period before cultivation.

250 Soil requirements

1. **Type**
 - 1.1. **Seeded areas:** Growing medium: Refer to TCF-WSP-KHBH-XXX-DR-LE-000003 Seeding

312 Wildflower seed mixture SS01

1. **Description:** Impact Violet Heart Perennial 100% Wildflower Seed Mix
2. **Supplier:** John Chambers Wildflower Seeds, Rabbit Hill Business Park, Great North Road, Arkedale. HG5 0FF
 - 2.1. **Mixture reference:** 130JC3136-PRO
3. **Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora):** British Native

4. Application rate: 2 - 3 g/m²

312a Wildflower seed mixture SS05

1. Description: Heritage Early Flowering 80% Grass Seed 20% Wildflower Seed Mix
2. Supplier: John Chambers Wildflower Seeds, Rabbit Hill Business Park, Great North Road, Arkedale. HG5 0FF
 - 2.1. Mixture reference: 130JC4114-PRO
3. Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora): British Native
4. Application rate: 5 g/m²

365 Pre-seeded turf SS07

1. Description: A range of resistant sedums and ornamental grasses
2. Manufacturer: Pictorial Meadows Ltd. (or equal equivalent) 389 Manor Lane, Sheffield. S2 1UL 0114 267 7635
 - 2.1. Product reference: Botanical Skyline green roof turf - depth 40 mm min
3. Seed mixture: As per manufacturers specification
4. Time of year: Autumn or early winter
5. Topsoil dressing: Not required
 - 5.1. Thickness: As per architects specification

Protecting/cutting

510 Protective fencing

1. Fencing type: Contractors choice, and with agreement of Employer. Fencing/ tape used should ensure minimum damage to the seeded areas.
2. Height: 0.9 m
3. Erection: On completion of seeding/ turfing.
4. Removal: After grass/ wildflowers are well established. Any holes/ damage to be rectified and made good, with reseeded as necessary to ensure coverage. Fencing will remain the property of the Contractor

590 Cleanliness

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

Maintenance

610 Failures of seeding/ turfing

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

4. Timing of making good: The next suitable planting season

650 Maintaining grassed areas with perennial wildflowers

1. Duration: Carry out the following operations from completion of seeding until the end of the rectification period.
2. Height and frequency of cut in first growing season
3. **Verges (to edges of wildflower mounds)**
 - 3.1. Verge areas to be cut once every four weeks from March to October.
4. **Wildflower mound and neutral grassland**
 - 4.1. First year management: Cut regularly throughout the growing season in establishment year to 40- 60mm. Cutting to 40-60mm when height reaches 150mm.
 - 4.2. Second year and on-going management: Cut 2-3no. times each year, a 'hay cut' between late August and October shall be to 70mm after flowering. Then the grass shall be maintained with a cut of 50mm to remove excess grass, the following March and April. Do not cut from spring through to August, to give sown species an opportunity to flower

Ω End of Section

Q31

External planting

General information/ requirements

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.
 - 1.1. 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 marginals): September/ October or March/ April.
4. Container grown plants: At any time if ground and weather conditions are favourable.
 - 4.1. Watering and weed control: Provide as necessary.
5. Dried bulbs, corms and tubers: September/ October.
6. Green bulbs: After flowering in spring.
7. Wildflower plugs: Late August to mid November or March/ April.

130 Mechanical tools

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

145 Watering

1. Quantity: Refer to Landscape Maintenance Plan (LMP).

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.

170 Soil requirements: Rain Gardens

1. Type
 - 1.1. Planted beds: 400 mm Topsoil (minimum).
 - 1.2. Mulch applied after planting: 75mm bark mulch.
 - 1.3. Transition layer below topsoil. Clean, well graded sand/ coarse sand material containing little or no fines.

170 Soil requirements: Planter Type A

1. Type
 - 1.1. Planted beds: 400mm Topsoil with 600mm sand subsoil.
 - 1.2. Mulch applied after planting: 75mm Bark mulching.

175 Permeable Membrane

1. Permeable Membrane
 - 1.1. Manufacturer: Suregreen
 - 1.2. Contact details
 - 1.2.1. Address: Viridis House
Toppesfield Road
Finchingfield
Essex
CM7 4NZ
 - 1.2.2. Telephone: +44 (0) 1376 503869
 - 1.2.3. Web: www.sure-green.com
 - 1.2.4. Email: sales@sure-green.com
 - 1.3. Product name: Terram Non Woven Geotextile Membrane
 - 1.4. Product reference: SKU 438321
 - 1.5. Size: 4.5m x 100m
 - 1.6. Weight: 54kg
 - 1.7. Permeability: 90 l/m²/s

200 Plants/ Trees – general

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

215 Plants/ Trees – specification criteria

1. Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification (available on CS Design Software Limited's website).

216 Plants/ Trees – specification criteria

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

225 Bulbs/ Corms/ Tubers

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

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:
 - 1.1. Full botanical name.
 - 1.2. Total number.
 - 1.3. Number of bundles.
 - 1.4. Part bundles.
 - 1.5. Supplier's name.
 - 1.6. Employer's name and project reference.
 - 1.7. Plant specification, in accordance with scheduled National Plant Specification categories.
2. **Additional information:** Submit on request: Country of origin.

255 Plants/ Trees reserved at supplier's premises

1. **Types/ Species:** Types/ Species: As plant schedule drawing number TCF-WSP-KHBH-XXX-DR-LE-000002 **Predelivery inspection:** Give notice.
2. **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 for approval, stating:
 - 1.1. Price.
 - 1.2. 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.

275 Permanent identification of plants

1. Location: All trees.
2. Labels: Black plastics 75 mm x 100 mm with white weatherproof lettering attached to tree trunks at 1.5 m from ground level.
3. Wording: Genus, species, variety and common name.

280 Treatment of tree wounds

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

290 Surplus material

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

Plant containers

298 Waterproofing lining

1. Material: Polyethylene 0.75 mm thick
2. Base protection: Clean horticultural sand, 25 mm thick
3. Installation of liner
 - 3.1. Fully supported on the base.
 - 3.2. Closely fitting to the sides of container.

Preparation of planting beds/ planting materials

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

401 Regular plant layout

1. Description: To all planting areas.
2. Spacing: As plant schedule drawing number: TCF-WSP-KHBH-XXX-DR-LE-000002
3. Density: As plant schedule drawing number: TCF-WSP-KHBH-XXX-DR-LE-000002

405 Shrub planting pits

1. Timing: Excavate 2 days (maximum) before planting.
2. Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system

445 Planting bulbs/ Corms/ Tubers

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

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 system, as section Q28
 - 3.1. Depth: 50 mm

Planting trees

500 Tree planting

1. Standard: Prepare trees and transplant in accordance with BS 8545

505 Tree pits

1. Sizes: As drawing TCF-WSP-KHBH-XXX-DR-LE-000003 Soft details
2. Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. Excavated material: Remove arisings
4. Pit sides: Scarify.

512 Tree irrigation

1. Manufacturer: GreenBlue Urban Ltd
 - 1.1. Contact details
 - 1.1.1. Address: Northpoint
Compass Park
Junction Road

Bodiam
East Sussex
TN32 5BS

1.1.2. Telephone: +44 (0)1580 830800

1.1.3. Web: www.greenblue.com

1.1.4. Email: hello@greenblueurban.com

1.2. Product reference: RootRain Urban (RootRain Urban RRURB1A)

2. Hose

2.1. Material: Polypropylene.

2.2. Colour: Black.

3. Filling tube: Grille inlet, PE-HD moulded grid top.

515 Tree pit drainage

1. Locations: Refer to TCF-WSP-KHBH-XXX-DR-LE-000001 for tree locations.

2. Depth of excavation: Increase from specified size to allow for aggregate layer, with base slightly falling to outlet.

3. Aggregate layer: Clean gravel or broken stone, with no fines, graded 40 to 20 mm.

3.1. Depth: 200 mm

4. Geotextile filter

4.1. Manufacturer: Submit proposals

4.1.1. Product reference: Submit proposals

4.2. Position: Lay over aggregate before installing tree or backfill.

5. Completed pits: Test for free drainage before planting.

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.

1.1. Preservative treatment:

2. Stake size (minimum):

3. Stake length (minimum):

550 Double staking

1. Description: All Trees

2. Staking

2.1. Position: Either side of tree position and perpendicular to wind direction.

2.2. Driving: Vertically at least 300 mm into bottom of pit before planting.

2.3. Backfilling: Consolidate material around stake.

2.4. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.

3. Height of stakes: Cut off to approximately 1000 mm above ground level

4. Horizontal bracing: Adjustable tree tie buckle 25mm wide. Two sets per stake

4.1. Fixing: Firmly fix using nails on windward side of tree and as close as possible to the stem without making contact with the bark. Position cross bar horizontally and 25 mm from top of stakes

5. Ties: Adjustable

6. Tying: Secure rubber belting around tree stem firmly without causing constriction or chafing
7. Nails for fixing ties, belts and webbing: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
8. Nails for fixing cross bars:

560 Root barrier installation

1. Manufacturer: GreenBlue Urban Ltd
 - a. Contact details
 - i. Address: Northpoint
Compass Park
Junction Road
Bodiam
East Sussex
TN32 5BS
 - ii. Telephone: +44 (0)1580 830800
 - iii. Web: www.greenblue.com
 - iv. Email: hello@greenblueurban.com
 - b. Product reference: ReRoot 1000
2. Joints: Minimize.
3. Upstands: Extend to top of growing medium.
4. Dimensions: Depth 1000mm, 1mm thickness
5. Roll 30m length.
6. Profile: Ribbed

Woodland/ matrix/ buffer zone planting

617 Removing trees and hedges

1. Identification: Clearly mark trees to be removed.
2. Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
3. Arisings: Remove.
4. Tree stumps: Remove mechanically to a minimum depth of 300 mm below ground level

680 Setting out

1. Planting density: As plant schedule drawing number: TCF-WSP-KHBH-XXX-DR-LE-000002
2. Layout: As drawings and install in random groups of no less than 3 or more than 7 of the same species, ensuring that no three plants are aligned in any one direction.

Protecting/ maintaining/ making good defects

710 Maintenance

1. Protecting/ maintaining/ making good defects
 - 1.1. Duration: Carry out the operations in the following clauses from completion of planting until end of defects liability period
 - 1.2. Frequency of routine maintenance visits: In accordance with the agreed maintenance schedule.

720 Failures of planting

2. Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - 2.1. Exclusions: Theft or malicious damage after completion.
 - 2.2. Rectification: Replace with equivalent plants/ trees/ shrubs.
3. Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
4. 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. Refer to Landscape Maintenance Plan: TCF-WSP-KHBH-XXX-LMP-000001

760 Planting maintenance – pruning

1. Refer to Landscape Maintenance Plan: TCF-WSP-KHBH-XXX-LMP-000001

790 Final Mulching

1. Timing: At end of the maintenance period.
2. Watering: Ensure that soil is thoroughly moistened prior to re-mulching, applying water where necessary.
3. Planting beds and rain gardens: Remulch. - Depth (minimum): 75 mm.

Ω End of Section

Q37 Green roofs

General

130 Extensive green roof

1. **Description:** Green roof
2. **Waterproofing:** Bauder Waterproofing Systems Root resistant, (or equal equivalent)
3. **Thermal insulation:** SBS modified bitumen membrane, reinforced with 250g/m2 recycled spun bond polyester
4. **Protection:** 4mm Bauder FSM 600 Protection Mat: (or equal equivalent) heavy duty protection layer made from polyester and polypropylene fibres waterproofing from mechanical damage.
5. **Moisture control layers:** 40mm Depth Bauder drainage board DES40: expanded polystyrene (or equal equivalent).
 - 5.1 15% recycled material. lightweight multi-directional drainage to allow for free dispersal of the water to the nearest outlet.
 - 5.2 Filter fleece: Fine mesh PP geotextile: Installed to contain the substrate. The fleece should be taken up the sides of the substrate between the substrate and drainage trim or pebble margin. Fleece joints should be overlapped 150mm.
 - 5.3 Fleece should not be taken over the top of the drainage outlets.
6. **Growing medium:** Refer to Planting Plans TCF-WSP-KHBH-XXX-DR-LE-000002 and to architects specification
 - 6.1. **Depth:** 200 mm
7. **Vegetation:** 40mm pre seeded acid grassland blanket as section Q30
8. **Accessories:** None. Prior to the installation of the green roof system the existing substrate is to be cleaned to ensure all contaminants are removed preventing them from being trapped between the green roof and substrate. This should be completed following the installation of each layer described above.

Performance - Not Used

Products - Not Used

Execution

710 Installation generally

1. **Preparation:** Clear all surfaces of debris.
 - 1.1. **Timing:** After certification of waterproof membrane integrity.
 - 1.2. **Surface condition:** Visually inspect waterproof membrane, report any damage.
2. **Faults in waterproof membrane:** Report.
3. **Contamination:** Do not use materials detrimental to healthy plant growth.
4. **Storage:** Do not overload.
 - 4.1. **Point loads:** Avoid.
5. **Outlets:** Do not block.
 - 5.1. **Outlet grilles:** Installed.

720 Adverse weather

1. Unfinished work: Secure from damage and wind uplift.
2. Conditions: Do not install or work with frozen materials.

730 Installation of inverted roof insulation

1. Preparation: Clear roof of other trades.
2. Condition of substrate: Clean.
3. Fitting: Loose lay.
4. Joints: Butt together.
 - 4.1. End joints: Stagger.
5. Cutting: Minimize.
 - 5.1. Perimeters and upstands: Fit full sized pieces.
 - 5.2. Penetrations: Cut cleanly and fit closely.
6. Stability: Springing and rocking not permitted.
7. Protection: Cover to prevent wind uplift.

790 Growing medium installation

1. Handling: Minimize.
 - 1.1. Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
2. Layers
 - 2.1. Depth (maximum): 200 mm
 - 2.2. Sequence: Gently firm each layer before spreading the next.

800 Vegetation blanket installation

1. Handling blankets
 - 1.1. Timing: Lay within 36 hours of lifting from growing position.
 - 1.2. Excessive stacking: Not permitted.
 - 1.3. Material loss (maximum): 3% of total surface area.
2. Growing medium condition: Thoroughly watered.
3. Laying blankets
 - 3.1. Dry, damaged, frosty or waterlogged blankets: Do not lay.
 - 3.2. Orientation: Diagonal or perpendicular to slope of roof.
 - 3.3. Joints: Stagger. Butt together or slightly overlap to prevent gaps. Do not stretch blankets. Secure with biodegradable pegs.
 - 3.4. Edges: Finish with whole blankets.
 - 3.5. Consolidation: Firm as laying proceeds to ensure full contact with the growing medium. Do not use rollers.
4. Watering: Thorough, immediately after laying and dressing.

Completion

910 Inspection

1. Timing: Before handover.

- 1.1. Give notice (minimum): Three days.

920 Completion

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.
3. Outlets: Clean and clear of obstructions.
4. Completed green roof: Protect from adjacent or high level working.

930 Documentation

1. Timing: Submit at handover.
2. Contents
 - 2.1. Growing medium declaration of analysis.
 - 2.2. Manufacturers' guarantees and warranties.
 - 2.3. Procedures for maintenance of the green roof.
 - 2.4. Record drawings showing the location of planting and associated features.

Ω End of Section

Q38 Green walls

General

120 Modular green wall system SS06

1. Description: Free standing Living Wall
2. System performance: Design submittals - as clause 205
3. System manufacturer: inleaf, Unit 17, Strawberry Meadows Business Park, Berry Lane, Chorley, Lancashire, PR7 6FL

TEL: 03335 770 770
EMAIL: info@inleaf.co.uk

4. Primary structure: Steel frame
5. Breather membrane: Contractor's choice
6. Secondary support structure: Contractor's choice
7. Cavity barriers: Contractor's choice
8. Waterproof layer: Contractor's choice
9. Irrigation: Contractor's choice
10. Modular panels
 - 10.1. Type: Contractor's choice
 - 10.2. Growing medium: Manufactured growing medium, as per manufacturers specification
 - 10.3. Additional materials: Contractor's choice
11. Planting: to be confirmed by manufacturer
12. Gutters: Contractor's choice
13. System accessories: Contractor's choice
14. All construction drawings to be provided by the manufacturer and approved by the Landscape Architect and Engineer
15. Final Planting Design to be coordinated and approved by the Landscape Architect.

Performance

205 Design submittals

1. Detailed design
 - 1.1. Requirement: Submit drawings, technical information, calculations, utilities connections and manufacturers' literature
 - 1.2. Timing: Submit before fabrication
 - 1.3. Format: Submit proposals

Products - Not Used

Execution

602 Climatic conditions

1. Generally: Prevent frost damage or drying-out of plants. Do not work with frozen materials.
2. Adverse weather: Secure unfinished work from damage and wind uplift.

605 Installation generally

1. **Component assembly:** Carry out as much assembly as possible in the workshop prior to installation on site.
2. **Joints:** Secure rigidly, reinforce where necessary and fix with hairline abutments.
3. **Electrolytic corrosion:** Prevent. Submit proposed methods.
4. **Identification of products:** When marking or tagging products to facilitate identification during assembly, handling, storage and installation, do not mark surfaces visible in completed system.
5. **Contamination:** Do not use materials detrimental to healthy plant growth.
6. **Temporary protective coverings:** Remove at completion.

610 Pre-installation survey

1. **Primary support structure (substrate):** Carry out a sufficiently detailed survey to verify that required accuracy of erection can be achieved.
2. **Survey results:** Submit. Confirm that the structure will allow the accuracy and security or erection required by specification. Give notice of all areas of structure that do not meet the requirements.
3. **Timing:** Before commencement of installation on site.

680 Growing medium installation

1. **Requirements:** Fill planting pockets or modules, allowing sufficient space for plant roots. Firm in layers. Do not overfill or compact.
2. **Additional materials:** Contractor's choice

687 Planting in growing media

1. **Planting**
 - 1.1. **Depth:** Insert plant roots into preformed holes to accommodate full depth of roots.
 - 1.2. **Finishing:** Ensure vertical orientation of plant. Firm in place.
2. **Watering:** Immediately after planting, water thoroughly. Do not damage or displace plants or growing medium.

Completion - Not Used

Ω End of Section

Q40 Fencing

Fencing systems - Not Used

Gates, posts and stiles

570 Gate Access to Green Wall

1. Manufacturer: Jacksons Fencing
 - 1.1. Contact details
 - 1.1.1. Address: 209 Stowting Common
Ashford
Kent
TN25 6BN
 - 1.1.2. Telephone: 0800 408 4757
 - 1.1.3. Web: www.jacksons-security.co.uk
 - 1.1.4. Email: sales@jacksons-fencing.co.uk
 - 1.2. Product reference: EuroGuard® Combi Gates
2. Configuration: Single leaf.
3. Dimensions
 - 3.1. Span: 600mm clear opening
 - 3.2. Height: 1800mm
4. Posts: Square section posts.
5. Gate leaves: Single leaf.
6. Hardware
 - 6.1. Hinges: Tamper-proof.
 - 6.2. Securing: Key in lock, handles, stop.
 - 6.3. Operating: Manual.
7. Finish as delivered: Pressure treated wood, powder-coated steel.
8. Colours: Black RAL 9005.

Accessories - Not Used

Execution

710 Installation generally

1. Set out and erect
 - 1.1. Alignment: Straight lines or smoothly flowing curves.
 - 1.2. Tops of posts: Following profile of the ground.
 - 1.3. Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
 - 1.4. 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.
 - 1.1. **Timing:** Before handover.

930 Gates

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

Ω End of Section

Q50

Site/ street furniture/ equipment

Gates, barriers and parking controls - Not Used

Site and street furniture

220 Street and site benches SF01

1. Description: Free standing seating
2. Manufacturer: Marshalls Landscape Protection & Street Furniture
 - 2.1. Contact details
 - 2.1.1.Address: Landscape House
Lowfields Business Park
Elland
West Yorkshire
United Kingdom
HX5 9HT
 - 2.1.2.Telephone: 0370 600 2425
 - 2.1.3.Web: www.marshalls.co.uk/commercial/landscape-protection
 - 2.1.4.Email: StreetFurniture@marshalls.co.uk
 - 2.2. Product reference: Hawks view
3. Material: Natural stone
 - 3.1. Finish: Flamed
 - 3.2. Colour: None
4. Size: Refer to drawing TCF-WSP-KHBH-XXX-DR-LE-000001
5. Accessories/ Special requirements: Refer to drawing for details of arm and back rests TCF-WSP-KHBH-XXX-DR-LE-000006
6. Method of fixing: Root, 150 mm below ground, set in concrete base.

225 Seats SF01

1. Description: Slats mounted on natural stone seating
2. Manufacturer: Streetlife

Streetlife BV Head Office
Herengracht 36
2312 LD Leiden,
The Netherlands.

TEL: +31 (0) 71 333 33 33
Streetlife@streetlife.com
 - 2.1. Product reference: Curved Benches - Timber Slats
3. Material: Timber
 - 3.1. Finish: Wood stain, as section M60 As manufactured
 - 3.2. Colour: None
4. Size: 500 mm x 90mm
5. Accessories/ Special requirements: Arm and back rest as per TCF-WSP-KHBH-XXX-DR-LE-000006

6. Method of fixing: Manufacturers Standard

240 Litter bins SF03

1. Description: Litter bins
2. Manufacturer: broxap street furniture

Broxap Ltd - Broxap Head Office
Rowhurst Industrial Estate,
Chesterton
Newcastle-under-Lyme
ST5 6BD

TEL: 01782564411
info@broxap.com

2.1. Product reference: BX45 2561 Eco Steel Litter Bin
3. Material: Galvanized steel
 - 3.1. Finish: Galvanized
 - 3.2. Colour: None
4. Accessories/ Special requirements: Ash tray to top
5. Method of fixing: Base plate bolted to existing in situ concrete paving

240 Litter bins SF04

1. Description: Litter bins
2. Manufacturer: broxap street furniture

Broxap Ltd - Broxap Head Office
Rowhurst Industrial Estate,
Chesterton
Newcastle-under-Lyme
ST5 6BD

TEL: 01782564411
info@broxap.com

2.1. Product reference: BX45G 2562-D Athena Double litter & recycling bin
1020 mm x 900 mm x 499 mm
3. Material: Galvanized steel
 - 3.1. Finish: Galvanized
 - 3.2. Colour: None
4. Accessories/ Special requirements: None
5. Method of fixing: Base plate bolted to existing in situ concrete paving

Installation

510 Concrete foundations generally

1. Standard: To BS 8500-2.
2. Concrete: Concrete foundations to Structural Specification to manufacturer's specification
3. Admixtures: Do not use.
4. Foundation holes: Neat vertical sides.

5. Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 Setting components in concrete

1. Concrete:: Concrete foundations to Structural Specification to manufacturer's specification
2. Holes: 250 x 250 x minimum 300 mm deep
3. Components: Accurately positioned and securely supported.
4. Concrete fill: Fully compacted as filling proceeds.
5. Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
6. Temporary component support: Maintain undisturbed for minimum 48 hours.

530 Preservative treated timber

1. 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.
2. Heavily worked sections: Re-treat.

545 Erection of timber and prefabricated structures

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

550 Damage to galvanized surfaces

1. Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
 - 1.1. 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.
 - 1.2. Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

560 Site painting

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

Ω End of Section

