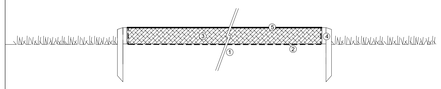
LEGEND: TREE PROTECTION TO BS 5837:2012

- TREE PROTECTION FENCE: Phase 2 fencing to be constructed in accordance with BS5837 on completion of main construction works and prior to removal of the Phase 1 fence.
- CONSTRUCTION EXCLUSION ZONE: to be protected from construction in accordance with BS5837.
- GROUND PROTECTION: root protection area to be protected from compaction during construction in accordance with BS5837 as per typical detail 1.0.
- DEMOLISHED BUILDING FOOTPRINT
- EXISTING HARD SURFACING
- POROUS PAVING: access drive and paving within root protection zones to be porous paved and of 'no dig' construction as typical detail 3.0 and to engineers details.
- NO DIG HARD SURFACE: pedestrian footpath within root protection zones to be of 'no dig' construction as typical detail 2.0 and to engineers details.
- DIMENSIONS: setting out dimensions from trunk of retained trees or other existing site features. Phase 2 fencing to be erected prior to removal of Phase 01 fencing.
- TREES TO BE RETAINED: with root protection zone illustrated.
- TREE REMOVAL: trees to be removed to enable construction.

ARBORICULTURAL METHOD STATEMENT: refer to the Arboricultural Method Statement 2079/EH/AMS001 for more detailed information.

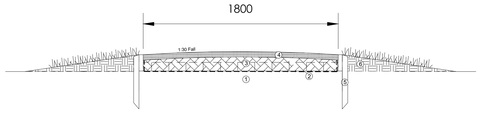
1.0 TEMPORARY TREE GROUND PROTECTION: Pedestrian operated plant < 2 tonnes (Scale 1:20)



NOTES:

1. EXISTING GROUND: existing ground / soil within root protection area to be undisturbed. Area to be cleared of vegetation (i.e brambles, perennial weed growth, scrub) by hand prior to installation.
2. GEOTEXTILE: terram 11000 geotextile to be laid to existing on existing ground.
3. COMPRESSION RESISTANT LAYER: minimum layer of 150mm woodchip from site tree work arisings or contract grade bark mulch.
4. TIMBER EDGE: pressure treated 50mm x 150mm pegged timber edging boards. Pegs 50mm x 50mm x 450mm at 500mm centres.
5. GROUND PROTECTION BOARDS: steel road plates pegged in position or proprietary inter-linked ground protection boards such as Grounds Guards 'Multi Track' system.

2.0. TYPICAL NO DIG BREEDON GRAVEL 1.8M FOOTPATH: (Scale 1:20)



NOTES:

1. EXISTING GRASS: path route to be sprayed out prior 2 weeks prior to commencement.
2. GEOTEXTILE: terram geogrid TX160 above Terram T1000 geotextile..
3. SUBBASE: buff coloured compacted DOT Type 1 100-130mm depth to achieve cambered surface (1:30 camber gradient) including 75mm depth geocell confinement system.
4. BREEDON GOLDEN AMBER GRAVEL: well consolidated to 50mm depth watered, rolled cambered to shed water (1:30 fall gradient).
5. TIMBER EDGE: pressure treated 50mm x 150mm pegged timber edging boards. Pegs 50mm x 50mm x 450mm at 500mm centres.
6. TOPSOIL: topsoil to be placed to either side of no dig path to conceal timber edging and seeded on completion.

TREE PROTECTION NOTES: 'Trees in relation to design demolition and construction' BS5837:2012

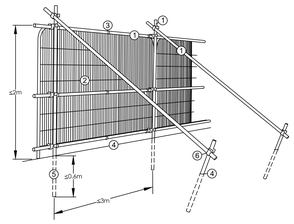
1.0 PRIOR TO COMMENCEMENT OF WORKS:

1.1 PRIOR TO COMMENCEMENT: all trees that are being retained onsite shall be protected by barriers and / or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. The 'Root Protection Area' (RPA) associated with existing trees designated for retention shall be protected from damage by erection of scaffold framework barriers in accordance BS 5837:2012 Figure 2 including where specified appropriate ground protection.

1.2 EXTENT OF ROOT PROTECTION AREA (RPA): as shown on the Tree Protection Plan (TPP) the RPA is generally to be in accordance with Annex D, Table D.1 'Root Protection Area.' - as an area equivalent to a circle radius 12 times the stem diameter (single stem trees) or based on the combined stem diameter for multistem trees (trees with more than one stem arising below 1.5m above ground level) refer to Clause 4.6.

1.3 TREE PROTECTION BARRIER: a vertical and horizontal scaffold framework, well braced to resist impacts as illustrated below (refer to Figure 2 of BS5837:2012). The vertical tubes should be spaced at a maximum interval of 3 metres and driven securely into the ground. Care should be taken to avoid underground services and contact with structural roots. In the presence of underground services, retained hard surfacing or where special circumstances dictate an alternative specification as illustrated in Figure 3 of BS5837:2012 may be acceptable subject to agreement with the project arboriculturalist and the local planning authority.

All weather site notices should be attached to the barrier with words such as "CONSTRUCTION EXCLUSION ZONE - NO ACCESS". Once installed barriers and ground protection shall be not be removed or altered without prior approval of the project arboriculturalist and where necessary approval form the local planning authority.



1. Standard scaffold poles
2. Heavy gauge 2m tall galvanised tube and weld mesh infill panels
3. Panels secured to uprights and cross members with wire ties
4. Ground Level
5. Uprights driven into ground until secure (minimum depth 0.6m)
6. Standard scaffold clamps

2.0 ADDITIONAL PRECAUTIONS:

2.1 Planning of site operations should take sufficient account of wide or tall loads, or plant with booms, jibs or counterweights (including drilling & piling rigs) tin order that they can operate without coming into contact with retained tree. The transit or traverse of plant in proximity to trees shall be conducted under supervision of a banksman to ensure adequate clearance from trees is maintained at all times. Access facilitation pruning as agreed with the project arboriculturalist and/or local authority should be undertaken where necessary to maintain clearance. NB Works to trees protected by a Tree Preservation Order or within a Conservation Area will need approval by the local authority.

2.2 Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA e.g. concrete mixings, diesel oil and vehicle washings. Allowances shall be made for sloping ground to avoid damaging materials running towards retained trees.

2.3 Fires on sites should be avoided. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and wind direction should be taken into account when determining its location, and should be attended at all times until safe to leave.

2.4 Trees are not to be used as anchorages for equipment, or for other purposes. Notice boards, telephone cables, or other services should not be attached to any part of the tree.

2.5 The dumping of spoil or rubbish, placing of temporary accommodation and storage of materials within the root protection area is prohibited.

2.6 The change of ground level, excavating, stripping or disturbing topsoil within the RPA is prohibited.

3.0 GROUND PROTECTION DURING DEMOLITION & CONSTRUCTION

3.1 Where construction working space or temporary construction access is specified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturalist and an engineer as appropriate.

3.2 Where the set-back of the tree protection barrier exposes unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

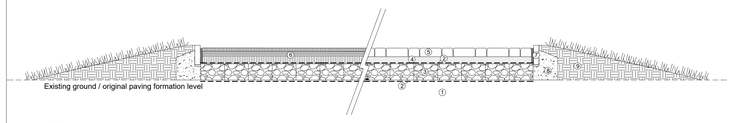
3.3 New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil, for example;

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected. If necessary sand should be laid on the ground as a compressible layer.

3.0 TYPICAL PERMEABLE / NO DIG PAVING DETAIL: (Scale 1:20)



NOTES:

1. EXISTING GROUND: existing ground / soil within root protection area to be undisturbed. Area to be cleared of vegetation (i.e brambles, perennial weed growth, scrub) by hand prior to installation.
2. GEOTEXTILE: Treetex geotextile to be laid to existing on existing ground and to top of Cellweb system.
3. CELLULAR CONFINEMENT SYSTEM: 75-200mm depth geocell confinement system such as Cellweb TRP to accommodate likely loading infilled with clean (no fines) angular stone infill.
4. LAYING COURSE: 50mm. 5mm SS crushed stone laying course to BS 5882.
5. PERMEABLE BLOCK PAVING: 60mm depth permeable block paving laid 90 degree herringbone with 2 courses in stretcher bond to all edges
6. PERMEABLE TARMAC: open textured porous asphalt to engineers details.
7. PIN KERB: 50x150mm pcc pin kerb with 15mm upstand on concrete bed and haunch (above ground level).
8. TOPSOIL: topsoil backfill to edge of kerb to conceal concrete bed and haunch.

NB Permeable porous paving to be to engineers specification to accommodate the likely loading to which it will be subjected.

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bea landscape design ltd

client: TAYLOR WIMPEY (WEST MIDLANDS) & SEVERN ACADEMIES EDUCATIONAL TRUST

project: WINDERMERE GRANGE, STOURPORT

title: TREE PROTECTION PLAN PHASE 2

status: PLANNING

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