

Arboricultural method statement (Draft)

Trees

at and adjacent to

**Twickenham Rediscovered Programme,
Riverside
Twickenham,
TW1 3DU**

for

London Borough of Richmond-upon-Thames

Skerratt

R Skerratt BSc(For) M. Arbor. A.
33 Greenwood Place
London
NW5 1LB

Tel: + 44 (0)7768 398776
Fax: + 44 (0)20 7567 4004
Email: raphaelskerratt@gmail.com

job no.: 557

document rev. no.:A

date: 20.10.17

1. Scope and status

1.1 Scope

- 1.1.1 This method statement sets out measures for the protection of trees for the duration of the proposed Twickenham Rediscovered Programme - Riverside.
- 1.1.2 The locations of the trees are shown on the **Tree protection plans** in **Appendix a**. Detailed dimensions and specified remedial works are set out in the **Pre-contract tree works schedule** in **Appendix b** of this method statement.
- 1.1.3 The proposed development comprises:
- The demolition of redundant buildings in the proposed development area which covers 1, 1A and 1B King Street, the west side of Water Lane between King Street and The Embankment and the north side of The Embankment between Water Lane and Diamond Jubilee Gardens.
 - The construction of a mixed-use development of residential flats, retail space and office provision.
- 1.1.4 The measures contained in this method statement are based on the advice and guidance set out in *BS5837:2012: Trees in relation to design, demolition and construction – Recommendations*.

1.2 Status

- 1.2.1 This method statement forms part of the building contract and its requirements are an integral part of the contract specification and schedule of works.
- 1.2.2 A copy of the method statement must be available for inspection on site at all times.
- 1.2.3 All persons working on site should be aware of the importance of avoiding damage to trees and should observe the necessary precautions. A guidance leaflet is included in this method statement in **Appendix c**.

2. Preparatory works prior to construction

2.1 Tree works

2.1.1 Preparatory tree works are listed in the **Pre-contract tree works schedule** in **Appendix b** and will be carried out prior to the start of the main contract.

2.1.2 All works will be carried out in accordance with *BS3998:2010 Recommendations for Tree Work*, by an appropriately qualified tree work contractor.

2.1.3 Unless otherwise specified, all arisings are to be taken off-site to an approved tip.

2.2 Protective measures: tree protection fencing

2.2.1 Tree protection fencing for both phases of the programme is contiguous with the construction site boundary hoarding.

2.2.2 The extent and location of tree protection fencing is shown on the **Tree protection plan** in **Appendix a**

2.2.3 Tree protection fencing will be installed as shown on the **Tree protection plan** in **Appendix a** prior to the start of works unless otherwise agreed with the Planning Authority (in the event of preliminary archaeological trial trenching, for example). It is particularly important that no demolition, soil stripping, breaking out of existing hard surfaces, re-grading or other excavation takes place before protective fencing has been installed.

2.2.4 Tree protection fencing will comply with the advice and guidance contained in *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations*.

2.2.5 The British Standard specifies 2000mm high panels with a galvanised tubular frame and welded mesh infill (e.g. Heras round or square top panels or equivalent), attached to a scaffold framework with braced uprights at no more than 3m intervals. Plywood panels are also fit-for-purpose as long as the panels are attached to uprights driven or dug into the ground at no more than 3m spacings. A 1:20 detail of the current British Standard specification for protective fencing is included at the end of this statement in **Appendix c**.

2.2.5 The area outside the tree protection fence is a **Construction Exclusion Zone (CEZ)**. No construction activities of any kind will be permitted in the **CEZ** except for the delivery and removal of materials and equipment along the designated access routes set out in the Construction Management Plan (CMP).

2.2.6 Contaminated materials (for example diesel and other toxic liquids) and surface water run-off must be contained within the construction site as detailed in the Construction Management Plan.

3. Works during development

3.1 Storage, handling and use of materials

3.1.1 Phytotoxic materials (diesel or cement for example) must be stored at least 5m away from the Root Protection Area (RPA) of any retained tree as shown on the **Tree protection plans** in **Appendix a**.

3.1.2 Phytotoxic liquids (diesel for example) will be stored in a purpose-built bunded container or compound to prevent the risk of spillage.

3.2 Safe positioning of lifting and handling equipment

3.2.1 Lifting and handling equipment must be located in such a way that, when in use, no part extends into the crown of any retained tree.

3.2.2 Where approved works require the use of lifting and handling equipment *below* the crowns of retained trees, a banksman will be employed to ensure that retained trees are not damaged.

3.3 No fires on site

3.3.1 No fires will be lit anywhere on site.

4. Summary of methods

4.1 Conflicts and remedial actions

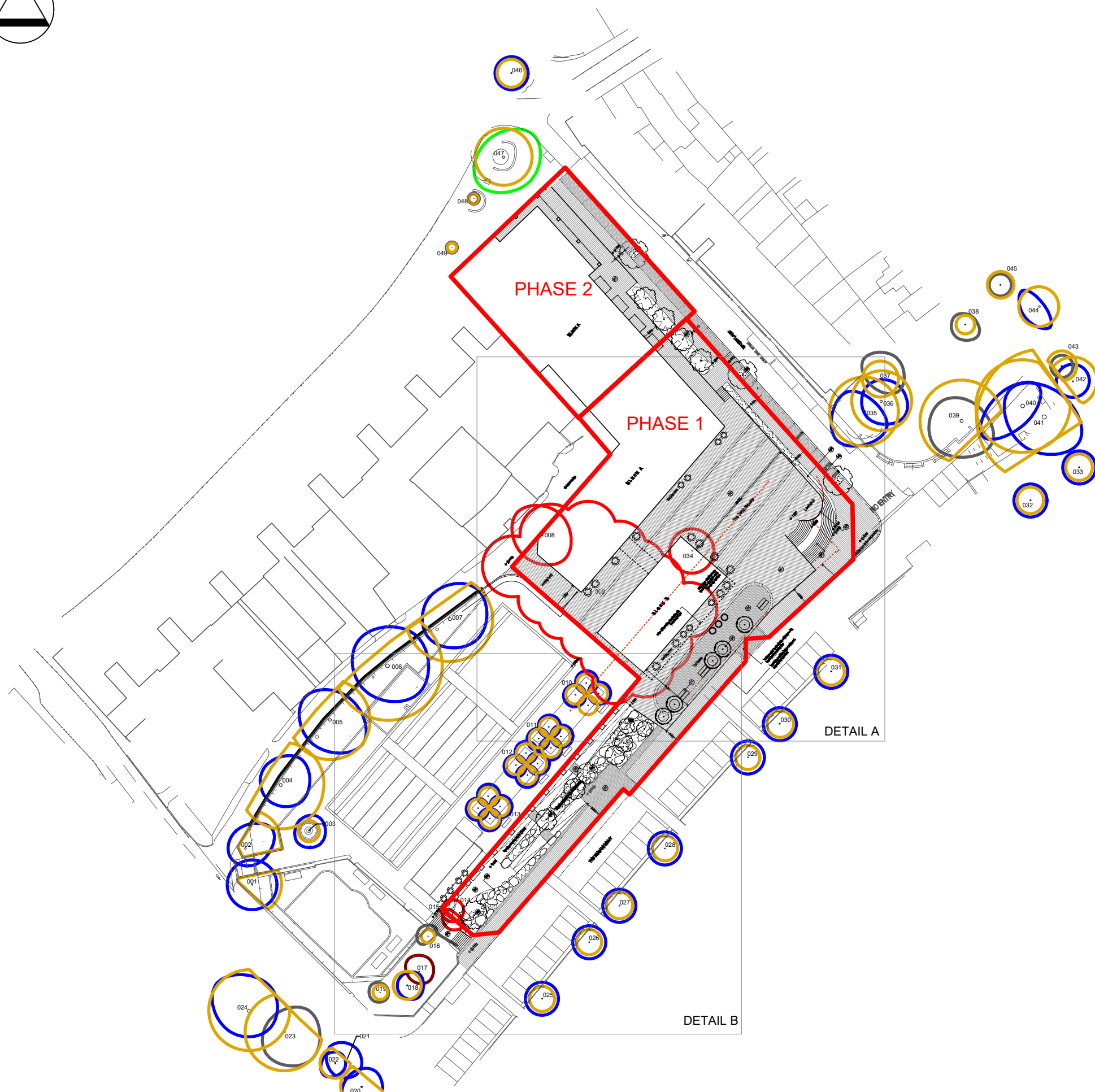
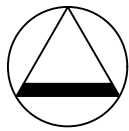
4.1.1 The main potential sources of damage to trees are listed in **Table 1** below together with the remedial measures that should be adopted to minimise or avoid damage.

Source of damage	Remedial actions	See	Trees at risk
Damage to tree stems and foliage	Erect tree protection fencing/site hoarding; plan site deliveries to avoid damage to overhead branches of trees outside the construction site boundary	Sections: 2.1. 2.2, 3.2. 3.3 Tree protection plans	016, 035, 036, 047
Damage from spillage of toxic materials	Phytotoxic materials to be stored in a bunded compound/container	Section: 3.1	All

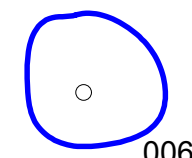
Table 1: Summary of Potential Damage Sources and Remedial Measures

Appendix a

Tree protection plans



KEY

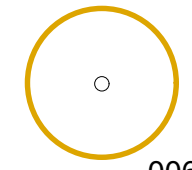


EXISTING TREE

006

Trees are coloured on plan to correspond with the Retention Categories specified in BS5837:2012 Trees in relation to design, demolition and construction - Recommendations as follows:

- Category A - GREEN
- Category B - BLUE
- Category C - GREY
- Category U - RED

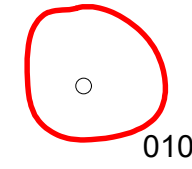


ROOT PROTECTION AREA as defined in BS5837:2012 Trees in relation to design, demolition and construction - Recommendations

006



SITE HOARDING/ TREE PROTECTION FENCING



TREE TO BE REMOVED FOR DEVELOPMENT PURPOSES

010

REVISION	CHK'D	APP'D	DATE
----------	-------	-------	------

Client:
LONDON BOROUGH OF RICHMOND-UPON-THAMES

Job Title:
TWICKENHAM REDISCOVERED PROGRAMME
RIVERSIDE
TWICKENHAM
TW1 3DU

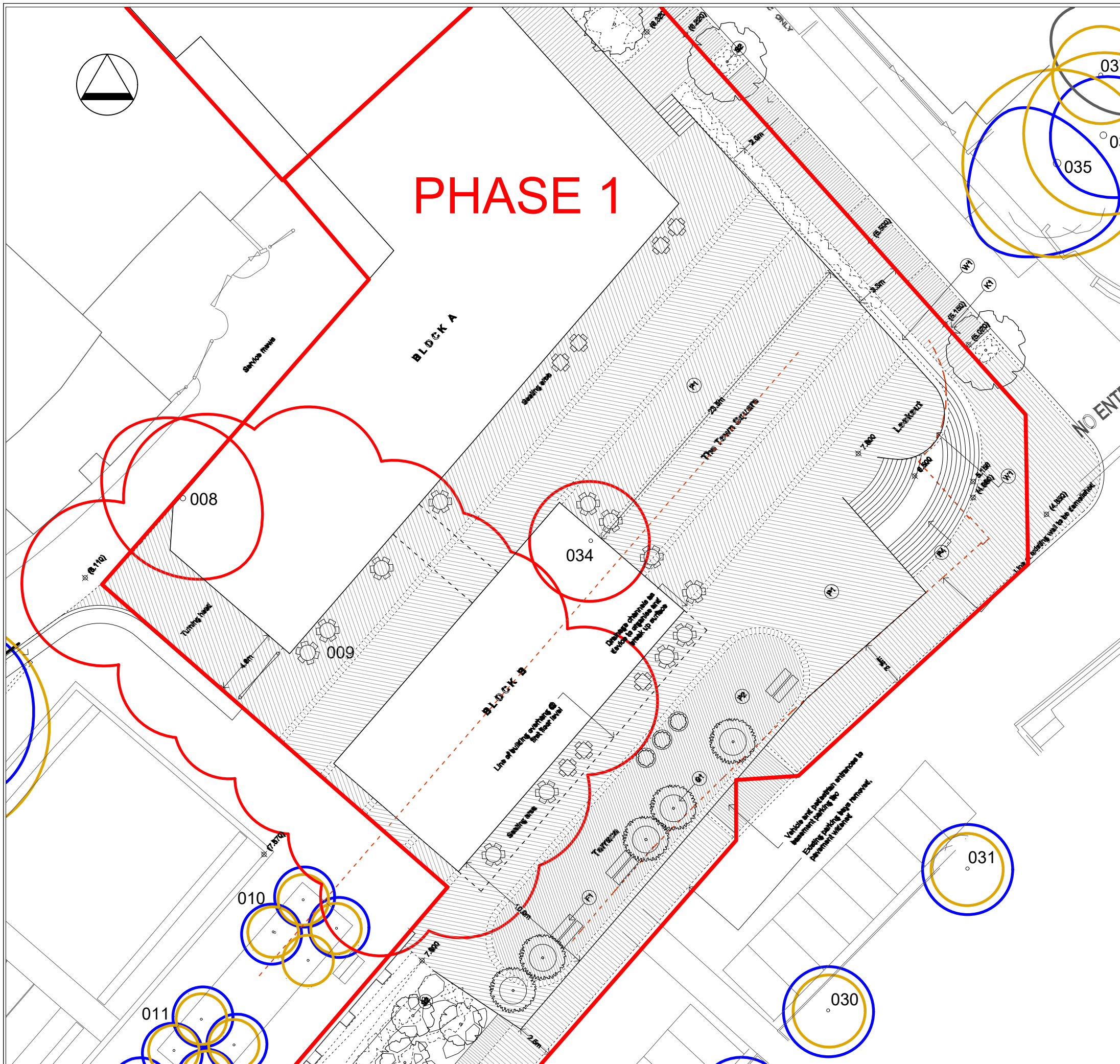
Drawing Title:
TREE PROTECTION PLAN (DRAFT)

Drawing Number: 557.03.01	Scale: 1:750 (A3)
------------------------------	----------------------

Date: 20.10.17	Drawn by: RS
-------------------	-----------------

Skerratt
arboricultural advice

33 GREENWOOD PLACE, LONDON NW5 1LB
+44 (0)7768 398776



KEY

EXISTING TREE
006

Trees are coloured on plan to correspond with the Retention Categories specified in BS5837:2012 Trees in relation to design, demolition and construction - Recommendations as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED

ROOT PROTECTION AREA as defined in BS5837:2012
Trees in relation to design, demolition and construction - Recommendations
006

SITE HOARDING/ TREE PROTECTION FENCING

TREE TO BE REMOVED FOR DEVELOPMENT PURPOSES
010

REVISION	CHK'D	APP'D	DATE

Client:
LONDON BOROUGH OF RICHMOND-UPON-THAMES

Job Title:
TWICKENHAM REDISCOVERED PROGRAMME
RIVERSIDE
TWICKENHAM
TW1 3DU

Drawing Title:
TREE PROTECTION PLAN (DRAFT)
DETAIL A

Drawing Number:
557.03.02

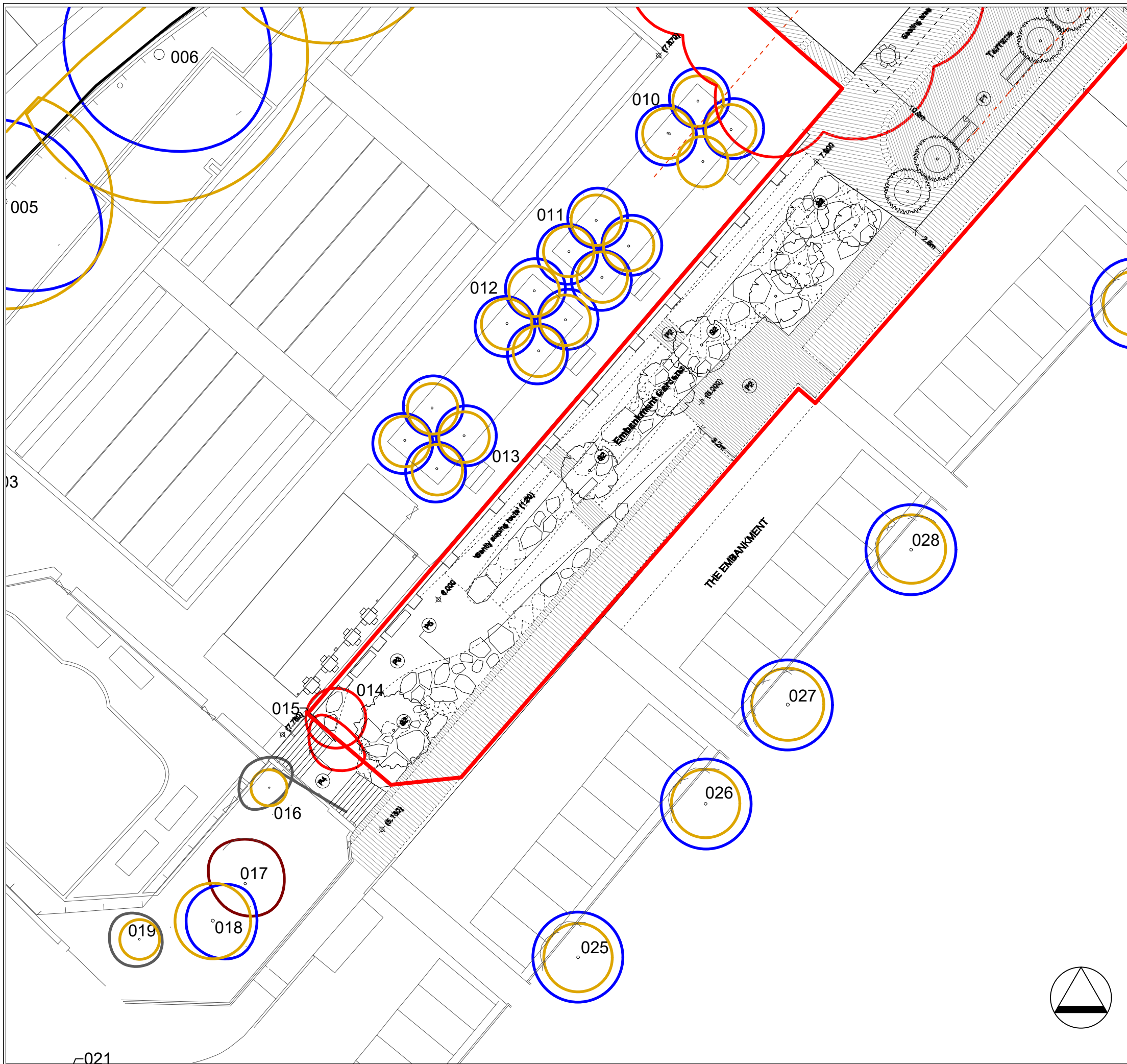
Scale:
1:250 (A3)

Date:
20.10.17

Drawn by:
RS

Skerratt
arboricultural advice

33 GREENWOOD PLACE, LONDON NW5 1LB
+44 (0)7768 398776



KEY

EXISTING TREE
006

Trees are coloured on plan to correspond with the Retention Categories specified in BS5837:2012 Trees in relation to design, demolition and construction - Recommendations as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED

ROOT PROTECTION AREA as defined in BS5837:2012 Trees in relation to design, demolition and construction - Recommendations
006

SITE HOARDING/ TREE PROTECTION FENCING

TREE TO BE REMOVED FOR DEVELOPMENT PURPOSES
014

REVISION	CHK'D	APP'D	DATE
----------	-------	-------	------

Client:
LONDON BOROUGH OF RICHMOND-UPON-THAMES

Job Title:
TWICKENHAM REDISCOVERED PROGRAMME
RIVERSIDE
TWICKENHAM
TW1 3DU

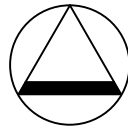
Drawing Title:
TREE PROTECTION PLAN (DRAFT)
DETAIL B

Drawing Number: 557.02.03	Scale: 1:250 (A3)
------------------------------	----------------------

Date: 20.10.17	Drawn by: RS
-------------------	-----------------

Skerratt
arboricultural advice

33 GREENWOOD PLACE, LONDON NW5 1LB
+44 (0)7768 398776



Appendix b

Pre-contract tree works schedule

Pre-contract tree works schedule

Skerratt

Tree No.	Species	Height (m)	Diam (cm)	Crown Spread (m)				Crown Height (m)	Item
				N	E	S	W		
008	Sycamore (<i>Acer pseudoplatanus</i>)	15	350 est	6	5	6	5	2/3	Fell to near ground level
009	Sycamore Group (<i>Acer pseudoplatanus</i>)	10-13	250 max	5.5	5	5	4	2/2	Fell to near ground level
014	Himalayan Birch (<i>Betula jacquemontii</i>)	6	110	2	2	2	2	1/2	Fell to near ground level
015	Himalayan Birch (<i>Betula jacquemontii</i>)	6	90	2	1	2	2	1/2	Fell to near ground level
034	Sycamore (<i>Acer pseudoplatanus</i>)	8	250 est	4	4	4	4	1/2	Fell to near ground level
035	Italian Alder (<i>Alnus cordata</i>)	19	520	4.5	2.5	5	7	3/3	Lift crown to 5m above street level

Specification

General

All works must be carried out in accordance with the provisions of *BS3889:2010 Tree works*

1. Felling

- 1.1 Where necessary to avoid damage to neighbouring trees and vegetation, trees for removal will be dismantled in sections and lowered under controlled conditions
- 1.2 No retained tree will be used as an anchorage point for any tree removal operation

2. Stump grinding

- 2.1 Stump grinding will be to a sufficient depth to extend through the base of the central part of the stump
- 2.2 Chippings from stump grinding will be treated as arisings and removed from site to an approved disposal location

3. Pruning: General

Active Target pruning

- 3.1 Pruning cuts will be made close to the point of origin of the branch or branchlet to be removed (to avoid stubs which can inhibit wound occlusion)
- 3.2 Where there is a visible branch bark ridge and branch collar, pruning cuts will be made between the outer edge of the branch bark ridge and the outer edge of the branch collar
- 3.3 Where no branch collar is visible, cuts should be made from the outer edge of the branch ridge at right angles to the grain of the branch to be removed

Size and location of pruning cuts

- 3.4 The size and number of all pruning cuts will be kept to a minimum consistent with the specified management objective
- 3.5 Preference will be given to the removal of a larger number of secondary branches rather than the removal of larger primary branches (to minimise pruning wound diameter) to achieve the specified management objective
- 3.6 Pruning cuts will not exceed 30% of the diameter of the parent branch or stem

4. Remove dead wood (safety)

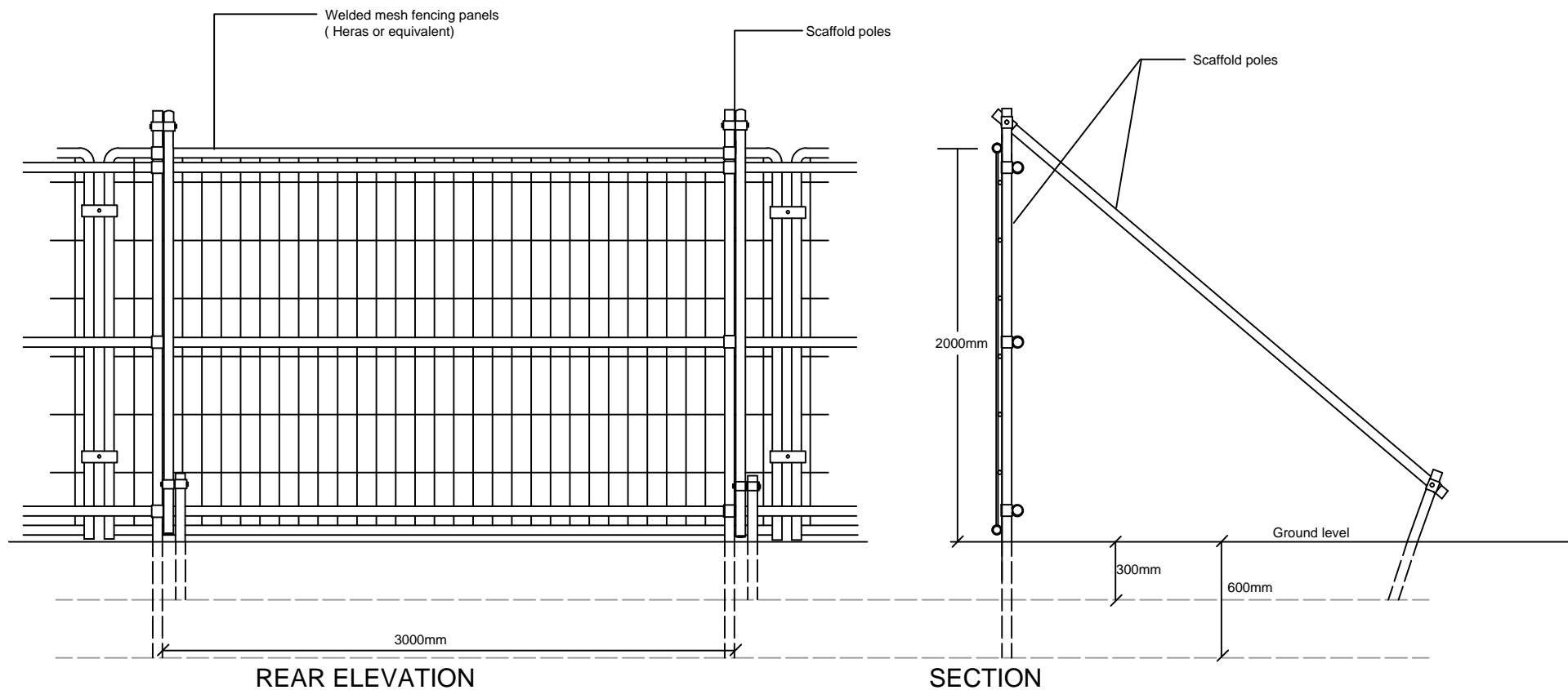
- 4.1 Remove dead secondary branches and branchlets of 25mm diameter or greater at their point of origin following the principles of Active Target pruning

5. Crown lift (to a specified height)

- 5.1 Achieve the clearance specified between ground level and the lowest point of overhanging crown
- 5.2 Achieve the specified increase in headroom by removing secondary branches with the smallest possible diameter in accordance with the principles of Active Target pruning
- 5.3 Where necessary to avoid pruning wounds in excess of 30% of the diameter of the parent branch or stem, shorten rather than remove the limb to be pruned back to a healthy lateral with the largest possible diameter in relation to its parent branch.
- 5.4 Shortening cuts will be made distal to the union with the lateral branch using Active Target pruning principles

Appendix c

BS protective fencing detail
Tree protection notes



Excerpts from *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations*

(For barriers) the default specification should consist of a vertical and horizontal scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m and driven securely into the ground.

Onto this framework, welded mesh panels should be securely fixed, using wire or scaffold clamps.

Care should be exercised when locating the vertical poles to avoid underground services and, in the case of bracing poles, also to avoid contact with structural roots

NOTE: The above is preferred because it is readily available, resistant to impact, can be re-used and enables inspection of the protected area

BS5837:2012 Protective Fencing Detail

Scale: 1:20 [A4]

Skerratt
arboricultural advice

158 MALDEN ROAD
LONDON NW5 4BT
07768 398776

TWICKENHAM REDISCOVERED
PROGRAMME
RIVERSIDE
TWICKENHAM
TW1 3DU

CARING FOR TREES

TREE PROTECTION NOTES

Trees are thin skinned and easily damaged

Their roots spread widely and run close to the ground surface.

All of the following can cause serious damage:

- Heavy traffic over and the storage of heavy materials above tree roots
- Direct damage to stems and branches from badly handled construction equipment,
- Root damage caused by unnecessary excavation
- Leakage of toxic liquids and powders above roots and close to tree stems.

Please keep the trees on site safe by following these simple rules carefully and in full.

There is a protective fence round each retained tree. These fenced-off areas are **CONSTRUCTION EXCLUSION ZONES (CEZ)**. Don't enter any CEZ unless authorised to do so

In Construction Exclusion Zones

- Don't store any materials
- Don't use heavy machinery
- Don't handle toxic materials
- Stick to the planned work programme. Don't undertake unscheduled variations
- Don't light fires
- Report any damage to protective fencing to the Site Manager

Work Planning

Plan your work so that construction machinery does not come into contact with and cause damage to branches and stems of retained trees.

Appoint someone to supervise movement of machinery and equipment close to CEZs

Tell the Site Manager if tree pruning is needed to get machinery in, out or around the site. Don't do it yourself