

Revision	Date	Reason for issue	Drawn by
1	08.02.2018	For Information	TANDEM
2	20.08.2018	For Town Planning Submission	TANDEM
3	23.08.2018	For Town Planning Submission	TANDEM
4	18.04.2019	Amended TP Sub-mission -TPZ modifications	TANDEM

PRELIMINARY
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Scale: 1:500 @ A1

4m 8m 16m

TANDEM

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Project Title
**45 Tennyson Avenue &
105 Eastern Road, Turrumurra**

Client
**WINSTON LANGLEY +
HARRIS FARM**

Drawing Title
**BASEMENT LEVEL
PLAN**

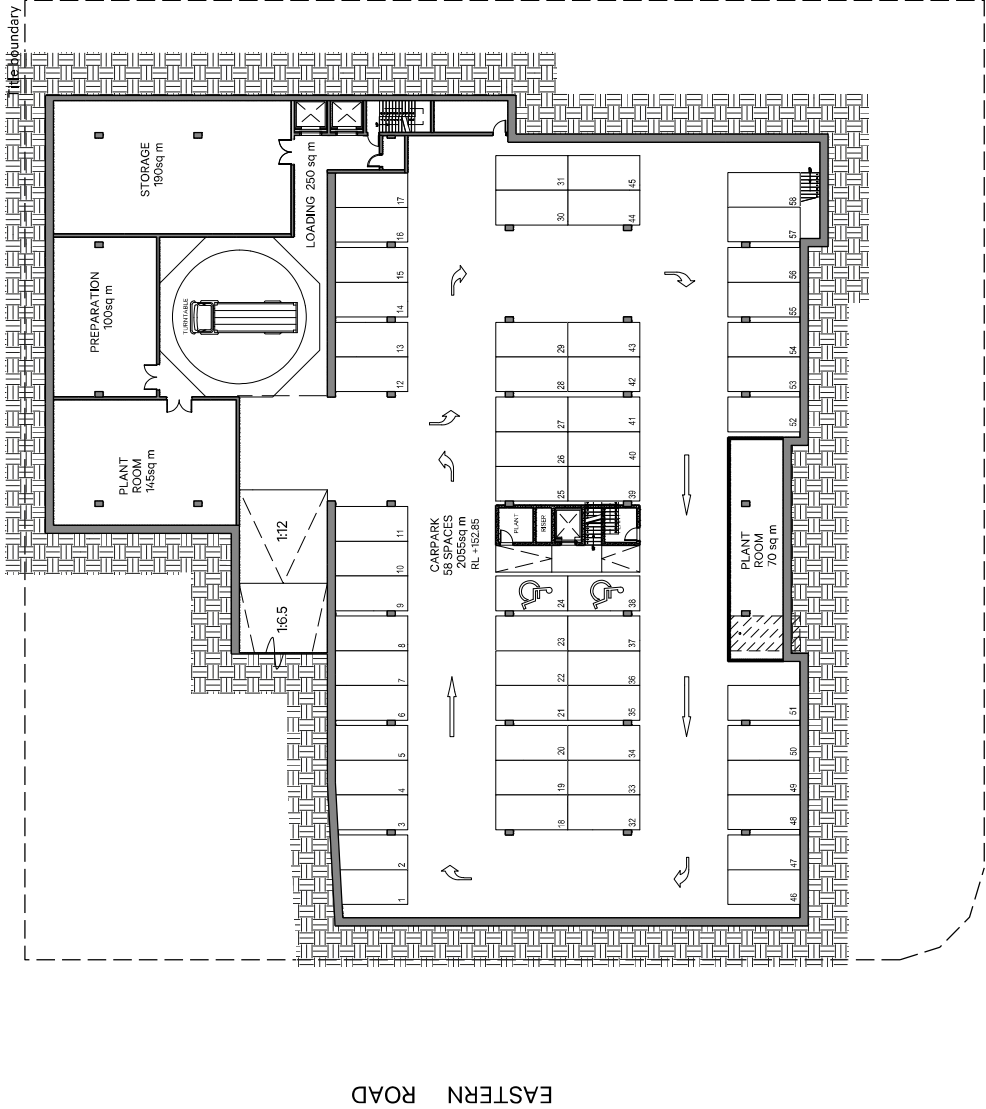
Project Number
17_003

Drawing Number
A101

Drawing Status
TP

Revision Number
4

ALICE STREET



EASTERN ROAD

TENNYSON AVENUE

INDICATIVE CONCEPT ONLY

THE FARM
—TURRAMURRA—



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DATE: 23.08.2018
DRAWN BY: TANDEM
CHECKED BY: TANDEM
PROJECT: 105 Eastern Road, Turrumurra
CLIENT: WINSTON LANGLEY + HARRIS FARM
PROJECT TITLE: 45 Tennyson Avenue & 105 Eastern Road, Turrumurra

Project Title
45 Tennyson Avenue &
105 Eastern Road, Turrumurra

Client
WINSTON LANGLEY +
HARRIS FARM

Drawing Title
**GROUND LEVEL
PLAN**

Project Number
17_003

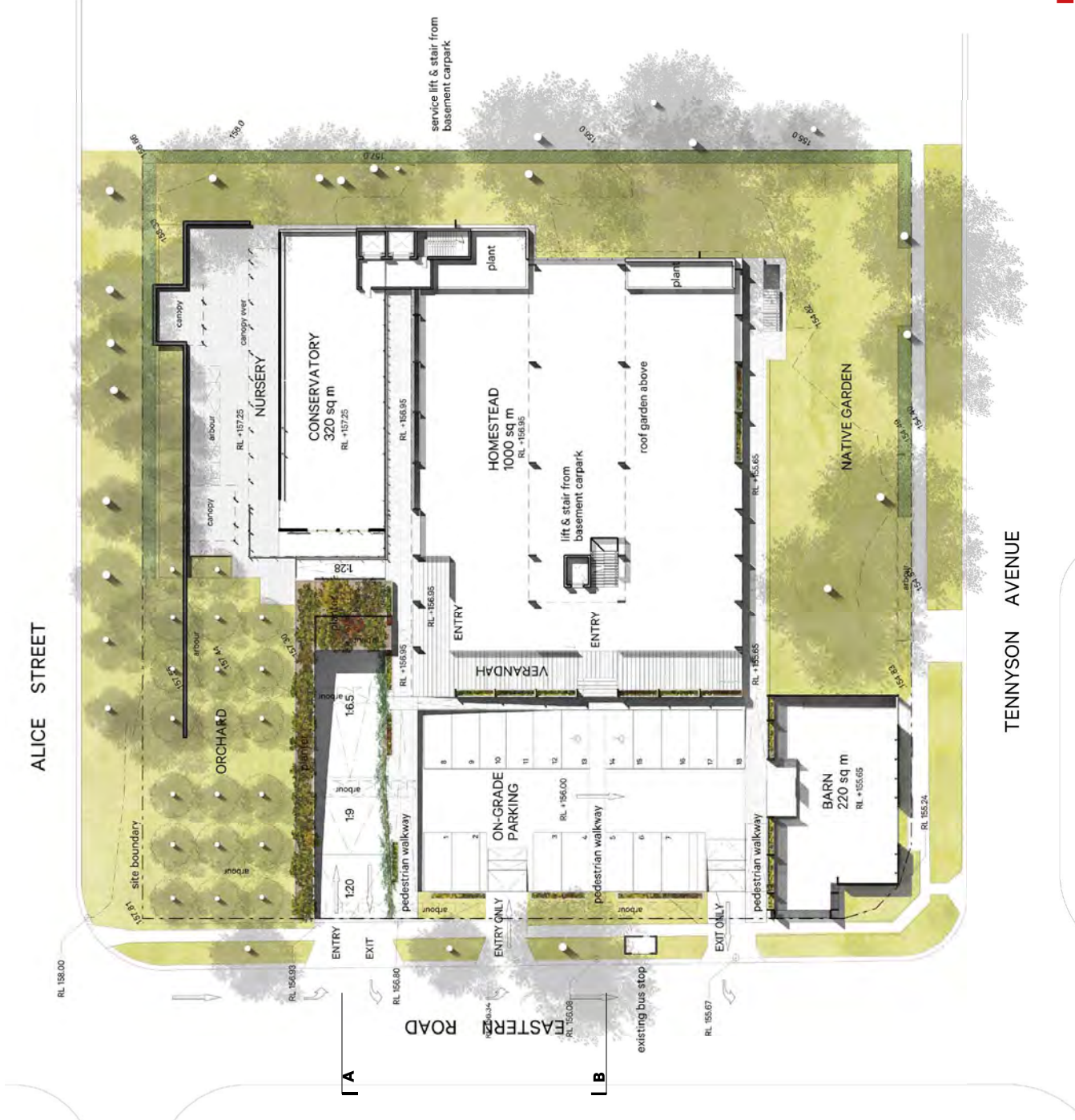
Drawing Number
A200

Revision Status
TP

Revision Number
4

INDICATIVE CONCEPT ONLY

THE FARM
—TURRAMURRA—





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1	08.02.2018	For Information	TANDEM
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PRELIMINARY
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1:200 @ A1
4m 0 4m 8m 12m

TANDEM 20/08/2018 105 Eastern Road, Turrumurra VIC 3602 AUSTRALIA TEL: 03 5931 4400 EMAIL: info@harrisfarm.com.au ABN: 25 185 144 000	Project Title 45 Tennyson Avenue & 105 Eastern Road, Turrumurra	Client WINSTON LANGLEY + HARRIS FARM	Drawing Title ROOF LEVEL PLAN	Project Number 17_003	Drawing Number A201
				Drawing Status TP	Revision Number 4

Appendix 3: Tree Assessment Schedule

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Rating	Comments	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Radial SRZ (m)	Implication
1	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	1050	10	5	Good	Good	Branch inclusion/s, minor.	15-40	Moderate	Consider for Retention	12.6	3.4	Remove. Vehicular access.
2	<i>Acer negundo</i> (Box Elder)	400	8	5	Good	Good	Partially suppressed. Small (<25mm) epicormic growth in low volumes.	15-40	Low	Consider for Removal	4.8	2.3	Remove. Vehicular access.
3	<i>Prunus serrulata</i> cvs (Flowering Cherry)	100x6	4	3	Good	Fair	Small (<25mm) diameter epicormic growth in moderate volumes. Basal cavity. Wound/s, early stages of decay.	5-15	Low	Consider for Removal	3	1.9	Retain. No works within TPZ.
4	<i>Auranticarpa rhombifolia</i> (Diamond Leaf Pittosporum)	200 300 400	6	5	Good	Good	Pruned/lopped for line clearance. Small (<25mm) diameter epicormic growth in low volumes. Exposed surface roots.	15-40	Moderate	Consider for Retention	6.6	2.6	Retain. No works within TPZ.
5	<i>Prunus serrulata</i> cvs (Flowering Cherry)	100x5	4	3	Good	Fair	Small (<25mm) diameter epicormic growth in moderate volumes. Basal cavity. Wound/s, early stages of decay.	5-15	Low	Consider for Removal	2.4	1.7	Retain. No works within TPZ.
6	<i>Prunus serrulata</i> cvs (Flowering Cherry)	75x2	3	2	Fair	Poor	Wound/s, advanced stages of decay. Small (<25mm) diameter epicormic growth in moderate volumes.	5-15	Low	Consider for Removal	2	1.5	Retain. No works within TPZ.
7	<i>Franklinia axillaris</i> (Fried Egg Plant)	200 150 100x3	5	4	Good	Good	Wound/s, early stages of decay.	15-40	Low	Consider for Removal	3.6	2	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Rating	Comments	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Radial SRZ (m)	Implication
8	<i>Franklinia axillaris</i> (Fried Egg Plant)	100x6	5	4	Good	Good	Branch inclusion/s, minor. Wound/s, early stages of decay.	15-40	Low	Consider for Removal	3	1.9	Retain. No works within TPZ.
9	<i>Franklinia axillaris</i> (Fried Egg Plant)	150x4 100x3	5	5	Good	Good	Exposed surface roots. Small (<25mm) diameter deadwood in low volumes.	15-40	Low	Consider for Removal	4.2	2.2	Retain. No works within TPZ.
10	<i>Prunus serrulata</i> cvs (Flowering Cherry)	100x3 150	4	3	Good	Fair	Small (<25mm) diameter epicormic growth in low volumes. Wound/s, advanced stages of decay.	5-15	Low	Consider for Removal	2.4	1.7	Retain. No works within TPZ.
11	<i>Agonis flexuosa</i> (Willow Myrtle)	500 250	9	6	Poor	Fair	Crown density 25-50%. Phototropic lean, moderate. Trunk cavity, minor. Co-dominant inclusion. Fungal fruiting body at root crown (Gymnopilus?). Small (<25mm) & medium (25-75mm) diameter deadwood in moderate volumes.	<5	Moderate	Priority for Removal	6.6	2.6	Remove. Tree not considered worthy of retention irrespective of future development.
12	<i>Agonis flexuosa</i> (Willow Myrtle)	900	14	8	Poor	Fair	Crown density 0-25%. Small (<25mm) & medium (25-75mm) diameter deadwood in high volumes. Branch inclusion/s, major. Phototropic lean, slight.	<5	Moderate	Priority for Removal	10.8	3.2	Remove. Tree not considered worthy of retention irrespective of future development.
13	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	550	15	4	Good	Good	Partially suppressed. Branch inclusion/s, minor.	15-40	Moderate	Consider for Retention	6.6	2.6	Retain. Minor encroachment, building.
14	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	650	17	5	Good	Good	Partially suppressed. Branch inclusion/s, minor. Climber in crown.	15-40	Moderate	Consider for Retention	7.8	2.8	Retain. Minor encroachment, building.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Rating	Comments	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Radial SRZ (m)	Implication
15	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	400	14	4	Good	Good	Partially suppressed.	15-40	Moderate	Consider for Retention	4.8	2.3	Retain. No works within TPZ.
16	<i>XCupressocyparis leylandii</i> (Leyland Cypress)	300 250x2 150	8	2	Good	Good	Partially suppressed. Branch inclusion/s, minor.	15-40	Low	Consider for Removal	5.4	2.4	Retain. Minor encroachment, building.
17	<i>Syncarpia glomulifera</i> (Turpentine)	950 700 500	18	6	Good	Good	Large (>75mm) diameter deadwood in low volumes. Branch inclusion/s, minor.	15-40	High	Priority for Retention	15	3.7	Retain. Minor encroachment, building.
18	<i>Syncarpia glomulifera</i> (Turpentine)	750 950	10	6	Good	Good	Partially suppressed. Large (>75mm) diameter deadwood in low volumes. Wound/s, no visible signs of decay. Crossing branches.	15-40	Moderate	Consider for Retention	14.4	3.6	Retain. Minor encroachment, building.
19	<i>Eucalyptus pilularis</i> (Blackbutt)	2000	25	10	Good	Good	Trunk contact with building. Wound/s, early stages of decay. Wound/s, no visible signs of decay. Adaptive growth. Crossing first order branch. Check trunk condition building side after demo.	15-40	High	Priority for Retention	15	5.4	Retain. Minor encroachment, building.
20	<i>Eucalyptus saligna</i> (Sydney Blue Gum)	800	19	9	Good	Fair	Co-dominant inclusion. Wound/s, early stages of decay. Trunk contact with fence. Climber in lower crown. Small (<25mm) & medium (25-75mm) diameter deadwood in low volumes.	5-15	High	Priority for Retention	9.6	3.1	Retain. Minor encroachment, building.
21	<i>Nyssa sylvatica</i> (Tupelo)	300x2	10	5	Good	No rating	No access. Limited building clearance from first order branch.	5-15	Moderate	Consider for Retention	4.8	2.3	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Rating	Comments	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Radial SRZ (m)	Implication
22	<i>Liquidambar styraciflua</i> (Liquidambar)	650	16	6	Good	No rating	No access to base. Co-dominant inclusion.	15-40	Moderate	Consider for Retention	7.8	2.8	Retain. No works within TPZ.
23	<i>XCupressocyparis leylandii</i> (Leyland Cypress)	300 300	13	3	Good	No rating	No access.	15-40	Moderate	Consider for Retention	4.8	2.3	Retain. No works within TPZ.
24	<i>Syncarpia glomulifera</i> (Turpentine)	300	13	5	Good	No rating	No access. Partially suppressed.	15-40	Moderate	Consider for Retention	3.6	2	Retain. No works within TPZ.
25	<i>Syncarpia glomulifera</i> (Turpentine)	400	11	7	Good	No rating	No access. Partially suppressed.	15-40	Moderate	Consider for Retention	4.8	2.3	Retain. No works within TPZ.
26	<i>Syncarpia glomulifera</i> (Turpentine)	550	12	4	Good	No rating	No access. Partially suppressed.	15-40	Moderate	Consider for Retention	6.6	2.6	Retain. No works within TPZ.
27	<i>Eucalyptus pilularis</i> (Blackbutt)	1100	27	12	Good	No rating	No access. Small (<25mm) & medium (25-75mm) diameter deadwood in low volumes.	15-40	High	Priority for Retention	13.2	3.5	Retain. Minor encroachment, building.
28	<i>Syncarpia glomulifera</i> (Turpentine)	600	17	5	Good	No rating	No access. Heavily suppressed.	15-40	Moderate	Consider for Retention	7.2	2.7	Retain. No works within TPZ.
29	<i>Syncarpia glomulifera</i> (Turpentine)	750	15	8	Good	No rating	No access. Medium (25-75mm) & large (>75mm) diameter deadwood in low volumes. Partially suppressed.	15-40	Moderate	Consider for Retention	9	3	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Health Rating	Structural Rating	Comments	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Radial SRZ (m)	Implication
30	<i>Eucalyptus saligna</i> (Sydney Blue Gum)	200	8	3	Good	No rating	No access to base. Heavily crown lifted for building clearance.	5-15	High	Priority for Retention	2.4	1.7	Remove. Building footprint.
31	<i>Platanus xacerifolia</i> (London Plane)	450	13	5	Good	Good		15-40	Moderate	Consider for Retention	5.4	2.4	Retain. Minor encroachment, building.
32	<i>Acer palmatum</i> (Japanese Maple)	250 200 150x2	5	5	Good	Good	Partially suppressed. Large (>75mm) diameter deadwood in low volumes.	15-40	Low	Consider for Removal	4.8	2.3	Not covered.
33	<i>Acer palmatum</i> (Japanese Maple)	100x4	5	4	Good	Good		15-40	Low	Consider for Removal	2.4	1.7	Not covered.
34	<i>Prunus serrulata</i> cvs (Prunus)	200 150x2	6	4	Good	Good	Partially suppressed. Wound/s, early stages of decay.	15-40	Low	Consider for Removal	3.6	2	Not covered.
35	<i>Acer palmatum</i> (Japanese Maple)	100x8	5	5	Good	Good	Partially suppressed.	15-40	Low	Consider for Removal	3.6	2	Not covered.

Appendix 4: Plates



Plate 1: Showing Trees 1 & 2



Plate 6: Showing Trees 19 & 20



Plate 3: Showing Trees 10 & 22



Plate 9: Showing Tree 31



Plate 5: Showing Trees 17, 18 & 29



Plate 7: Showing Trees 24-29



Plate 8: Showing Tree 30



Plate 9: Showing Tree 31

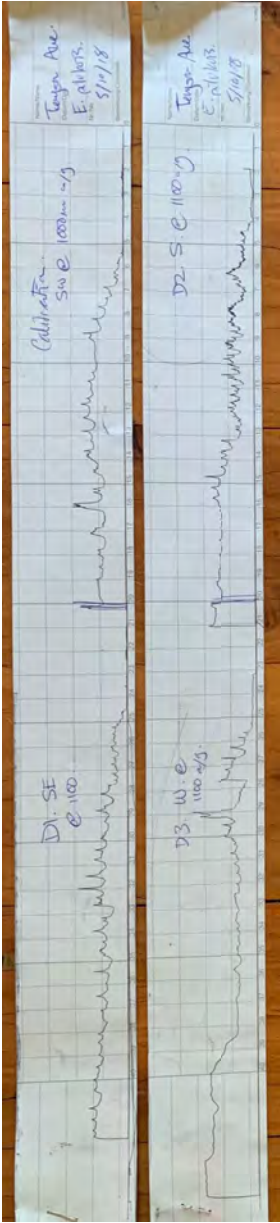


Plate 10: Resistograph Readings for Tree 19



Plate 11: Resistograph Readings for Tree 20

Appendix 5: Pruning





Figure 4: Showing pruning Tree 19



Figure 5: Showing pruning Tree 20



Figure 6: Showing pruning Tree 22



Figure 7: Showing pruning Tree 24



Figure 8: Showing pruning Tree 27



Figure 9: Showing pruning Tree 31

Appendix 6: Tree Protection Specification

1.0 Appointment of Project Arborist

A Project Arborist shall be engaged prior the commencement of work on-site and monitor compliance with the protection measures. The Project Arborist shall inspect the tree protection measures and Compliance Certification shall be prepared by the Project Arborist for review by the Principal Certifying Authority prior to the release of the Compliance Certificate.

The Project Arborist shall have a minimum qualification equivalent (using the Australian Qualifications Framework) of NSW TAFE Certificate Level 5 or above in Arboriculture.

1.1 Compliance

Contractors and site workers shall receive a copy of these specifications a minimum of 3 working days prior to commencing work on-site. Contractors and site workers undertaking works within the Tree Protection Zone shall sign the site log confirming they have read and understand these specifications, prior to undertaking works on-site.

The Project Arborist shall undertake regular site inspections and certify that the works are being undertaken in accordance with this specification.

Compliance Documentation shall be prepared by the Project Arborist following each site inspection. The Compliance Documentation shall include documentary evidence of compliance with the tree protection measures and methods as outlined within this Specification. Upon the completion of the works, a final assessment of the trees shall be undertaken by the Project Arborist and future recommended management strategies implemented as required.

1.2 Tree & Vegetation Removal

The trees to be removed shall be removed prior to the establishment of the tree protection measures. Tree removal works shall be undertaken in accordance with the *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)*.

Tree and vegetation removal shall not damage the trees to be retained.

1.3 Tree Protection Zone

The trees to be retained shall be protected prior and during construction from activities that may result in an adverse effect on their health or structural condition. The area within the Tree Protection Zone (TPZ) shall exclude the following activities, unless otherwise stated:

- Modification of existing soil levels, excavations, trenching or movement of rock
- Mechanical removal of vegetation
- Storage of materials, plant or equipment or erection of site sheds
- Affixing of signage or hoarding to the trees
- Preparation of building materials, refueling or disposal of waste materials and chemicals
- Lighting fires
- Movement of pedestrian or vehicular traffic
- Temporary or permanent location of services, or the works required for their installation
- Any other activities that may cause damage to the tree

NOTE: If access, encroachment or incursion into the TPZ is deemed essential, prior authorisation is required by the Project Arborist.

1.4 Tree Protection Fencing

TPZ fencing shall be installed at the perimeter of the TPZ. Refer to Tree Assessment Schedule (**Appendix 3**). Fencing setback distances may be reduced for demolition/construction access with approval from the Project Arborist and where ground protection is installed to the unfenced areas of the TPZ. Where TPZ areas merge together, a single fence encompassing the area is permissible. Existing site boundary fences may form part of the enclosure. The exact location of the fencing shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist prior to the commencement of works.

As a minimum, the Tree Protection Fence shall consist of 1.8m high wire mesh panels supported by concrete feet. Panels shall be fastened together and supported to prevent sideways movement. The tree shall not be damaged during the installation of the Tree Protection Fencing. Refer to Typical Tree Protection Details (3) (**Appendix 7**).

1.5 Site Management

Materials, waste storage, and temporary services shall not be located within the TPZ.

1.6 Scaffolding

Where possible, scaffolding shall not be located within the TPZ. Scaffolding shall not be in contact with the tree. As necessary, this shall be achieved by erecting scaffolding around branches. Branches shall be tied back and protected as deemed necessary by the Project Arborist. Refer to Typical Tree Protection Details (5) (**Appendix 7**).

1.7 Works within the Tree Protection Zones

In some cases works within the TPZ may be authorised by the determining authority. **These works shall be supervised by the Project Arborist.** When undertaking works within the TPZ, care should be taken to avoid damage to the tree's root system, trunks and lower branches.

If roots (>25mm $\varnothing$) are encountered during the demolition, excavation and construction works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Adjustment of final levels and design shall remain flexible to enable the retention of roots (>25mm $\varnothing$) where deemed necessary by the Project Arborist.

1.8 Ground Protection

Where deemed necessary by the Project Arborist, machinery movements shall be restricted to areas of existing pavement or from areas of temporary ground protection such as ground mats or steel road plates. Refer to Typical Tree Protection Details (3) (**Appendix 6**).

1.9 Trunk Protection

Trunk protection shall be installed as deemed necessary by the Project Arborist. Trunk protection shall be installed by wrapping padding (either carpet underlay or 10mm thick jute geotextile mat) around the trunk and first order branches to a minimum height of 2m. Timber battens (90 x 45mm) spaced at 150mm centres shall be strapped together and placed over the padding. Timber battens must not be fixed to the trees. Refer to Typical Tree Protection Details (3) (**Appendix 7**).

Branch protection shall be installed as deemed necessary by the Project Arborist.

1.10 Structure & Pavement Demolition

Demolition of existing structures/pavement within the TPZ shall be supervised by the Project Arborist. Machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection (refer to Section 1.8). Machinery should not contact the tree's roots, trunk, branches and crown.

The existing pavement shall be carefully lifted to minimise damage to the existing sub-base and to prevent damage to tree roots. Wherever possible, the existing sub-base material shall remain in-situ. Machinery shall work backwards out of the TPZ to ensure machinery remains on un-demolished sections of pavement at all times.

Structures below grade shall be retained to minimise disturbance to the tree's roots. Where this is not possible structures shall be shattered prior to removal with a hand-operated pneumatic/electric breaker. Where the Project Arborist determines that the tree is using underground elements (i.e footings, pipes, rocks etc.) for support, these structures shall be left in-situ.

If roots (>25mm $\varnothing$) are encountered during the demolition works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute geotextile fabric. The geotextile fabric shall be kept in a damp condition at all times.

1.11 Pavement Installation

New pavements (including sub-base materials) within TPZ areas shall be installed above or at existing grade. Pavement sub-base layers shall either be thinned or finished pavement levels modified as required to enable the retention of roots (>25mmØ) as deemed necessary by the Project Arborist.

1.12 Footings within the TPZ

Footings installation within TPZ areas shall be supervised by the Project Arborist. Other than for the isolated piers/posts all other parts of the structure shall be installed above grade.

Drilling/piling machinery shall be excluded from the TPZ unless operating from an area where ground protection has been installed (refer to Section 1.8) or from the existing slabs or pavements. Drilling/piling machinery shall be of a suitable size to not damage the trees' roots, trunk, branches and crown. Machinery shall work in conjunction with an observer to ensure that adequate clearance from trees is maintained at all times.

1.13 Underground Services

Underground service installation within the TPZ shall be supervised by the Project Arborist.

The installation of underground services shall be located outside of the TPZ. Where this is not possible, they shall be installed using tree sensitive excavation methods (hand/hydrovac/airspade) with the services installed around/below roots (>25mmØ, or as determined by the Project Arborist). Excavation using compact machinery (<3.5t) fitted with a flat bladed bucket is permissible where approved by the Project Arborist. Excavation using compact machinery should be undertaken in small increments, guided by a spotter who is to look for and prevent damage to roots (>25mmØ).

Alternatively, boring methods may be used for underground service installation where the obvert level (highest interior level of pipe) is greater than 1000mm below existing grade. Excavations for starting and receiving pits for boring equipment should be located outside of the TPZ areas or located to avoid roots (>25mmØ) as deemed necessary by the Project Arborist. OSD tanks (where required) should be located outside of the TPZ areas.

1.14 Excavations, Root Protection & Root Pruning

All excavation works (including root investigations) within TPZ areas shall supervised by the Project Arborist and utilise tree sensitive methods (hand/hydrovac/airspade). Excavation using compact machinery (<3.5t) fitted with a flat bladed bucket is permissible where approved by the Project Arborist. Excavation using compact machinery should be undertaken in small increments, guided by a spotter who is to look for and prevent damage to roots (>25mmØ).

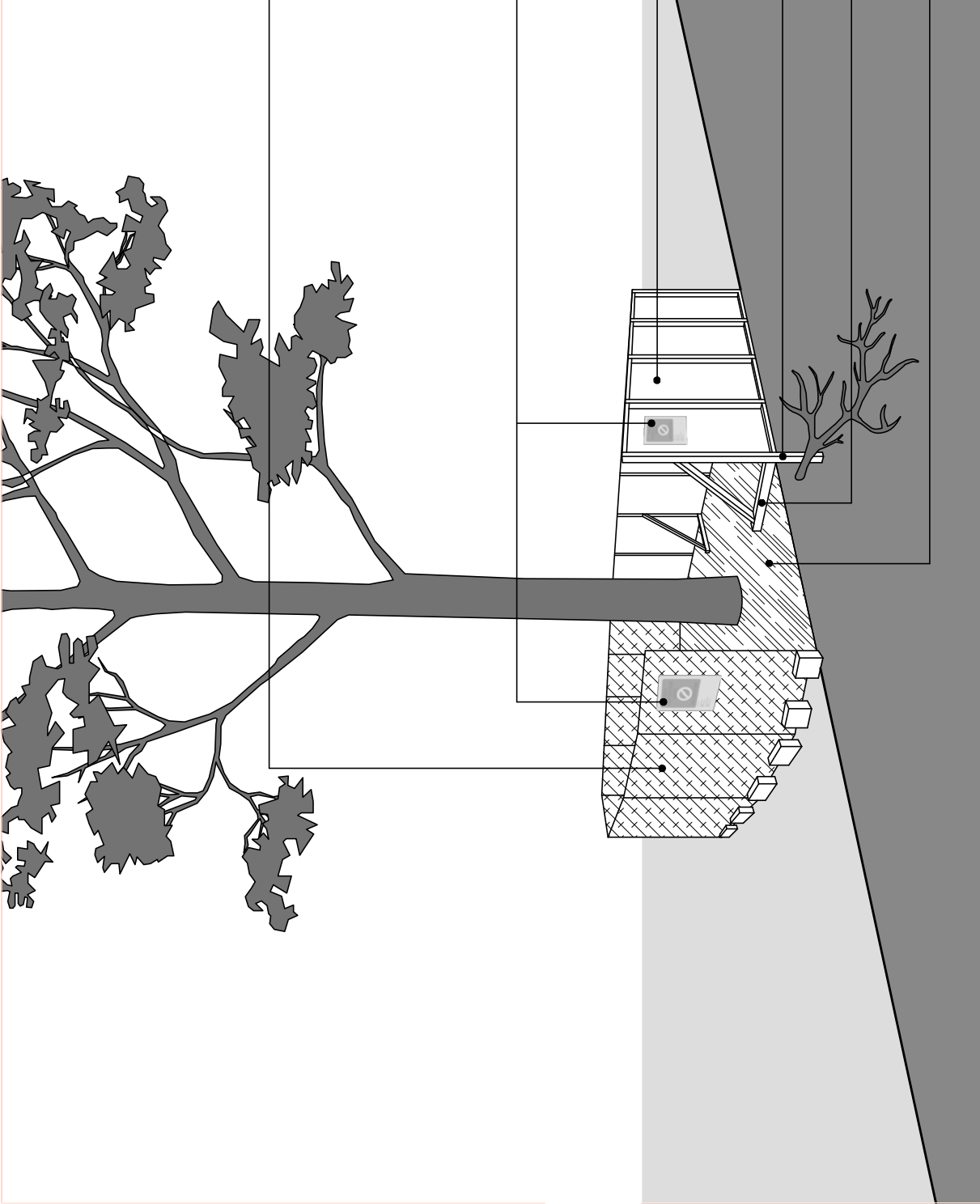
Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute mat, followed by a layer of plastic membrane. Coverings shall be weighted to secure them in place. The mat shall be kept in a damp condition at all times.

No over-excavation, battering or benching shall be undertaken beyond the footprint of any structure unless approved by the Project Arborist. Tree sensitive excavation and root pruning shall be undertaken along the excavation line prior to the commencement of mechanical excavation to prevent tearing and shattering damage to the roots from excavation equipment.

Roots (>25mmØ) shall be pruned by the Project Arborist only. Roots (<25mmØ) may be pruned by the Principal Contractor. Root pruning shall be undertaken with clean, sharp secateurs or a pruning saw to ensure a smooth wound face, free from tears. Damaged roots shall be pruned behind the damaged tissues with the final cut made to an undamaged part of the root.

1.15 Plant Installation

Plant installation within the TPZ shall be undertaken using hand tools and roots (>25mmØ) shall be protected. Mechanical augers shall not be used. No mechanical cultivation/ripping of soils shall be undertaken within the TPZ.



Note:
No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.

Option 1 - Fencing
1.8m high chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet.

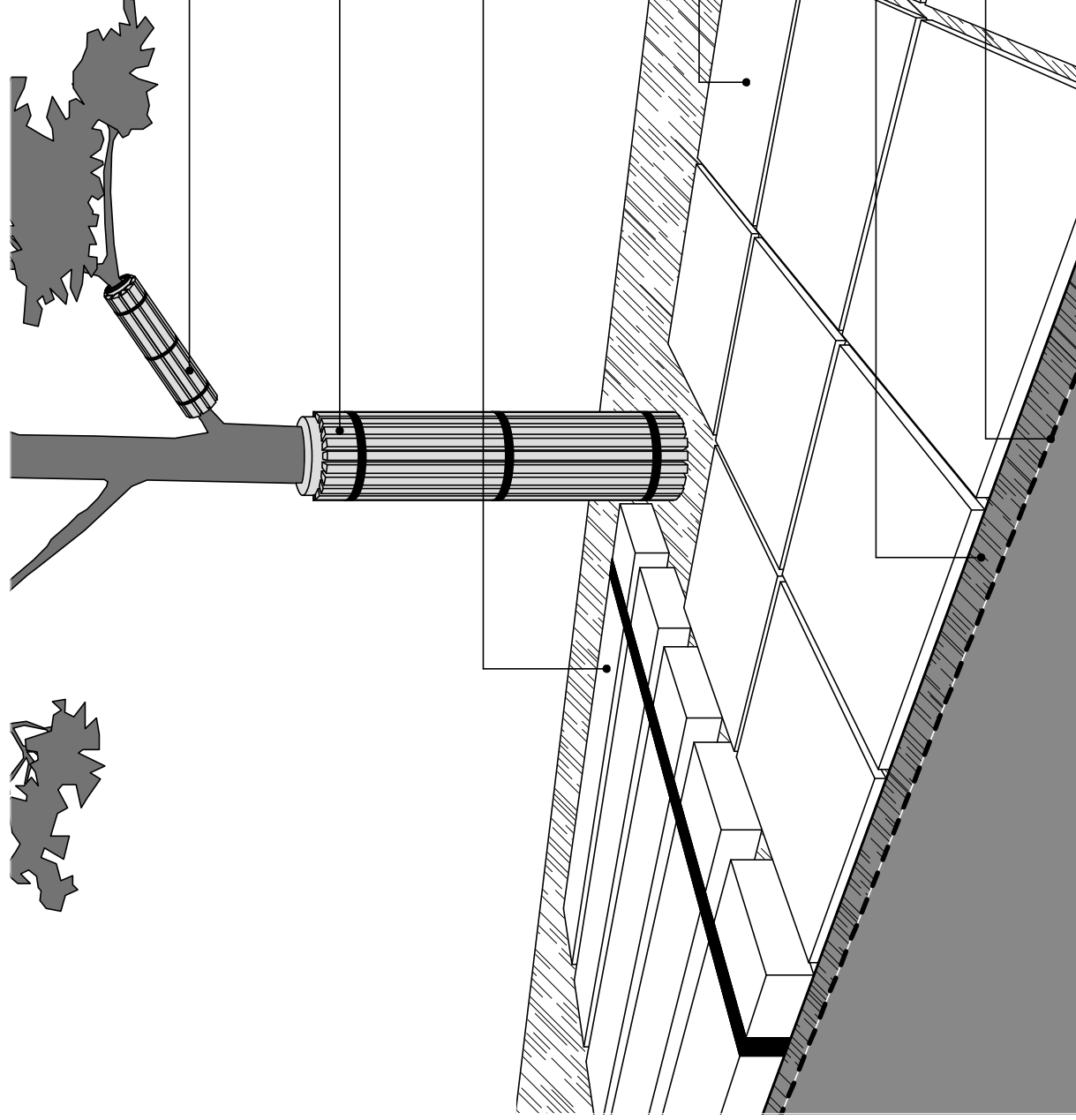
Tree Protection Zone (TPZ) sign

Option 2 - Fencing
Plywood or wooden panel paling fence. This type of fencing material also prevents building materials or soil entering the TPZ.

Installation of supports should avoid damaging roots.

Bracing is permissible within the TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer installed across surface of TPZ.



Branch Protection - use boards and padding to prevent damage to bark on branch. Boards are to be strapped, not screwed or nailed to the branch.

Trunk Protection - use boards and padding to prevent damage to bark (minimum 2m). Boards are to be strapped, not screwed or nailed to the trunk.

Ground Protection - use device strapped over mulch or aggregate layer. Ground protection device should be of a suitable thickness to prevent soil compaction and root damage.

Steel plates (or approved equivalent) with or without mulch or aggregate layer below.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer.

Geotextile fabric underneath mulch or aggregate layer.

