arboricultural impact assessment – 21 & 22 burnham close, thornton

8th December 2021

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Executive Summary

This report has been prepared to assess the condition and significance of a number of trees on and adjacent the properties known as 21 & 22 Burnham Close, Thornton and to assess the potential impact of the proposed development on the identified trees.

The tree assessments have been carried out using the Visual Tree Assessment (VTA) method (Mattheck & Breloer 2010) and development impact assessments are based upon the Australian Standard, Protection of Trees on Development Sites AS 4970-2009. The report has been commissioned by Zoe May Pty Ltd and site instructions have been provided by Alice Spizzo Advisory. Site inspections and field work were conducted on the 17th September 2021.

The site is currently developed and contains 2 dwellings, sheds, open lawn areas, scattered exotic, native and indigenous trees. The proposed development involves demolition of the existing built structures and construction of a 2 storey boarding house with lower level parking (Sheer Designs, 2021).

There are **24 t**rees that have been considered in this report of which; **11** trees are located on site, **6** trees are located within the public pathway reserve and **7** trees are located on the adjoining residential allotments.

Based upon the proposed plans:

- **15** trees are to be retained (**2** on the site, **6** within the public pathway reserve and **7** trees on the adjoining residential allotments), and
- **9** trees are proposed to be removed on the site.

A qualitative breakdown of the trees to be retained and removed is shown in the tables below.

Details of the 15 Trees to be Retained on the Site, within the public Pathway Reserve and on Adjacent Allotments (number of trees)

Condition	Environmental / Landscape Significance						
	Biosecurity Weed	Env. Pest (Exempt from DCP)	Low L/scape Sig.	Moderate L/scape Sig.	High L/scape Sig.	Very High L/scape Sig.	Threatened Species
SULE - 1				3	5		
SULE - 2			5				
SULE - 3			2				
SULE - 4							
Unstable							

Details of the 9 Trees to be Removed on the Site (number of trees)

Condition	Environmental / Landscape Significance						
	Biosecurity Weed	Env. Pest (Exempt from DCP)	Low L/scape Sig.	Moderate L/scape Sig.	High L/scape Sig.	Very High L/scape Sig.	Threatened Species
SULE - 1			1		3	1	
SULE - 2			3		1		
SULE - 3							
SULE - 4							
Unstable							

Provided that the tree protection measures are implemented and the proposed works are carried out in a sensitive manner, the proposed development works are unlikely to have a significant impact on the 15 trees identified as being retained on the site, within the public pathway reserve and on the adjoining residential allotments .

Contents

scale at A3	dwg no.	rev.	sheet of	drawing title
nts	**aiasc 2.01**	**0.3**	**1 10**	**cover sheet**

This plan is based upon:

Plan Showing Levels Over Lots 11 & 12 in DP 246016, 21 & 22 Burnham Close, Thornton, Ref. 17-48 Thornton, Dated 20/03/17,
(David Cant Surveyors, Maitland, NSW).

In addition to the trees identified on the survey 11 trees have been added to this plan. The additional trees are Tree No's 9, 10, 11, 17, 18, 19, 20, 21, 22, 23 & 24 and their locations, whilst based upon surveyed features, are approximate.

The tree canopy spreads on this plan have been adjusted from those on the survey to better reflect the actual canopy spreads however they remain as indicative graphics.

tree legend

99 trees considered in this report

BURNHAM CLOSE

TAYLOR AVENUE

PUBLIC RESERVE

DP246016 13

DP246016 12

DP246016 11

DP246016 10

BACK OF LAYBACK KERB

TELSTRA POST

WATER METRE

LIGHT POST

METAL PANEL FENCE 1.5 HIGH

CLOTHESLINE

CONCRETE PAD

PAVED

H'PLANK GAR.

BRICK RESIDENCE No. 19

BRICK RESIDENCE No. 21

PATIO

PAVED

FIBRE CEMENT RESIDENCE No. 22

CARPORT

GDN SHED

GDN SHED

WEATHERBOARD RESIDENCE No. 20

SEWER INSPECTION LID

SEWER MANHOLE

SEWER

METAL PANEL FENCE

LIGHT POLE

BENCH MARK NAIL IN PATH RL 30.40 AHD

BACK OF KERB

RAMP

KERB & GUTTER

TELECOM PILLAR

TELECOM PIT

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project: **arboricultural impact assessment - 21 & 22 burnham close, thornton**

drawing title: **existing site - tree locations & reference numbers**

tree significance

significance in the environment

Trees need to be considered in the overall environment and are subject to specific legislation and planning instruments such as:

- Biodiversity Conservation Act (NSW) 2016
- Biosecurity Act (NSW) 2015, and
- Development Control Codes.

Biodiversity Conservation Act (NSW) 2016

The Biodiversity Conservation Act lists in its schedules a number of species, populations or ecological communities that are either endangered or vulnerable. The Act requires biodiversity offsets to be made if an activity or development is going to have a significant effect on species, populations or endangered ecological communities listed in the schedules of the Act. Where identified on or adjacent the site, threatened tree species are considered in this report, however no attempt is made to identify trees as components of threatened ecological communities or populations.

Biosecurity Act (NSW) 2015

The purpose of the Biosecurity Act is to protect the NSW economy, environment and community from the negative impact of pests, diseases and weeds. In NSW, all plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. In relation to weeds, the Act identifies weed species under 4 categories being:

- Weeds of National Significance;
- National Environmental Alert Weeds;
- Water Weeds;
- Native Plants Considered to be Weeds.

The Act makes provision of Regional Strategic Weed Management Plans which may include additional weed species to be dealt with weed control at a regional or local level.

Where tree is a species declared under the 4 main weed categories in the Act or where it is a species listed in a Regional Strategic Management Plan, the tree should be a priority for removal.

Development Control Codes

There are a number of environmental pest species that commonly cause problems in developed urban areas or readily spread into natural bushland areas. In urban areas, these species can have aggressive root systems and cause damage to built structures or services. Alternatively, some species can be problematic in natural bushland areas degrading habitats and reducing natural biodiversity.

Many of these are recognised by Councils as pest species and are exempt from protection under Council's Development Control Plans (DCP).

significance in the landscape

Assessment of a tree's significance in the landscape is generally categorised as either:

- Very High Landscape Significance- prominent from a broad landscape perspective;
- High Landscape Significance - prominent from a neighbourhood perspective;
- Moderate Landscape Significance - prominent from adjacent areas surrounding the site;
- Low Landscape Significance - prominent from a site perspective only.

tree condition & life expectancy

condition

The assessment of the trees condition is undertaken by visual inspection of the trees themselves, surrounding vegetation and the site conditions.

An assessment of each tree is undertaken taking into account the condition of the tree's roots, trunk, branches, foliage, previous pruning works, pests and disease, nesting hollows, fauna scratchings and the surrounding environment that may influence the condition of the tree.

Safe Useful Life Expectancy (SULE)

The condition information is used to determine the Safe Useful Life Expectancy (SULE) of each tree and takes into account the age of the tree, the life span of the species, local environment conditions, estimated life expectancy, the location of the tree and safety aspects.

The SULE method takes into account whether a tree can be retained with an acceptable level of risk based on the information available at the time of inspection. A SULE assessment is not static as it relates to the tree's health and the surrounding conditions. Whilst it is recognised that changes to the tree's condition will affect the assessment, changes to the surrounding environment may result in changes to the SULE assessment.

Table 1 Safe Useful Life Expectancy (SULE), (Barrell, 2001)

Category	Description
1	Long -Life span greater than 40 years
2	Medium - Life span from 15 to 40 years
3	Short - Life span from 5 to 15 years
4	Should be removed within 5 years
5	Small, Young or Regularly Pruned, Trees that can readily be moved or replaced.

In addition to the categories listed above, trees that show signs of imminent structural failure are listed as 'Unstable'.

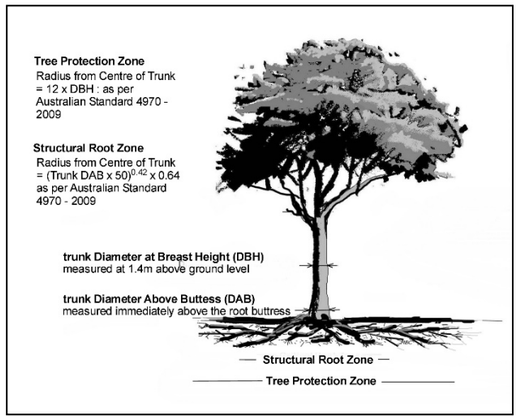
Unstable	Unstable in the ground or have significant trunk damage rendering them structurally hazardous.

development planning & general impacts on trees

tree protection zones

Where trees are intended to be retained, development footprints should be located away from trees so as to provide adequate clearances for a tree protection zone.
Disturbance within Tree Protection Zones can be detrimental to the tree's root system and in turn affect the stability, health and condition of the tree. In many cases damage to the root systems is the major cause of tree decline in urban areas.

Figure 3.1 Typical diagram of a Tree Protection Zone & Structural Root Zone of a tree based upon AS 4970 – 2009.



Where trees are multi-trunk specimens assessment needs to be made based upon the number of trunks and the diameter of each trunk. Based upon the Australian Standard for Protection of Trees on Development Sites, AS 4970 – 2009, the DBH of multi-trunk trees is calculated by:

$$DBH = \sqrt{(DBH_1)^2 + (DBH_2)^2 + (DBH_3)^2}$$

development design & Tree Protection Zones

Where trees are intended to be retained, proposed developments must provide an adequate Tree Protection Zone around trees. This Tree Protection Zone is set aside for the tree's root zone and it is essential for the stability and longevity of the tree. Existing soil levels should be retained within the Tree Protection Zone.

Based upon the Australian Standard for Protection of Trees on Development Sites, AS 4970 – 2009, the radius of the Tree Protection Zone (TPZ) is calculated as: TPZ = 12 x DBH with a minimum 2.0m radius and a maximum 15m radius.

developments within the Tree Protection Zone

Minor encroachments into Tree Protection Zones
Based upon AS 4970 – 2009 some development activity can occur within the vicinity of trees and minor encroachments can occur within the calculated Tree Protection Zone provided that:

- no more that 10% of the area (m2) of the Tree Protection Zone is removed (0.7 x TPZ radius on 1 side only);
- the encroachment does not extend into the Structural Root Zone, and
- the area (m2) to be removed is compensated for by increasing the distance of the Tree Protection Zone in other directions so that there is no net loss in area (m2) of the Tree Protection Zone

Major encroachments into Tree Protection Zones
Where the proposed development activity is greater than that described as a minor encroachment (refer above); the activity is considered to be a major encroachment into the Tree Protection Zone.

Where major encroachments are to occur within the Tree Protection Zone of trees intended to be retained, it must be demonstrated that the works or activities will not have a significant impact on the health and condition of the tree. To demonstrate this detailed root mapping investigation by non-invasive methods may be necessary; and other factors such as the age class, health & vigour, trunk lean, disturbance tolerance of the species, and building design may need to be taken into account in the arboricultural assessment.

Where major encroachments are proposed to occur into the Tree Protection Zone the tree's Structural Root Zone should also be taken into account.

developments within the tree's Structural Root Zone

The Structural Root Zone is the area surrounding the tree where the severance of roots and excavation is likely to affect the structural stability of the tree and is likely to have a significant detrimental impact on the health & condition of the tree.
Based upon AS 4970 – 2009 the radius of a tree's Structural Root Zone (SRZ) is determined by measuring the diameter of the trunk immediately above the root buttress (DAB) and calculated by: SRZ = (DAB x 50) 0.42 x 0.64.

Developments should not encroach into the tree's Structural Root Zone and existing soil levels must remain unchanged. Excavation should not occur within this area unless a detailed arboricultural assessment is undertaken and Specific Tree Protection measures will be required.

Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
1	*Corymbia maculata*	Spotted Gum	24	18	910	1000	Mature co-dominant twin trunk (at 2.5m) tree with a tall forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Very High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident.	1	On site	10.90	373.30
2	*Eucalyptus tereticornis*	Forest Red Gum	23	9	440	580	Mature single trunk tree with a tall forest form; a slight trunk lean to the north and majority of canopy and branch development is towards the north east. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	The tree appears to be supressed by the adjacent vegetation and has reduced leaf size.	1	On site	5.30	88.20
3	*Grevillea robusta*	Silky Oak	12	8	260	320	Semi-mature single trunk tree with an upright spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Good	10%	The tree has a sparse canopy.	1	On site	3.10	30.20
4	*Eucalyptus fibrosa*	Broad-leaved Ironbark	24	15	480, 510	1100	Mature twin trunk tree with a tall forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident.	2	On site	8.40	221.70
5	*Corymbia maculata*	Spotted Gum	21	11	370	440	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	Minor decay evident in a branch at 6m.	1	On site	4.40	60.80
6	*Corymbia maculata*	Spotted Gum	21	16	590	690	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident.	1	On site	7.10	158.40

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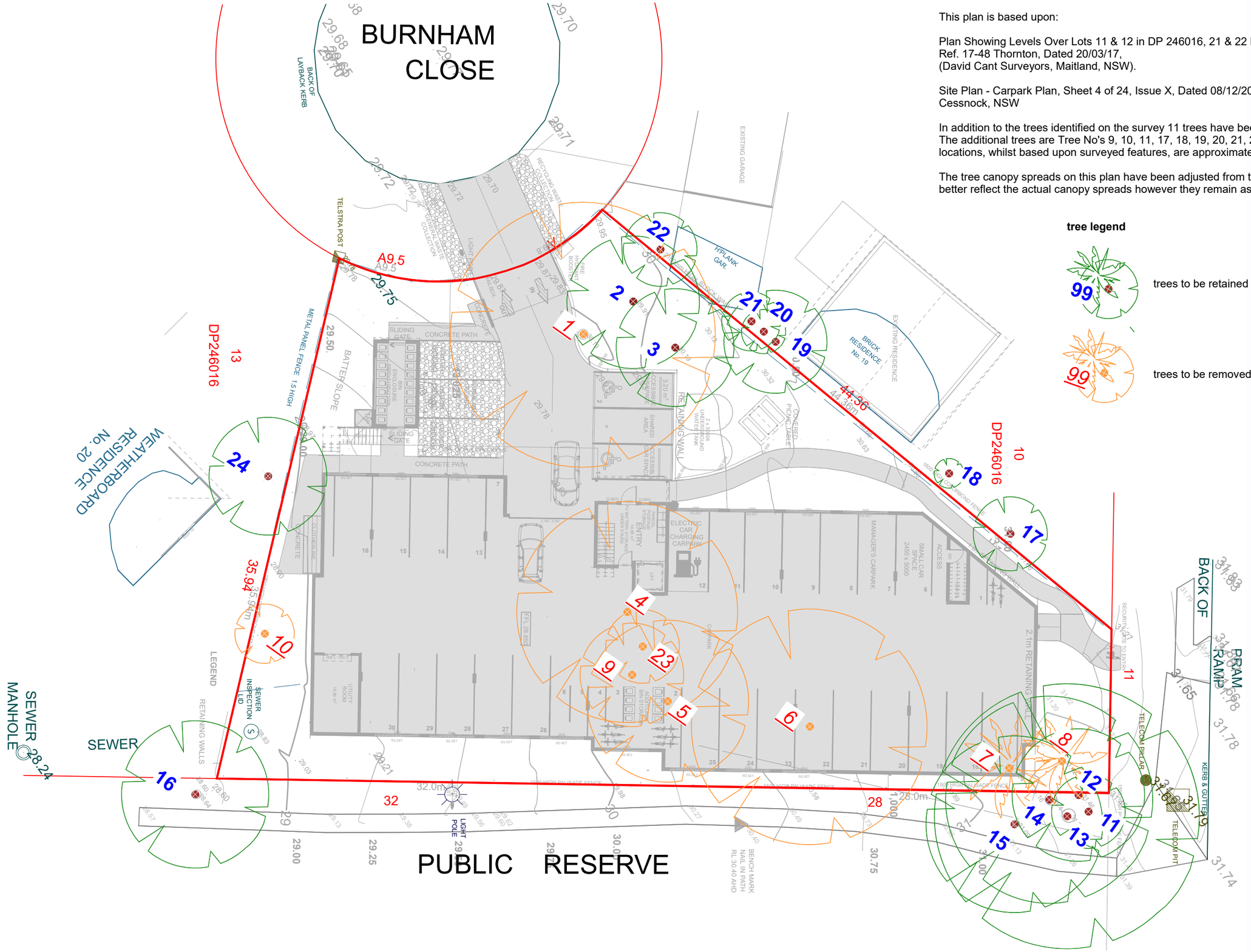
project
arboricultural impact assessment - 21 & 22 burnham close, thornton

drawing title
arboricultural assessment - tree data sheets

Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
7	*Syagrus romanzoffianum*	Cocos Palm	10	7	250	340	Semi-mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident.	2	On site	1.40	6.20
8	*Syagrus romanzoffianum*	Cocos Palm	11	6	240	330	Semi-mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident.	2	On site	1.50	7.10
9	*Allocasuarina sp.*		20	7	280	360	Semi-mature single trunk tree with an upright rounded form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident.	1	On site	3.40	36.30
10	*Melaleuca quinquenervia*	Paperbark	7	4	350, 340	490	Mature twin trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. The tree has been poorly pruned and previously topped at 3.5m	Low L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in moderate health and displays good vigour.	Good	5%	None evident.	2	On site	5.90	109.40
11	*Corymbia maculata*	Spotted Gum	11	5	210	230	Semi-mature single trunk tree with an upright forest form; a slight trunk lean to the north and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays good vigour.	Fair	<5%	Branching is fused to the branches of an adjacent tree at 6m.	3	In adjacent reserve	2.50	19.60
12	*Corymbia maculata*	Spotted Gum	14	9	310	360	Mature single trunk tree with an upright forest form; an upright trunk/s and majority of canopy and branch development is towards the north east. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident.	1	In adjacent reserve	3.70	43.00
13	*Corymbia maculata*	Spotted Gum	20	18	600	750	Mature single trunk tree with an upright forest form; a slight trunk lean to the north east and majority of canopy and branch development is towards the north east. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	A branch from an adjacent tree is fused to the underside of a lower northern branch.	1	In adjacent reserve	7.20	162.90
14	*Corymbia maculata*	Spotted Gum	22	14	470	570	Mature single trunk tree with a tall forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident.	1	In adjacent reserve	5.60	98.50
15	*Corymbia maculata*	Spotted Gum	22	12	350	450	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	There is evidence of lower branch failures and the foliage has reduced leaf size.	1	In adjacent reserve	4.20	55.40
16	*Eucalyptus sp.*	-	21	12	500	620	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident.	1	In adjacent reserve	6.00	113.10
17	*Callistemon viminalis*	Weeping Bottlebrush	6	5	170, 60	250	Mature twin trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays good vigour.	Good	5%	None evident.	2	On adjacent allotment	2.20	15.20
18	*Cupressus sp.*	Cypress	8	1	160, 50, 40, 40, 40	180	Semi-mature single trunk tree with an upright clumping form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident.	2	On adjacent allotment	2.20	15.20
19	*Callistemon viminalis*	Weeping Bottlebrush	10	7	160, 290	320	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	5%	None evident.	2	On adjacent allotment	4.00	50.30
20	*Cupressus sp.*	Cypress	11	3	170, 160, 180	370	Mature multi trunk tree with an upright pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Good	<5%	The eastern side of the tree appears to be supressed by the adjacent vegetation and the tree has bark inclusions throughout the branching structure.	2	On adjacent allotment	3.50	38.50
21	*Callistemon viminalis*	Weeping Bottlebrush	6	4	160	190	Mature single trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	5%	None evident.	3	On adjacent allotment	2.00	12.60
22	*Duranta repens*	Golden Dewdrop	6	5	120, 170, 90	380	Mature multi trunk tree with an upright spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident.	2	On adjacent allotment	2.70	22.90
23	*Macadamia integrifolia*	Macadamia	5	5	120, 90	340	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Excellent	<5%	None evident.	1	On site	2.00	12.60
24	*Melaleuca quinquenervia*	Paperbark	8	8	670	740	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident.	1	On adjacent allotment	8.00	201.10



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(David Cant Surveyors, Maitland, NSW).

Site Plan - Carpark Plan, Sheet 4 of 24, Issue X, Dated 08/12/2020, (Sheer Design, Cessnock, NSW

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99 trees to be retained

99 trees to be removed

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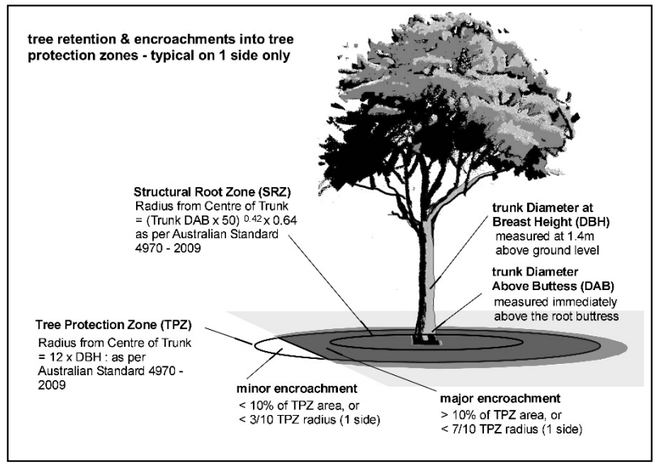
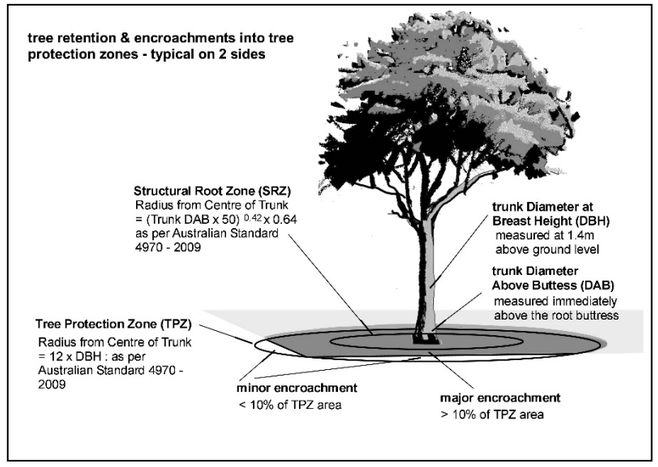
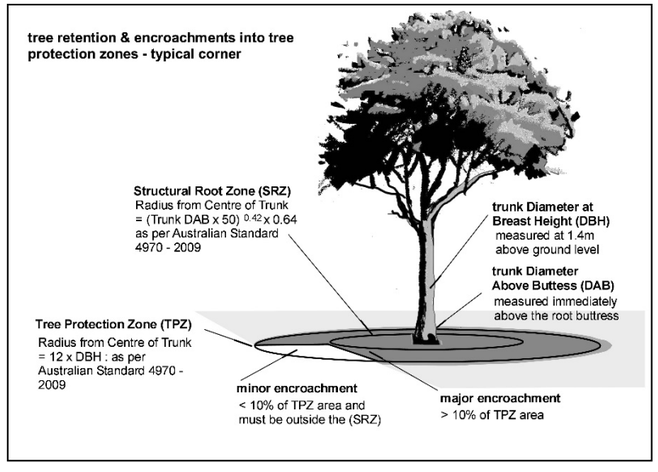
project: **arboricultural impact assessment - 21 & 22 burnham close, thornton**

drawing title: **proposed development - tree retention & removal**

typical application of Australian Standard 4970-2009 - Protection of Trees on Development Sites







Tree No	Genus Species	DBH (mm)	DAB (mm)	SULE	Env./ L/scape Sig.	TPZ Radius (m)	Radius of 90% of TPZ area (7/10)	SRZ Radius (m)	Adjacent Works	Influence on Tree	Plan Status	On / off site
1	*Corymbia maculata*	910	1000	1	Very High L/scape Sig.	10.90	7.6	3.3	The proposed driveway entrance spatially conflicts with the location of the tree.	Not applicable	To be Removed	On site
2	*Eucalyptus tereticornis*	440	580	1	High L/scape Sig.	5.30	3.7	2.6	The proposed driveway is within 3.9m (south) and the proposed accessible car space retaining wall is within 4.4m (south east) of the tree.	Approx. 89%of the TPZ area can be retained with minimal disturbance. No significant impact with appropriate Tree Protection Measures.	Retained with Specific & General Tree Protection Measures	On site
3	*Grevillea robusta*	260	320	1	Moderate L/scape Sig.	3.10	2.2	2.1	A corner of the proposed accessible car space retaining wall is within 1.5m (south east) of the tree.	Approx. 88%of the TPZ area can be retained with minimal disturbance. No significant impact with appropriate Tree Protection Measures.	Retained with Specific & General Tree Protection Measures	On site
4	*Eucalyptus fibrosa*	480, 510	1100	1	Very High L/scape Sig.	8.40	5.9	3.4	The external parking bay spatially conflicts with the location of the tree with existing levels being excavated.	Not applicable	To be Removed	On site
5	*Corymbia maculata*	370	440	1	High L/scape Sig.	4.40	3.1	2.3	The proposed building footprint spatially conflicts with the location of the tree.	Not applicable	To be Removed	On site
6	*Corymbia maculata*	590	690	1	High L/scape Sig.	7.10	5	2.8	The proposed building footprint spatially conflicts with the location of the tree.	Not applicable	To be Removed	On site
7	*Syagrus romanzoffianum*	250	340	2	Low L/scape Sig.	1.40	1	1	The proposed building footprint spatially conflicts with the location of the tree.	Not applicable	To be Removed	On site
8	*Syagrus romanzoffianum*	240	330	2	Low L/scape Sig.	1.50	1	1	The proposed basement carpark is within 1.9m (west) of the tree.	No significant impact however, retention of the tree conflicts with the landscape plan.	To be Removed	On site
9	*Allocasuarina sp.*	280	360	1	High L/scape Sig.	3.40	2.4	2.2	The proposed building footprint spatially conflicts with the location of the tree.	Not applicable	To be Removed	On site
10	*Melaleuca quinquenervia*	350, 340	490	2	Low L/scape Sig.	5.90	4.1	2.5	The proposed basement carpark is within 0.7m (north) of the tree.	Excavation is likely to involve severance of significant tree roots resulting in the decline of the tree and/or rendering it unstable.	To be Removed	On site
11	*Corymbia maculata*	210	230	3	Low L/scape Sig.	2.50	1.8	1.8	No proposed works apart from soft landscaping within the tree's Tree Protection Zone	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	In adjacent reserve
12	*Corymbia maculata*	310	360	1	Moderate L/scape Sig.	3.70	2.6	2.2	A corner of the proposed basement carpark level is within 3.8m (south west) of the tree.	No significant impact with appropriate Tree Protection Measures.	Retained with Specific & General Tree Protection Measures	In adjacent reserve
13	*Corymbia maculata*	600	750	1	Very High L/scape Sig.	7.20	5	2.9	A corner of the proposed basement carpark level is within 3.9m (west) of the tree.	Excavation will result in the removal of 7% of the TPZ area.	Retained with Specific & General Tree Protection Measures	In adjacent reserve

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project
arboricultural impact assessment - 21 & 22 burnham close, thornton

drawing title
impact of proposed development on individual trees

Tree No	Genus Species	DBH (mm)	DAB (mm)	SULE	Env./ L/scape Sig.	TPZ Radius (m)	Radius of 90% of TPZ area (7/10)	SRZ Radius (m)	Adjacent Works	Influence on Tree	Plan Status	On / off site
14	*Corymbia maculata*	470	570	1	Very High L/scape Sig.	5.60	3.9	2.6	A corner of the proposed basement carpark level is within 2.3m (west) of the tree.	Excavation will result in the removal of 12% of TPZ area.	Retained with Specific & General Tree Protection Measures	In adjacent reserve
15	*Corymbia maculata*	350	450	1	High L/scape Sig.	4.20	2.9	2.4	The basement carpark level is within 3.2m (north west) of the tree.	Excavation will result in the removal of 5% of the TPZ area,	Retained with Specific & General Tree Protection Measures	In adjacent reserve
16	*Eucalyptus sp.*	500	620	1	High L/scape Sig.	6.00	4.2	2.7	No proposed works apart from soft landscaping within the tree's Tree Protection Zone	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	In adjacent reserve
17	*Callistemon viminalis*	170, 60	250	2	Low L/scape Sig.	2.20	1.5	1.8	The proposed basement carpark is within 2.5m (south) of the tree. The proposed path is within 1.25m (south) of the tree.	No significant impact with appropriate Tree Protection Measures.	Retained with Designed, Specific & General Tree Protection Measures	On adjacent allotment
18	*Cupressus sp.*	160, 50, 40, 40, 40	180	2	Low L/scape Sig.	2.20	1.5	1.6	The proposed basement carpark is within 3.1m (south) of the tree. The proposed path is within 1.6m (south) of the tree.	No significant impact with appropriate Tree Protection Measures.	Retained with Designed, Specific & General Tree Protection Measures	On adjacent allotment
19	*Callistemon viminalis*	160, 290	320	2	Low L/scape Sig.	4.00	2.8	2.1	No proposed works apart from soft landscaping within the tree's Tree Protection Zone	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	On adjacent allotment
20	*Cupressus sp.*	170, 160, 180	370	2	Low L/scape Sig.	3.50	2.4	2.2	No proposed works apart from soft landscaping within the tree's Tree Protection Zone	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	On adjacent allotment
21	*Callistemon viminalis*	160	190	3	Low L/scape Sig.	2.00	1.4	1.6	No proposed works apart from soft landscaping within the tree's Tree Protection Zone	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	On adjacent allotment
22	*Duranta repens*	120, 170, 90	380	2	Low L/scape Sig.	2.70	1.9	2.2	The proposed bin storage areas is within 2.5m (south east) of the tree.	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	On adjacent allotment
23	*Macadamia integrifolia*	120, 90	340	1	Low L/scape Sig.	2.00	1.4	2.1	The proposed building footprint spatially conflicts with the location of the tree.	Not applicable	To be Removed	On site
24	*Melaleuca quinquenervia*	670	740	1	Moderate L/scape Sig.	8.00	5.6	2.9	A corner of the existing dwelling is within 4.7m (south east) of the tree. A corner of the proposed basement carpark is within 3.3m (north east) of the tree.	Excavation will result in the removal of 11% of the TPZ area	Retained with Specific & General Tree Protection Measures	On adjacent allotment

Figure 7.1 - View of the frontage of 21 Burnham Close showing Tree No's 1 (centre) and Tree No. 2 (left).

Figure 7.2 - Looking south across the site with Tree No's 5, 23 & 4 (left to right)

Figure 7.3 - View of the public pathway adjacent the eastern boundary of the site looking south from Taylor Avenue.

BURNHAM CLOSE

PUBLIC RESERVE

TAYLOR AVENUE

legend

- trees to be retained
- trees to be removed
- tree protection fencing (refer sheet 10 details)
- tree protection area

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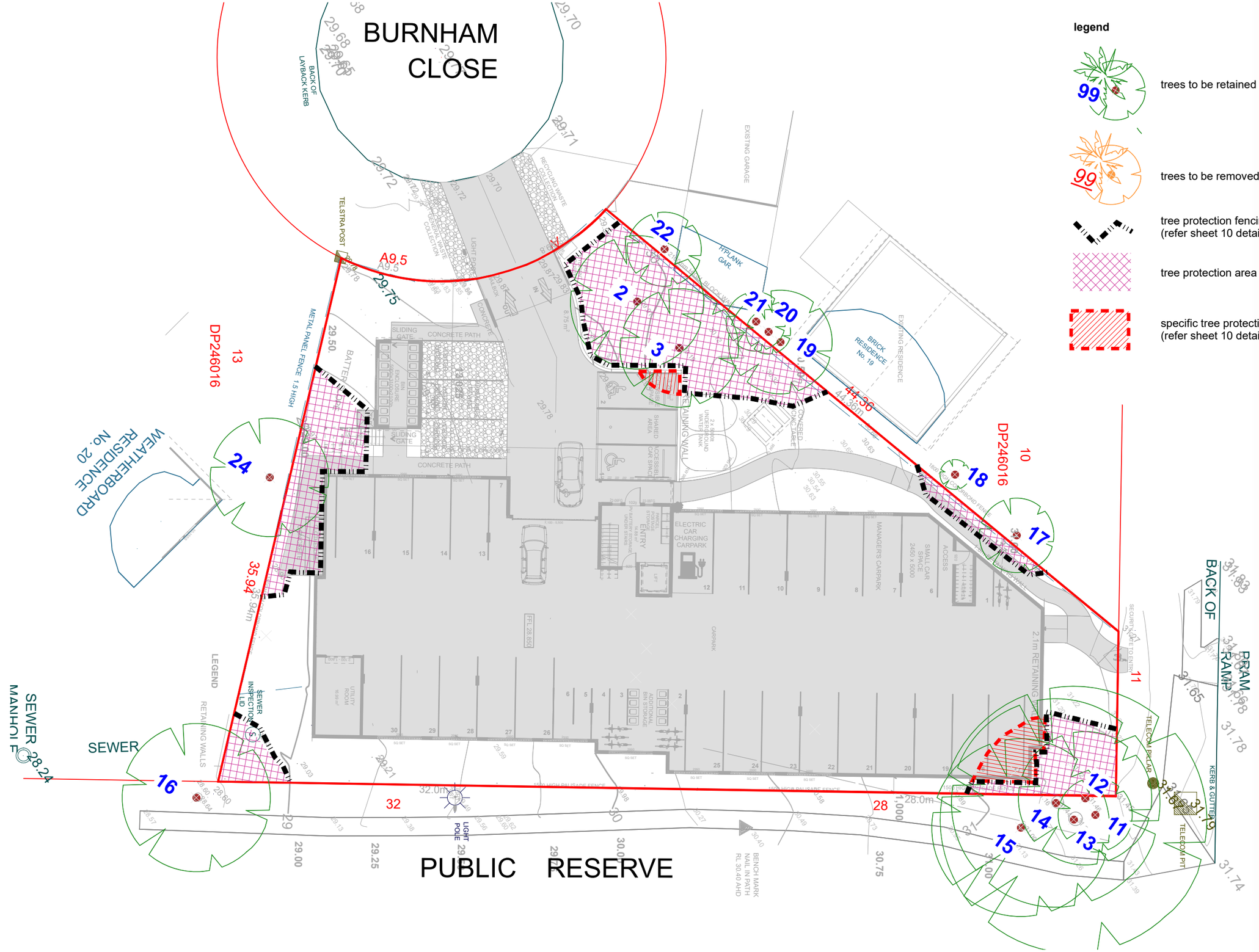
melanie howden	**1: 250**	**08/12/2021**	**aiatp1.01**	**0.3**	**8 10**

project: **arboricultural impact assessment - 21 & 22 burnham close, thornton**

drawing title: **tree protection plan - prior to and during demolition**



legend

- trees to be retained
- trees to be removed
- tree protection fencing (refer sheet 10 details)
- tree protection area
- specific tree protection (refer sheet 10 details)

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project: **arboricultural impact assessment - 21 & 22 burnham close, thornton**

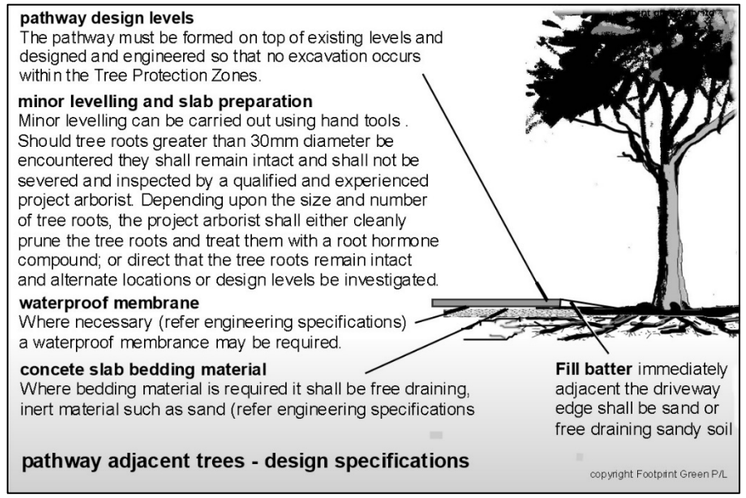
drawing title: **tree protection plan - prior to and during excavation and construction**

designed tree protection

external pathway design adjacent Tree No's 17 & 18

The proposed external pathway is within the tree protection zones of Tree No's 17 & 18, located on the adjoining allotment.

To minimise disturbance to the root system of these trees the proposed external path must be designed and constructed in accordance with the specification below

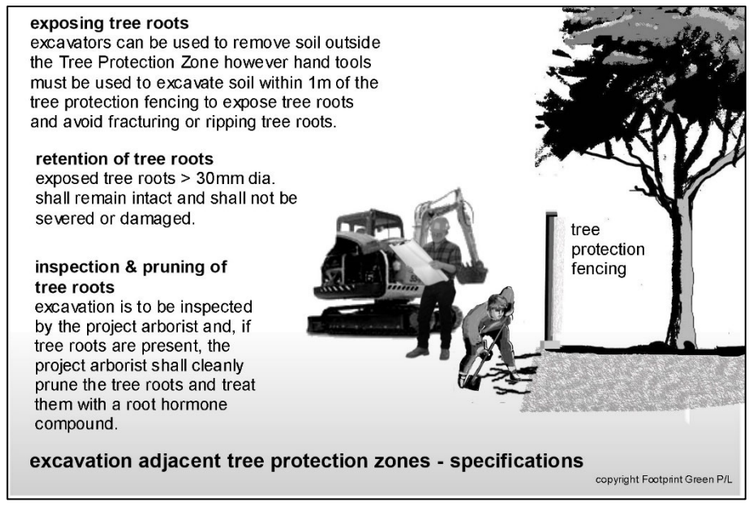


specific tree protection measures

excavation for the basement carpark level adjacent Tree No's 2, 3, 12, 13, 14 & 15

The proposed carpark level requires some excavation within the tree protection zones of Tree No's 2, 3, 12, 13, 14 & 15.

To minimise disturbance to the root zone of these trees excavation within the areas designated as Specific Tree Protection (refer sheet 9) must be carried out in accordance with the specification below.



general tree protection measures

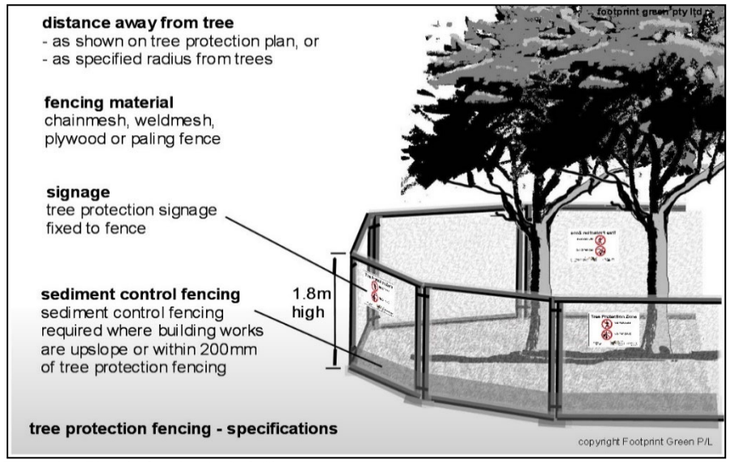
tree removal

Trees identified for removal shall be removed so that no damage occurs to the foliage, branching structure, trunk or root zone of trees identified as being retained or transplanted.

Tree removal shall also be carried out in accordance with the Guide to Managing Risk of Tree Trimming and Removal Work (Safe Work Australia).

tree protection fencing

Prior to demolition or construction, secure Tree Protective Fencing is to be erected around individual trees or groups of trees identified as being retained and should be located as shown on the Tree



Protection Plan (refer sheets 8 & 9)

The building contractor shall ensure that at all times during site works no activities, stockpiles, storage or disposal of materials shall take place within the fenced off areas and that all Protective Fences remain secure throughout the development work period.

All access within the tree protection fencing for temporary and permanent works must be carried out under the instructions of an experienced and qualified project arborist and protective fencing shall remain in functional condition for the duration of building works and can be removed to allow for works identified in the landscape plan.

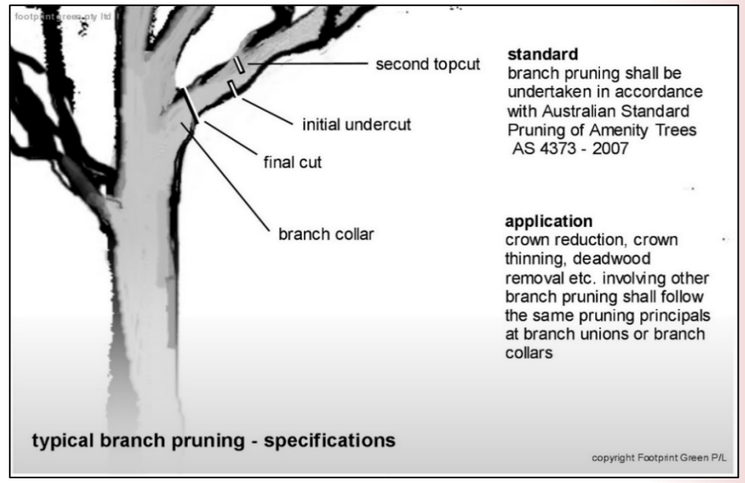
tree protection signage

Tree Protection Signage is to be installed on fencing and shall be installed at maximum 15m intervals and at changes in the fencing direction (refer specification below).

branch pruning if required

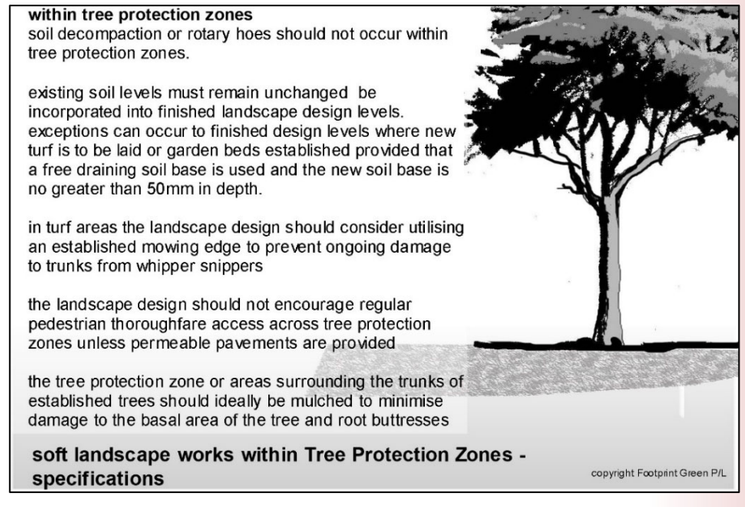
Should branch pruning be required to provide access for vehicles/ pedestrians or overhead crane operations pruning must be carried out in accordance with Australian Standard AS 4373-2007 Pruning of Amenity.

If necessary, branch pruning will be restricted so that no more than 10% of the canopy foliage is being removed and branch pruning is to be carried out by an experienced and qualified arborist and in accordance with the specification below.



soft landscape works

Unless specified on plans, soft landscaping works within the Tree Protection Zones should be carried out in accordance with the specification below.



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