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ARBORIST'S STAGE C REPORT



PROPERTY:	38-40 John T Bell Drive & 31-33 Maften Close Maryland NSW
NUMBER OF SUBJECT TREES:	4
NUMBER OF SHRUBS (DECLARED VEGETATION):	0
DATE OF REPORT:	27 October 2020 (updated 29 July 2022)
REQUESTED BY:	NSW Land & Housing Corporation

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REPORT SUMMARY

The report recommends the removal of the Trees 1, 2, 3, and 5 and all shrubs (non declared vegetation) from 40 John T Bell Drive and 33 Maften Close for the proposed development under the City of Newcastle (2018) Urban Forest Technical Manual, Part A.

Public Trees PT3, 4, 5, 6, 12, 13 & 14 will require retention and protection in accordance with Part B of the City of Newcastle Urban Forest Technical Manual, and *AS 4970 (2009) Protection of Trees on development Sites*.

INTRODUCTION

Project Brief

Assess the vegetation on the four sites and supply a written report.

Methodology

A visual inspection was made of the vegetation from ground level on the 30th of September 2020. No internal testing e.g. Resistograph or drilling, or excavation was carried out. The vegetation was assessed from observations made during the inspection.

Private trees are numbered T1, T2 etc.

Private shrubs are numbered S1, S2 etc.

Public trees are numbered PT1, PT2 etc.

The TPZ for multi-stemmed shrubs is the canopy spread or a minimum of 2 metres.

SITUATION OVERVIEW

The private vegetation may be affected by a proposed development.

SITE DESCRIPTION

38 – 40 John T Bell drive are flat suburban blocks facing north.

- Number 38 has only two small shrubs adjacent to the house.
- Number 40 has two palms in the front yard (one is within 3 metres of the house) and one tree in the back yard, and various small shrubs within 3 metres of the house (exempt from Council's policy).

31 – 33 Maften Close are flat suburban blocks facing south.

- Number 31 has two shrubs less than 5 metres high
- Number 33 has one small tree in the back yard, and various small shrubs in the front yard.

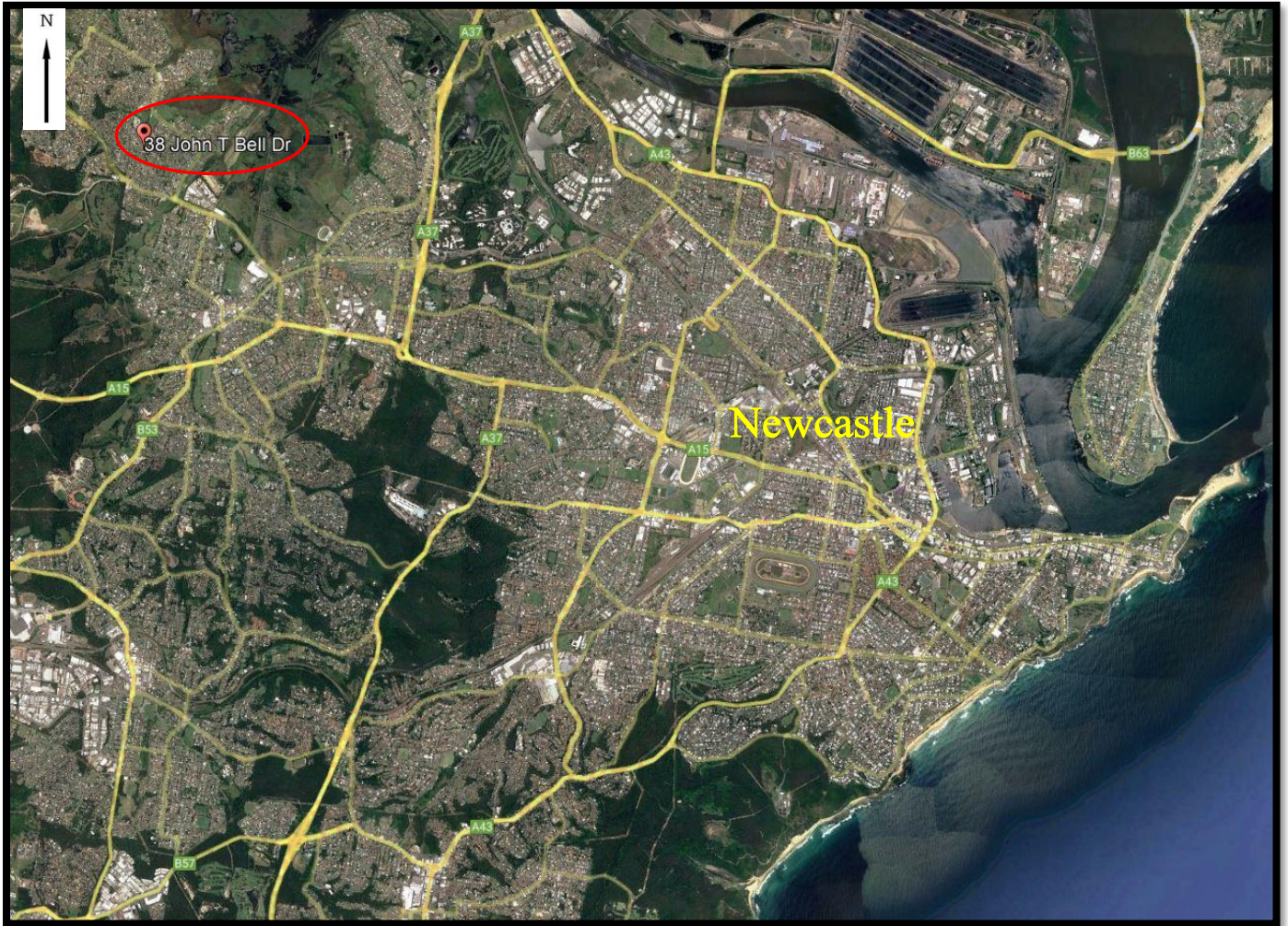
The soil type is clay.

SUMMARY OF ACTION PROPOSED FOR THE TREES & SHRUBS

The report recommends the removal of the Trees 1, 2, 3, and 5 and all shrubs (non declared vegetation) from 40 John T Bell Drive and 33 Maften Close for the proposed development under Section 4 – 4.3 of the City of Newcastle, Urban Forest Technical Manual, Part A, *Tree Removal on Private Land Associated with Development*.

All non declared vegetation is recommended for removal.

SITE LOCATION



The site location (indicated).

SITE PLAN



An aerial photograph (Six Maps – 2018) used as a site plan showing the positions of the subject trees and shrubs (indicated by the [numbered] red circles, and showing the approximate canopy extents).

SITE PLAN OF THE PROPOSED DEVELOPMENT



A supplied plan of the proposed development. Trees 1, 2, 3 are located in 40 John T Bell Drive, and Tree 5 is located in 33 Maften Close.

The shrubs within these properties consists of non declared vegetation and suitable to remove without Council approval.

TREE ASSESSMENT

38 John T Bell Drive

Number of Shrubs	Shrub Number	Species	Height (metres)	Condition		DBH (mm)	TPZ (metres)	ULE	Retention Value	Comments
				Health	Structure					
2 (within 3 metres of the house)	Numbers not allotted due to small size.	<i>Viburnum</i> sp. <i>Abelia</i> sp.	Less than 3 (topped)	Good	Poor	N/A (multi-stemmed)	2 (minimum as required by AS 4970)	4C	Very Low	Suitable to remove

TREE ASSESSMENT CONTINUED

40 John T Bell Drive

Number of Trees	Tree Number	Species	Height (metres)	Condition		DBH (mm)	TPZ (metres)	ULE	Retention Value	Comments
				Health	Structure					
3	T1	<i>Ravenea rivularis</i> (Majestic Palm)	3	Good	Good	N/A	3	2B	Low	Small palm close to boundary; can be retained or removed as required.
	T2	<i>Ravenea rivularis</i> (Majestic Palm)	6	Good	Good	N/A	3	2B	Low	Within 3 metres of the house; suitable to remove.
	T3	<i>Ficus benjamina</i> (Weeping Fig)	6	Good	Fair (form)	240	2.9	2B	Low	Suitable to remove for best use of the property.

31 Maften Close

Number of Shrubs	Shrub Number	Species	Height (metres)	Condition		DBH (mm)	TPZ (metres)	ULE	Retention Value	Comments
				Health	Structure					
2	Numbers not allotted due to small size.	Not recorded due to small size.	Less than 3.	Good	Poor	N/A (multi - stemmed)	2 (minimum as required by AS 4970)	4C	Very Low	Suitable to remove

33 Maften Close

Number of Trees	Tree Number	Species	Height (metres)	Condition		DBH (mm)	TPZ (metres)	ULE	Retention Value	Comments
				Health	Structure					
1	T5	<i>Sapium sebiferum</i> (Chinese Tallow)	5	Good	Poor	N/A (multi - stemmed)	2 (minimum as required by AS 4970)	4C	Very Low	Topped; suitable to remove.

PUBLIC TREES

The public trees consist of two species, *Cupaniopsis anarcardioides* (Tuckeroo) and *Syzygium* sp. (Lilly Pilly). They are all small specimens up to 6 metres high, and have small trunk diameters.

As such, each TPZ can be considered to be 2 metres radius (minimum as required by AS 4970), as clause 3.2, p. 11 states:

3.2 DETERMINING THE TPZ

The radius of the TPZ is calculated for each tree by multiplying its DBH \times 12.

TPZ = DBH \times 12, where:

- DBH = trunk diameter measured at 1.4 m above ground
- Radius is measured from the centre of the stem at ground level.
- A TPZ should not be less than 2 m nor greater than 15 m (except where crown protection is required).
- The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1 m outside the crown projection.

Council requires all public trees be retained unless no viable alternative is available.

TREE PROTECTION MEASURES

For all retained trees and shrubs (public trees), the following tree protection measures must be implemented by the construction supervisor:

Steel mesh fencing [around the TPZs] should be used where practical. Where this may be impractical, the TPZ of the [particular] tree should be measured and marked with road marking paint, and construction staff informed that the [particular] area is a Tree Protection Zone.

Vehicular & machinery movement is not permitted within the TPZ, and vehicles must not be parked within the TPZs.

Site compounds and amenities must be located away from the TPZs.

Pedestrian traffic must be kept to a minimum.

Location of storage of site materials and equipment must be away from the TPZs, e.g. no materials are to be stored within the TPZs.

Any excavation within the TPZs must be dug using hand tools or hydraulic or pneumatic excavating equipment, e.g. air spade.

New infrastructure for services should be installed around TPZs where possible.

Some root pruning within TPZs is acceptable, however, excavation machinery such as backhoes and hand tools (shovels etc.) must not be used to cut tree roots. Root pruning must be carried out using secateurs or a saw. Any roots over 75 mm diameter within the TPZs requiring pruning should be inspected by an AQF 5 Arborist to ensure their removal will not have an adverse effect on the [particular] tree.

If encroachment into a SRZ becomes necessary, the project Arborist must assess the requirement beforehand to ensure the tree's viability.

Failure to follow the Arborist's recommendations may have an adverse effect on the [particular] tree.

Any pruning of a tree canopy must be carried out by a qualified contractor in accordance with AS 4373 (2007), *Pruning of Amenity Trees*, and within Council's policy.

ARBORICULTURAL IMPACT ASSESSMENT

Encroachment Percentages for each tree.

The proposed development will require the following percentages of encroachment due to their positioning within the proposed development area.

Tree	TPZ	Encroachment	SRZ	Encroachment	Tree	TPZ	Encroachment	SRZ	Encroachment
1/	3.0	100%	N/A	N/A%	2/	3.0	100%	N/A	N/A%
3/	2.9	100%	1.8	100%	5/	2.0	100%	1.5	100%

From the percentages above, the following impacts are expected:

No impact – N/A

Slight impact – N/A

Moderate impact – N/A

Severe impact – Trees 1, 2, 3 & 5

The effects of root loss or damage by any means, as required by the development could include:

- Loss of stability if structural woody roots or even lower order woody roots are cut
- Reduction in water and nutrient uptake
- An eventual loss of leaves, reduced photosynthesis and thus sugar production
- Decay as a result of wounding
- Predisposition to soil borne pathogens

ALTERNATIVE DESIGN CONSIDERATIONS

Section 4 of the City of Newcastle (2018) Urban Forest Technical manual (Part A) recommends alternative design considerations such as:

- Relocating and/or minimising driveway crossover widths to retain existing trees
- Altering development footprint
- Altering hard surface design
- Utilising permeable pavement
- Move footpath alignment, or location
- Ramp or bridge over tree roots, or use elevated walkways
- Install footpath on surface without excavation and reduced batter
- Move above or below ground utilities (e.g. powerlines, water, gas) away from trees
- Avoid level changes near trees.

It is considered that the size and shape of the blocks and best use of them, physically and economically, prevents any major design changes in relation to the trees.

SIGNIFICANCE CHECKLIST

None of the subject trees/shrubs have any heritage significance, or any listing on the Biodiversity Conservation Act 2016, The Biodiversity Conservation Act 1999 or Council's Heritage Tree Register.

No faunal activity was observed in the trees/shrubs, that is, no nests or nesting hollows in the canopies, claw marks on the stems or scat around the bases.

CONCLUSION

Trees 1, 2, 3, and 5 are small specimens with low retention values and are easily replaced as part of the landscape plan.

The alternatives to tree removal would consist of alternative plans, however, the positions of the trees and best use of the properties prevent any major design changes if best use of the properties is to be achieved.

The removal of Trees 1, 2, 3, and 5 and their replacement is seen as fitting for the sites.

RECOMMENDATIONS

Based on the observations made during the inspection and the considerations in the conclusion, it is recommended that:

- Trees 1, 2, 3, and 5 be removed and replaced.
- The public trees be retained and protected as discussed.

PHOTOGRAPHS



The only shrubs on number 38 John T Bell Drive.



Tree 1 on 40 John T Bell Drive.



Tree 2 on 40 John T Bell Drive.

PHOTOGRAPHS CONTINUED



Tree 3 on 40 John T Bell Drive.

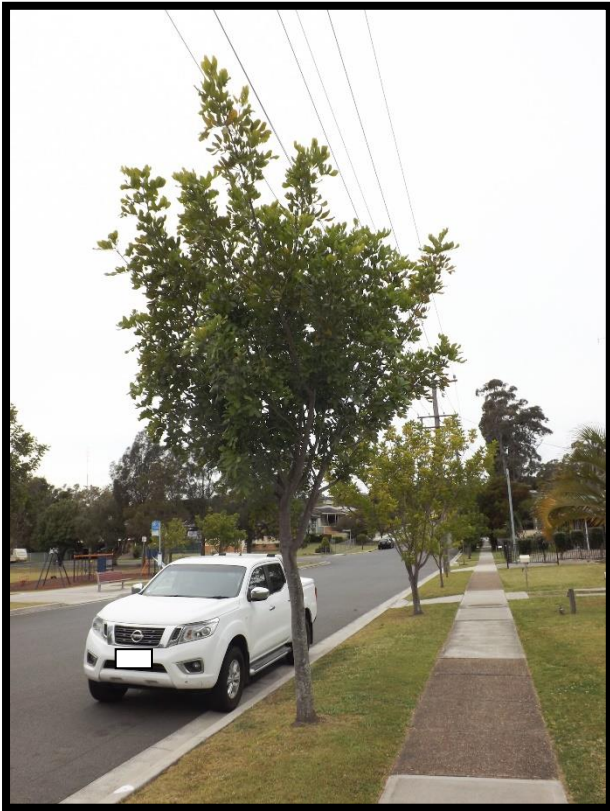


Tree 5 on 33 Maften Close.



Small shrubs on 33 Maften Close.

PHOTOGRAPHS CONTINUED



Examples of public trees along John T Bell Drive. Example of public tree in front of 31 Maften Close.



Example of public trees in front of 33 Maften Close.

Stephen Williams



AQF 5 Arborist

Hunter Horticultural Services

DISCLAIMER

The recommendations given in this report assumes that reasonable maintenance will be provided by a qualified Arboriculturist working to Australian Standard 4373 (2007), *Pruning Amenity Trees* and AS 4970 (2009), *Protection of Trees on Development Sites*.

Incorrect tree work practices can significantly accelerate tree decline and increase hazard potential.

No liability is accepted for any effects if the recommendations in this report were not followed.

The information in this report does not take into account the effects of unforeseen circumstances, severe weather, external organisms or tree aging on the subject tree.

ACKNOWLEDGEMENTS

Aerial Photographs courtesy of Google Earth and Six Maps.

NSW Flora Online

REFERENCES

Australian Standard 4970 (2009), *Protection of Trees on Development Sites*

Australian Standard 4373 (2007), *Pruning Amenity Trees*

City of Newcastle (2018) Urban Forest Technical Manual, Part A, Section 4 – 4.3, *Tree Removal on Private Land Associated with Development*.

City of Newcastle (2018) Urban Forest Technical Manual, Part B, *Public Trees*.

APPENDIX

Qualifications

Contact Details	Qualifications
P.O. Box 3193	Bachelor of Arts Degree (Botany)
Glendale NSW 2285	
Ph 0409 559 147	Horticulture Certificate (1989) with
Email: jwi52886@bigpond.net.au	Arboriculture component included.
	Horticulture Certificate (2000
	Northern Melbourne Institute of
	Technology)
	Diploma of Horticulture (2007
	Kurri Kurri Tafe) Arboriculture.
	AQF Level 5
	Accreditation Number 5510397