

Growing My Way Tree Consultants

“GROWING MY WAY”

Tree Consultants

Established 1977

EXCELLENCE in ALL ASPECTS OF TREE MANAGEMENT

FULL INSURANCE PROTECTION

PO Box 35, Newport Beach NSW 2106

Phone: (02) 9997-4101 Mobile: 0412-221-962 Fax: (02) 9940-0217

E-mail: kyleahill@optusnet.com.au

ABN 97 965 355 200

ARBORICULTURE IMPACT ASSESSMENT for Development Application Submission

October 2020

Prepared By Jason M Paxton Diploma of Arboriculture AHC50516

for “Growing My Way” Tree Consultants

Site Address, 67 Pacific Parade Dee Why NSW 2099



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1. Executive summary.

David Hume, Director Highgate Management representing the property owner/developer secured the services of *Growing My Way Tree Consultants (GMW)* to prepare an *Arboriculture Impact & Management Assessment as part of a soon to be lodged Development Application (DA) for construction of a new free-standing dwelling/residence.*

One (1) protected tree is discussed, numerous other trees are acknowledged but not discussed as they are exempt from protection either by size, species, or location. The discussed tree is located within the subject site.

The *Northern Beaches Council (NBC)* (previously *Warringah Council*) is the local government authority.

67 Pacific Parade Dee Why, is not within a *Northern Beaches Council* (from herein *NBC*) designated *Heritage Conservation Area*. The subject site is zoned R3- Medium Density Residential. No discussed tree/s are known to be listed on any “*significant tree register*”.

This document is to accompany other documentation as part of the soon to be lodged *Development Application (DA)* for:

- i. *Construction of new multi-level Apartments with underground parking.*

I, Jason M Paxton, as a qualified Practising & Consulting Arborist, have prepared this document based on “*Visual Tree Assessment*” (VTA) undertaken on October 26th 2020 in the presence of Kyle A Hill. Jason M Paxton is the author of this document. Kyle A Hill has checked, edited & approved its contents.

The sole consent authority is the *NBC*.

The report discusses the necessity (relative to the proposed design) & specified strategy for management of the one (1) tree identified & discussed.

The aim of this report is:

- i. *Provide valid reasons to support the proposed development relative to tree management.*
- ii. *Provide an achievable Tree Management Strategy for all discussed to be retained trees.*
- iii. *Confirm no trees within adjoining private lands will be affected by the DA submission.*

2. Brief.

The Author has been commissioned by Growing My Way Tree Consultants to visit the Site at 67 Pacific Parade Dee Why NSW, consider trees viable for retention for the Development Proposal. Compile an Arboricultural Impact Assessment Report (AIAR) for the submission of the DA.

3. Method.

The site at 67 Pacific Parade Dee Why was visited to collect data on October 26th 2020.

- Tree diameter was measured using a diameter tape, DBH (diameter at breast height) 1.4m above ground level.

- The height and canopy spread were estimated.
- All tree data contained within this report is based on data obtained at the time of site inspection.
- The Australian Standard AS 4970 – 2009 *Protection of trees on development sites*, NBC (WLEP & WDCP “Tree Management Provisions” as outlined within the WC “Tree Management Provisions” as outlined in their WC Local Environment Plan, 2011 Clauses 5.9 & 5.9AA & the WC Development Control Plan 2011 Clauses E1, E3, E4 & E5) has been used as the benchmark for the preparation of this report.
- The one (1) discussed tree was assessed using a basic Visual Tree Assessment (VTA¹) The subject tree was inspected visually from ground level only.
- The identification of genus and species is based on features, visible from a ground-level during inspection only, and has not been compared to herbarium specimens.
- The aspect was taken off the survey plan.
- TPZ, SRZ calculation, and encroachments were calculated using TreeTec TPZ, SRZ online calculator.

4. Information Provided.

Plan name	Plan number	Drawn by	Date
Site Location	DA-0002	DB	22/10/2020
Site Context Plans	DA-0003	DB	22/10/2020
Site Photographs (1 of 3)	DA-0004	DB	22/10/2020
Site Photographs (2 of 3)	DA-0005	DB	22/10/2020
Site Photographs (3 of 3)	DA-0006	DB	22/10/2020
Site Survey	DA-0007	DB	22/10/2020
Site Analysis	DA-0008	DB	22/10/2020
General Arrangement-Basement Plan	DA-0100	DB	22/10/2020
General Arrangement-Lower Ground Plan	DA-0101	DB	22/10/2020
General Arrangement-Upper Ground Plan	DA-0102	DB	22/10/2020
General Arrangement-Level 1 Plan	DA-0103	DB	22/10/2020
General Arrangement-Level 2 Plan	DA-0104	DB	22/10/2020

¹ VTA is a method commonly used worldwide to access trees, as described by Claus Mattheck in The body language of trees – A handbook for failure and analysis (1994). Pages 144-145. The Stationary Office. London.

General Arrangement-Level 3 Plan	DA-0105	DB	22/10/2020
General Arrangement-Level 4 Plan	DA-0106	DB	22/10/2020
General Arrangement-Roof Plan	DA-0107	DB	22/10/2020
Sections- Section AA	DA-300	DB	22/10/2020
Sections- Section BB	DA-301	DB	22/10/2020
Sections- Section CC/DD	DA-302	DB	22/10/2020
3D Massing 1/2	DA 1000	DB	22/10/2020
3D Massing 2/2	DA- 1001	DB	22/10/2020
Building Plan Height 1/2	DA- 1002	DB	22/10/2020
Building Plan Height 2/2	DA- 1003	DB	22/10/2020
Gross Floor Area (GFA)	DA- 1011	DB	22/10/2020
3D Point Of View Solar Access Diagrams (June 21)	DA- 1301	DB	22/10/2020
3D Point Of View Solar Access Diagrams (June 21)	DA- 1302	DB	22/10/2020
Plans by Benson & McCormack Architects. Project # 2004A 67 Pacific Parade Dee Why NSW 2099			

5. Observations.

The site is located on the Southern side of Pacific Parade with an open aspect to the North. The rear of the property adjoins a Playground/Reserve at the frontage of 7 The Crescent Dee Why. The site slopes down from South to the North with an elevation drop of approximately Eight (8) metres.

The Southern Boundary has a brickwork and stone retaining wall less than three (3) metres in height to the existing ground level of the Reserve. The Eastern boundary (69 Pacific Parade) is bordered by a sandstone ledge and timber paling fence on top. The Western boundary (65 Pacific Parade) has a retaining wall constructed during the recent development of the property (Circa 2017).

Tree 1 *Callistamon viminalis* (Bottlebrush), is located approximately 0.5m off the Western boundary and less than 9m from the frontage of Pacific Parade.

The tree has a single trunk to a height of 2m then splits into codominant stems, the stem to the North has a 10° bias to the North while the second stem has a 45° bias to the North creating an overall phototropic crown. The tree has been heavily pruned for building clearance of 65 Pacific Parade (see images Appendix 2)

Tree Schedule									
No.	Species	Health	Height (m)	Canopy Spread (m)	DBH (m) Base (m)	Age	Condition/ Vigour	TPZ SRZ (m)	Retain/Remove
1	<i>Callistamon viminalis</i>	Good	<12	EW < 3 NS < 8	0.38 0.51	M	Good	4.56r 2.49r	Remove
M=Mature, NS=North/South, EW=East/West.									

6 Discussion.

The subject site has several established trees/shrubs which are acknowledged but exempt from NBC "Tree Management Provisions". The one (1) tree discussed is from herein to be known as Tree 1. It is confirmed to be located within the 67 Pacific Parade property.

The proposed development will require the removal of the trees on the site that are either species that are exempt or less than 5m in height. The protection of trees on any adjoining properties with a TPZ within the Development will be discussed.

Trees located on the Western boundary of 69 Pacific Parade will not be affected by the development due to their location above the retaining wall and the existing rock shelf. No roots were observed from any of the existing trees upon visual inspection. There are no trees Located on the Eastern boundary of 65 Pacific Parade that will have an encroachment into the TPZ. Trees Located on the Northern boundary of the Reserve, frontage 7 The Crescent are located more than 2m above an existing retaining wall. No roots were observed from any of the existing trees upon visual inspection.

Tree 1 is not indigenous to the local area, although Native to Australia and its distribution is North-eastern New South Wales, eastern Queensland, and the Kimberley region of Western Australia.

The tree has been heavily pruned on one or more occasions for what appears to be for building clearance, this has created a narrow crown along the EW plane. At the age of maturity, it is unlikely that the tree will ever become a good specimen typical of this species.

The tree has a TPZ of 4.56m radius and an SRZ of 2.49m radius. The base of the tree is approximately 1m from the external footprint of the proposed building. Due to the deep excavation for the basement, all root, more than 1m from the base of the tree on the Eastern side will be cut for the excavation.

The proximity of the building will therefore have a TPZ incursion of 3.5m to the East or Approximately 35%. We should also consider that is likely that there was some root loss incurred during the construction of the building (Circa 2017) located to the West.

Considering all factors, the root loss incurred during excavation would be too excessive to consider the retention of the tree for this proposal.

7 Recommendations.

The Author's recommendation is for the subject Tree 1 to be removed. Replacement of the discussed tree in the landscape plan should be considered to be of a species endemic and suitable to the site able to reach a similar or greater size in height and crown spread of the existing tree.

Replacement tree specimen/s to be sourced from growers/suppliers whose stock meets the production benchmarks of the *Australian Standard (AS2303.2015 Tree stock for landscape use)* or *NATSPEC* specification for the production of quality container produced trees.

New tree specimens are to be professionally planted & maintained for a minimum period of six (6) months once installed.

If you have any questions relating to this report or implementation of recommendations, please contact Kyle Hill on 0412-221-962.

Regards,

A handwritten signature in black ink, appearing to read 'Jason M Paxton', written in a cursive style.

Jason M Paxton (AQF Level 5 Practicing and Consulting Arborist).

A handwritten signature in black ink, appearing to read 'Kyle A Hill', written in a cursive style.

Kyle A Hill (AQF Level 5 & AQF Level 8 Practicing and Consulting Arborist).

Appendix 2: Photographs.



Images 2 & 3, Tree 1 Showing excessive pruning, view from Road. Paxton 26/10/2020



Image 4, View of site from Pacific Parade. Hill 20/01/2020

Appendix 3: TPZ Incursion Diagram

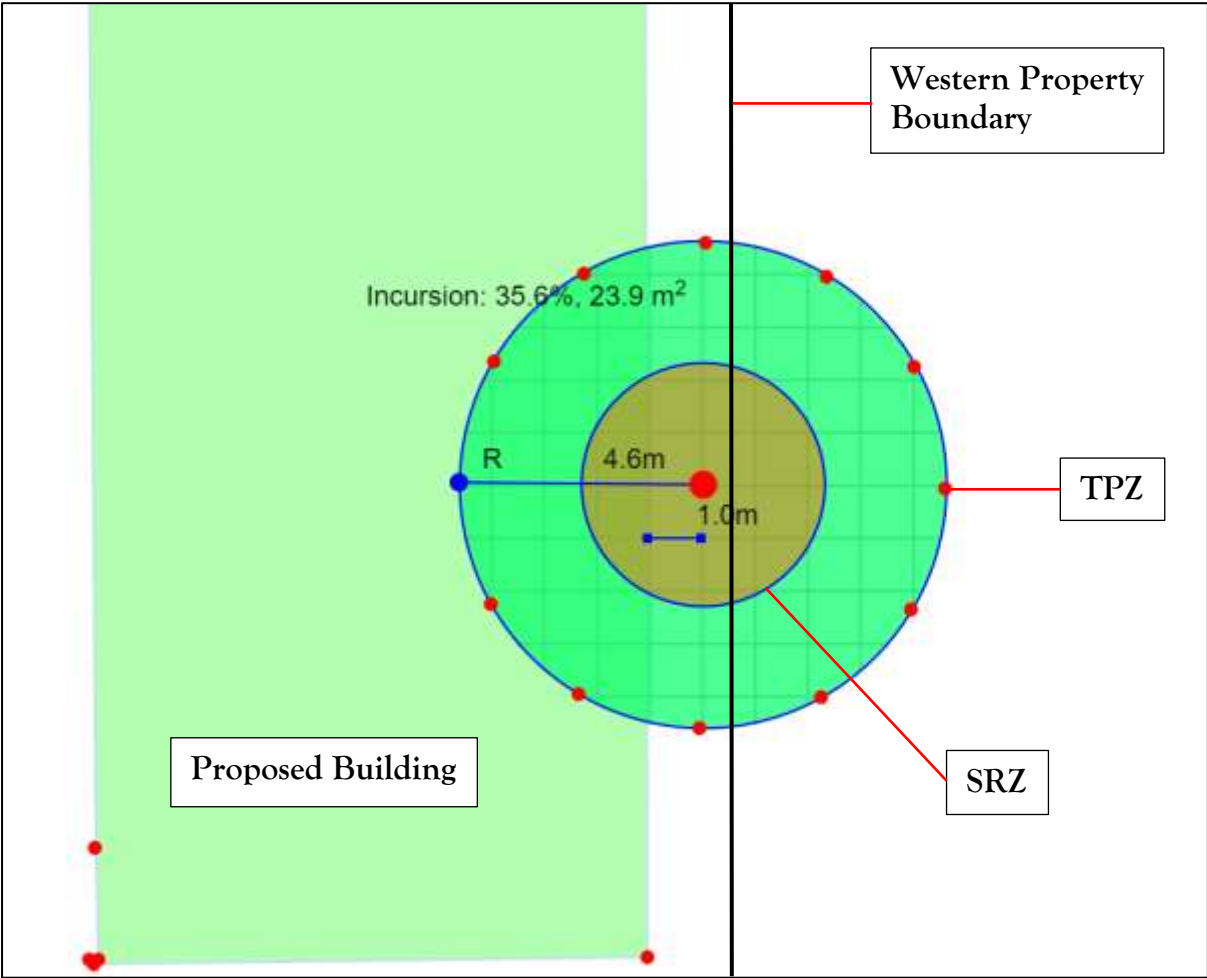


Figure 1, Tree 1 TPZ incursion. https://proofsafe.com.au/tpz_incursion_calculator.html

Appendix 5: Land Zoning Map-Sheet LZN-010A

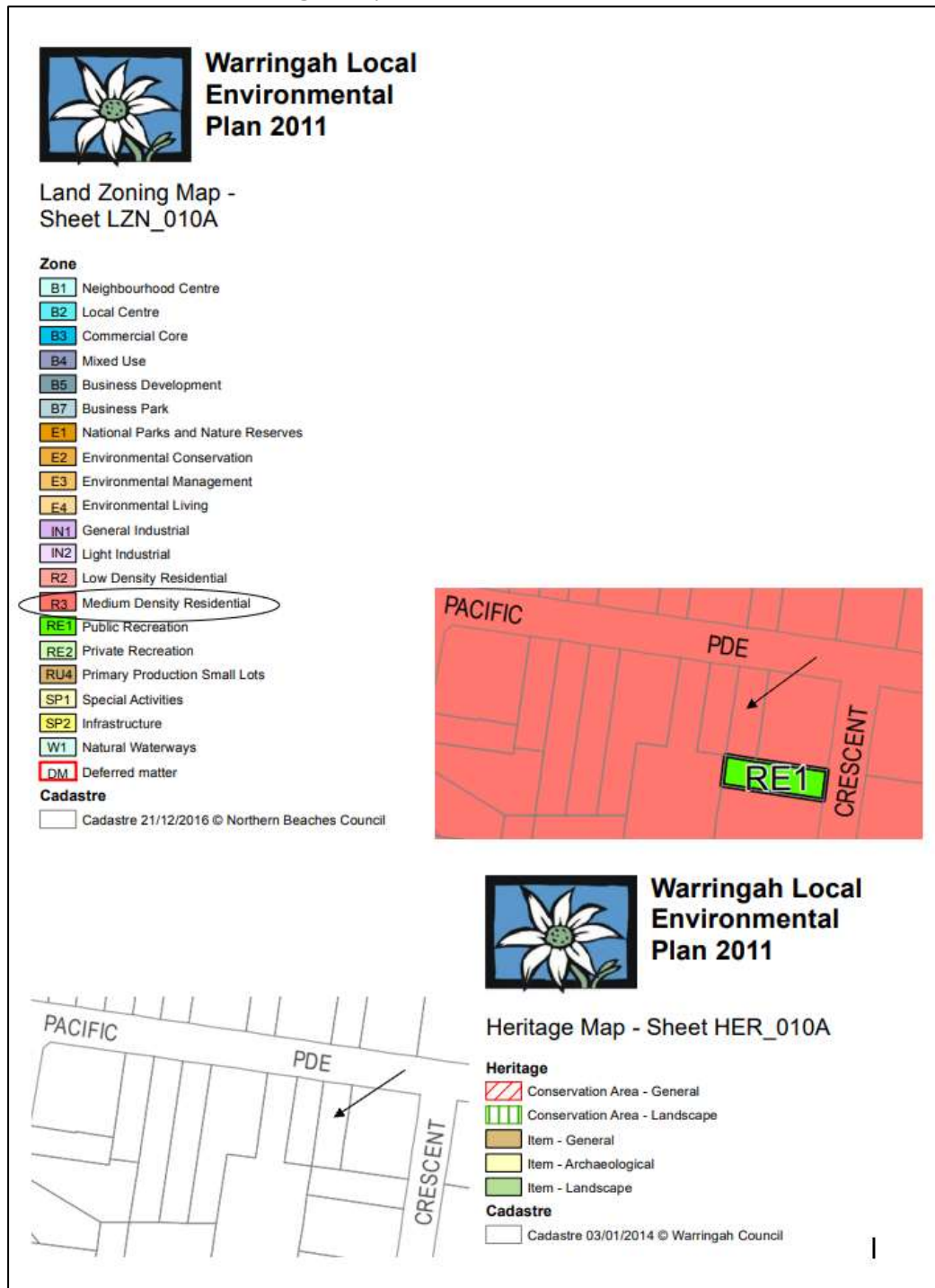


Figure 2, Above, street plan (NBC website tools).

Appendix 6: Aerial Image with trees marked.



Image 6. Approximate location of tree discussed in detail. <http://maps.six.nsw.gov.au/>

Appendix 7: Image of Proposal.



Image 7, Draft image. DA-0960.

Appendix 8: Limitations on the use of the report.

This report is to be utilised in its entirety only. Any written or verbal submission, report, or presentation that includes statements taken from the findings, discussions, conclusions, or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in, & directly attached to that submission, report or presentation.

Appendix 9: Assumptions.

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible; however, Growing My Way Tree Services, can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

Information contained in this report covers only the trees that were examined & reflects the condition of the trees at the time of inspection.

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Appendix 10: Glossary.

Glossary of common Arboreal terms

Age:	I	<i>Immature</i> refers to a well-established but juvenile tree
	SM	<i>Semi-mature</i> refers to a tree at growth stages between immaturity & full size
	M	<i>Mature</i> refers to a full-sized tree with some capacity for further growth
	LM	<i>Late Mature</i> refers to a full-sized tree with little capacity for growth that is not yet about to enter decline
	OM	<i>Over-mature</i> refers to a tree about to enter decline or already declining
	LS	<i>Live Stag</i> refers to a tree in a significant state of decline. This is the last life stage of a tree prior to death

Hth & Vig Health & Vigour

Health refers to the tree's form & growth habit, as modified by its environment (aspect, suppression by other tree, soils) & the state of the scaffold (ie. trunk & major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health & it is possible for a tree to be healthy but in poor condition/vigour. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

Vigour refers to the tree's growth rate/condition as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion & the degree of dieback. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

Useful Life Expectancy (ULE) refers to any individual tree specimen's potential life expectancy (viability) based on VTA assessment, three groups are described,

Short = Less than Five years

Medium = Five–Fifteen years

Long = more than Fifteen years

Significant diameter roots are defined as those being greater than 0.05m/50mm in diameter.

Diameter at Breast Height (DBH) refers to the tree trunk diameter at breast height (1.4 metres above ground level)

Structural Root Zone (SRZ) refers to a radial offset which relates to tree stability. This zone is presumed to be the main location of the tree's structural support roots. It is calculated using the formula $SRZ\ radius = (D \times 50)^{0.42} \times 0.64$.

Primary Root Zone (PRZ) refers to a radial offset of ten (10) times the trunk DBH measured from the centre of the trunk. This zone often contains a significant amount of (but by no means all of a tree's) fine, non-woody roots required for uptake of nutrients, oxygen & water.

Tree Protection Zone (TPZ) is ideally a “No Go Zone” surrounding a tree to aid in its ability to cope with disturbances associated with construction works. **TPZ = DBH x 12**. Tree protection involves minimising root damage that is caused by activities such as construction. Tree protection also reduces the chance of a tree’s decline in health or death & the possibly damage to the structural stability of the tree from root damage.

To limit damage to the tree, protection within a specified distance of the tree’s trunk must be maintained throughout the proposed development works. No excavation, stockpiling of building materials, or the use of machinery is permitted within the TPZ.

A TPZ is required for each tree or group of trees within five metres (unless otherwise specified) of building envelopes.

Stem/bark inclusion refers to a genetic fault in the tree’s structure. This fault is located at the point where the stems/branches meet. In the case of an inclusion, this point of attachment is potentially weak due to bark obstructing healthy tissue from joining together to strengthen the joint.

Decay refers to the breakdown of tissues within the tree. There are numerous types of decay that affect different types of tissues, spread at different rates & have a different effect on both the tree’s health & structural integrity.

Point of Attachment refers to the point at which a stem/branch etc join.

Deadwood refers to any whole limb that no longer contains living tissues (eg live leaves &/or bark). Some deadwood is common in a number of tree species.

Dieback refers to the death of growth tips/shoots & partial limbs. Dieback is often an indicator of stress & tree health.

One dimensional crown refers to branching habits & leaves that extend/grow in One direction only. There are many causes for this growth habit such as competition & pruning.

Crown Foliage Density of Potential (CFDP) refers to the density of a tree’s crown to the expected density of a healthy specimen of the same species. CFDP is measured as a percentage.

Epicormic growth/shoots refer to growth/shoots that are/have sprouted from axillary buds within the bark. Epicormic growth/shoots are a survival mechanism that often indicates the presence of current or past stress even such as fire, pruning, drought, etc.

Over Head Powerlines (OHP) Overhead electricity wiring.

LVOHP Low Voltage Overhead Powerlines

HVOHP High Voltage Overhead Powerlines

ABC Aerial Bundled Cable

References:

- AS 4970-2009 Protection of trees on development sites
- AS 4373-2007 Pruning of amenity trees.
- <http://maps.six.nsw.gov.au/>
- State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 under the Environmental Planning and Assessment Act 1979.
- https://proofsafe.com.au/tpz_incursion_calculator.html
- Mattheck C, Bethge K, Webber K 2015. The Body Language of trees, Encyclopedia of Visual Tree Assessment. Karlsruhe Institute of Technology – Campus North. PO Box 3640, D-76021 Karlsruhe, Germany.
- <https://www.legislation.nsw.gov.au/view/pdf/map/8ce066af-efd6-4b05-91b5-5efbbb42cb60>
- <http://anpsa.org.au/c-vim.html>
- <https://tinyurl.com/vygt38uh>