A D D E N D U M

ADDENDUM TO REPORT FOR ITEM LPP05
DATED 1 JUNE 2021

SUBJECT: **15 WAIWERA STREET, LAVENDER BAY**

APPLICATION NO. **DA 20/21**

AUTHOR: **HUGH SHOULDICE, ASSESSMENT OFFICER**

DATE: **1 JUNE 2021**

Attachments:
1. Landscape Plans
2. Arboricultural Impact Assessment

SUMMARY

This addendum report should be read in conjunction with the agenda item LPP 05 concerning a proposal for alterations and additions to a heritage listed item within the McMahons Point North Conservation Area on land at No. 15 Waiwera Street, Lavender Bay.

In response to detailed submission a detailed review of the application has been undertaken by Council's Landscape Development Officer in relation to the proposal to remove T2 *Magnolia grandiflora* and T4 *Phoenix canariensis* both located between the main building and the existing garage.

Council's Landscaping Officer has provided preliminary comments on the proposal and the documentation provided as part of the application, as follows:

- *The removal of all site trees, and lack of adequate replacement trees is considered unacceptable.*
- *No objection is raised to the removal of T1 Murraya paniculata (6x8m) and T3 Murraya paniculata (6x6m) subject to suitable replacement planting.*
- *The removal of T2 Magnolia grandiflora (12x10) and T4 Phoenix canariensis (14m) cannot be supported. Both these mature trees are in good health and are characteristic of heritage planting within the LGA.*
- *The assertion contained within the Arborist Report prepared by Tree Management Strategies dated 1/12/20 that "The Landscape Plan prepared by Phillip Withers proposes the planting of 2 x Banksia serrata, 1 x Acer seiryu, 1 x Laegerstromia (sic) comanche, 3 x Cyathea cooperi and 1 x Howea forsteriana to adequately compensate for the removal of Tree 4" is not supported.*

- *The Landscape Plan prepared by Phiilip Withers dated 18/11/20 is considered to be inaccurate –claiming that a total of 19 new trees are to be planted. The majority of these are claimed to be "trees". However, they are considered to be small shrubs, palms, ferns or perennials, with only 2 actual canopy trees included in the claimed total of 19 trees (2 x Banksia serrata).*

- *An amended proposal … that allows for the retention of T2 and T4, includes an amended arborist report with a detailed Tree Protection and Management Plan for same, and an amended Landscape Plan that accurately includes details of all plants is required. It should also ensure that plants chosen are characteristic of heritage plantings, and are not simply chosen due to their status as native plants (NSC while applauding the use of native plants, does not require their use per se, but prefers a planting palette in keeping with all site, locality, and heritage considerations).*

Planning Comments:

The comments provided by Council's Landscaping Officer identify that the removal of *Magnolia grandiflora* (T2) and *Phoenix canariensis* (T4) should not be supported on heritage significance grounds. However, the removal of the *Magnolia* T2 can reasonably be supported on the basis that a suitably mature replacement tree could achieve an appropriate landscape response for the site, whilst enabling the proposed works to proceed.

The proposed removal of the Phoenix Palm (T4) however, should not be supported in full, for the reasons expressed above. Based on the comments above, it is recommended that *Phoenix canariensis* (T4) be considered for transplantation elsewhere within the site, subject to appropriate conditions to accommodate the tree in a suitable location, and subject to a review from an expert in heritage landscape design. Amended conditions are outlined below which provide for this change.

RECOMMENDATION

A. THAT the Panel note the recommendations of Council's Landscape Development Officer and incorporate the following additional conditions in the determination of LPP05 relating to Development Application No. 20/21 for 15 Waiwera Street, McMahons Point:

Amendments to the Landscape Plan

C24 The landscape plan must be amended as follows to provide an appropriate landscaped setting:

- The existing Phoenix canariensis (T4) is shown to be relocated within the subject site.
- A replacement mature Magnolia grandiflora (T2) is to be shown planted within the subject site.
- A tree planting schedule is to be provided on each sheet of the landscape plans.
- A heritage consultant with expertise in the landscaped design is to provide written certification that the revised design is consistent with the approved built form and heritage significance of the subject site.

An amended landscape plan complying with this condition must be submitted to the Certifying Authority for approval prior to the issue of any Construction Certificate. The Certifying Authority must ensure that the amended landscape plan and other plans and specifications submitted fully satisfy the requirements of this condition.

(Reason: To ensure ongoing residential amenity is maintained.)

Tree Protection Measures to be shown on Construction Drawings

C25. The tree protection measures contained in the arborist report prepared by Tree Management Strategies dated 1 December 2020 and received by Council 19 January 2021, shall be shown clearly on the Construction Certificate drawings. Plans and specifications showing the said tree protection measures must be submitted to the Certifying Authority for approval prior to the issue of any Construction Certificate. The Certifying Authority must ensure the construction plans and specifications submitted, referenced on and accompanying the issued Construction Certificate, fully satisfy the requirements of this condition.

(Reason: To ensure that appropriate tree protection measures are shown on construction drawings)

Relocation of Tree 4 (Pheonix Canariensis) - Methodology

C26. Tree 4 Phoenix Canariensis is to be transplanted within the subject site, to a suitable location between the dwelling and the approved garage. A written methodology is to be prepared by a consulting arborist with a qualification AQF Level 5 detailing the required methodology for the safe and effective transplantation of Tree 4.

The Certifying Authority is to be satisfied that the requirement to transplant Tree 4 can be achieved in a safe and effective manner, and are carried out under the supervision of a consulting arborist and in accordance with relevant Australian Standards.

(Reason: to ensure that mature plantings can be retained within the site and to maintain the heritage significance of landscape plantings)

Approval for removal of Trees

C27. The following tree(s) are approved for removal in accordance with the development consent:

Tree No / species	Location	Height (m)
T1 – Murray paniculata	Southern side boundary of subject site	6m
T2 – Magnolia Mgrandiflora	Southern side boundary of subject site	6m
T3 - Murray paniculata	Northern side boundary of subject site	6m
T4 – Phoenix canariensis	Northern side boundary of subject site	14m

Removal or pruning of any other tree on the site is not approved, excluding species exempt under Council's Tree Preservation Order.

Any tree(s) shown as being retained on the approved plans (regardless of whether they are listed in the above schedule or not) must be protected and retained in accordance with this condition.

(Reason: Protection of existing environmental and community assets)

Protection of Trees

E23 All trees required to be retained, as part of this consent must be protected from any damage during construction works in accordance with AS4970-2009. All recommendations contained within the tree report prepared by Tree Management Strategies dated 1 December 2020 and received by Council 19 January 2021 must be implemented for the duration of the works.

In the event that any tree required to be retained is damaged during works on the site, notice of the damage must be given to Council forthwith.

Notes:

1) If the nominated tree is damaged to a significant degree or removed from the site without prior written approval being obtained from Council, the issuing of fines or legal proceedings may be commenced for failure to comply with the conditions of this consent.
2) An application to modify this consent pursuant to Section 4.55 of the Environmental Planning and Assessment Act 1979 will be required to address the non-compliance with any of the conditions of consent relating to the retention of nominated trees, and Council may require tree replenishment.

(Reason: Protection of existing environmental infrastructure and community assets)

Landscaping

G10 The landscaping shown in the amended landscape plan required by Condition C24 must be completed prior to the issue of any Occupation Certificate.

(Reason: To ensure compliance)

Required Tree Planting

G11. On completion of works and prior to the issue of the Occupation Certificate, trees in accordance with the schedule hereunder must be planted within the subject site as detailed below: -

Schedule

Tree Species	Location	Pot Size
Magnolia Mgrandiflora	Between the dwelling and the garage	200L
Phoenix canariensis	Between the dwelling and the garage	As existing

The installation of such trees, their current health and their prospects for future survival must be certified upon completion by an appropriately qualified horticulturalist.

Upon completion of installation and prior to the issue of an Occupation Certificate an appropriately qualified horticulturalist must certify that any trees planted in accordance with this condition are healthy and have good prospects of future survival. The certification must be submitted with any application for an Occupation Certificate.

(Reason: To ensure that replacement plantings are provide to enhance community landscaped amenity and cultural assets)

Maintenance of Approved Landscaping

I3 The owner of the premises at No. 15 Waiwera Street, Lavender Bay is to maintain the landscaping approved by this consent generally in accordance with the landscaping requirements of this consent as modified by conditions C2 and C24.

Any replacement plants required shall be advanced in growth and be selected to maintain the anticipated mature height, canopy density and nature of those plant species as originally approved.

Should it be desired to substitute plants which are not of the same mature height, canopy density and nature (particularly flowering for non-flowering, native for exotic, deciduous for non-deciduous or the reverse of any these) a modification to this consent will be required.

(Reason: To ensure maintenance of the amenity, solar access and views of adjoining properties)

HUGH SHOULDICE
ASSESSMENT OFFICER

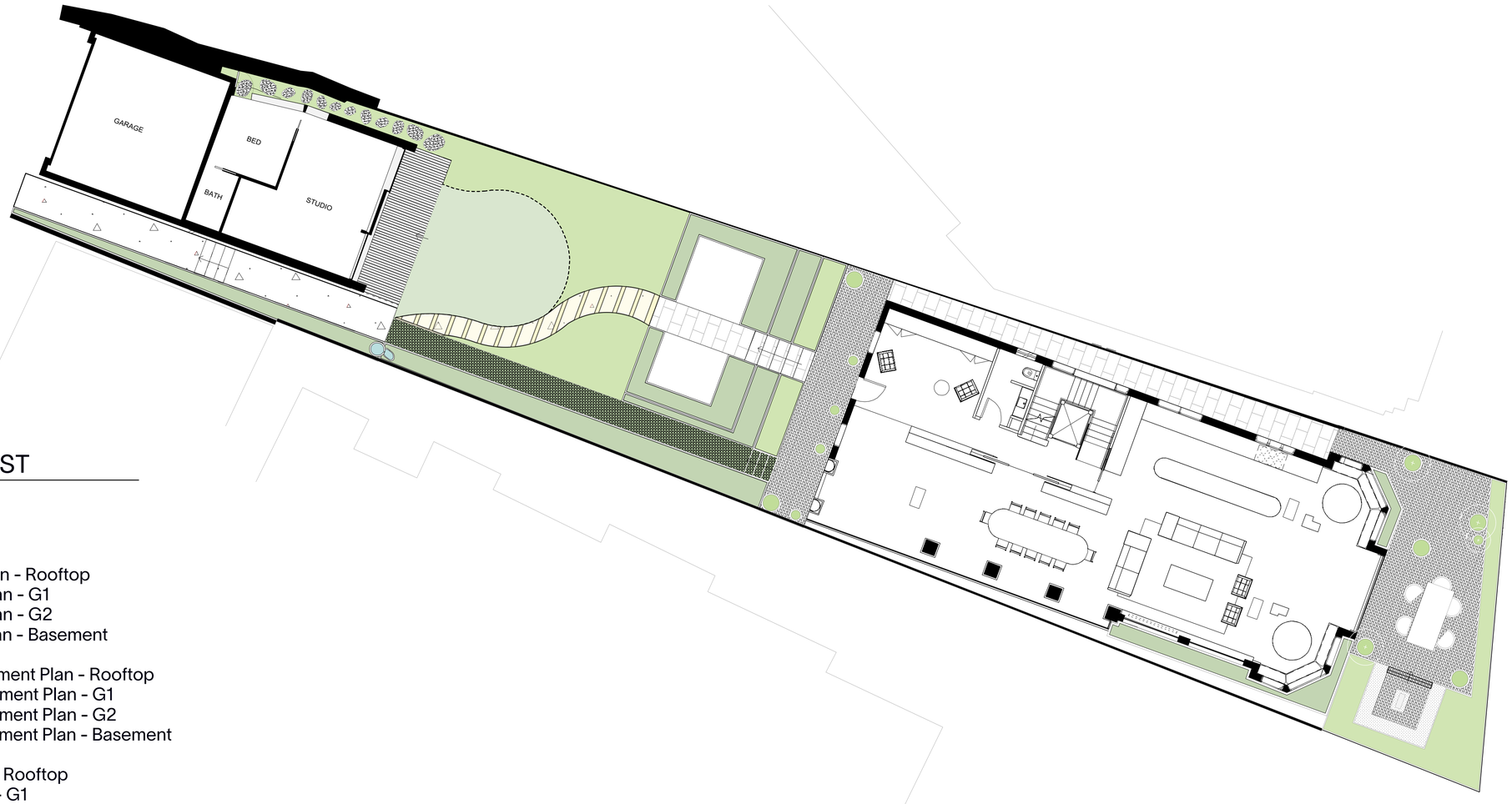
Endorsed by:

DAVID HOY
TEAM LEADER ASSESSMENTS

GAVIN McCONNELL
A/MANAGER DEVELOPMENT SERVICES

Lavender Bay

Waiwera St, Lavender Bay
Design Development
18.11.20



DRAWING LIST

AMENDMENTS

REV.	DESCRIPTION	DATE	BY
A	FOR DA	18.11.20	SC

Important Note: Any variation to the specification or suppliers detailed in this document are to be formally confirmed by Phillip Withers prior to procurement and installation. Failure to adhere to this detail will be classified as a defect upon completion of the project.

NOT FOR CONSTRUCTION

Phillip Withers
284 Wellington Street,Collingwood, VIC 3066
(03) 9077 5989, info@phillipwithers.com

CLIENT
Tsai Architects / Jack Wu

PROJECT
Lavender Bay

ADDRESS
15a Waiwera Street
Lavender Bay

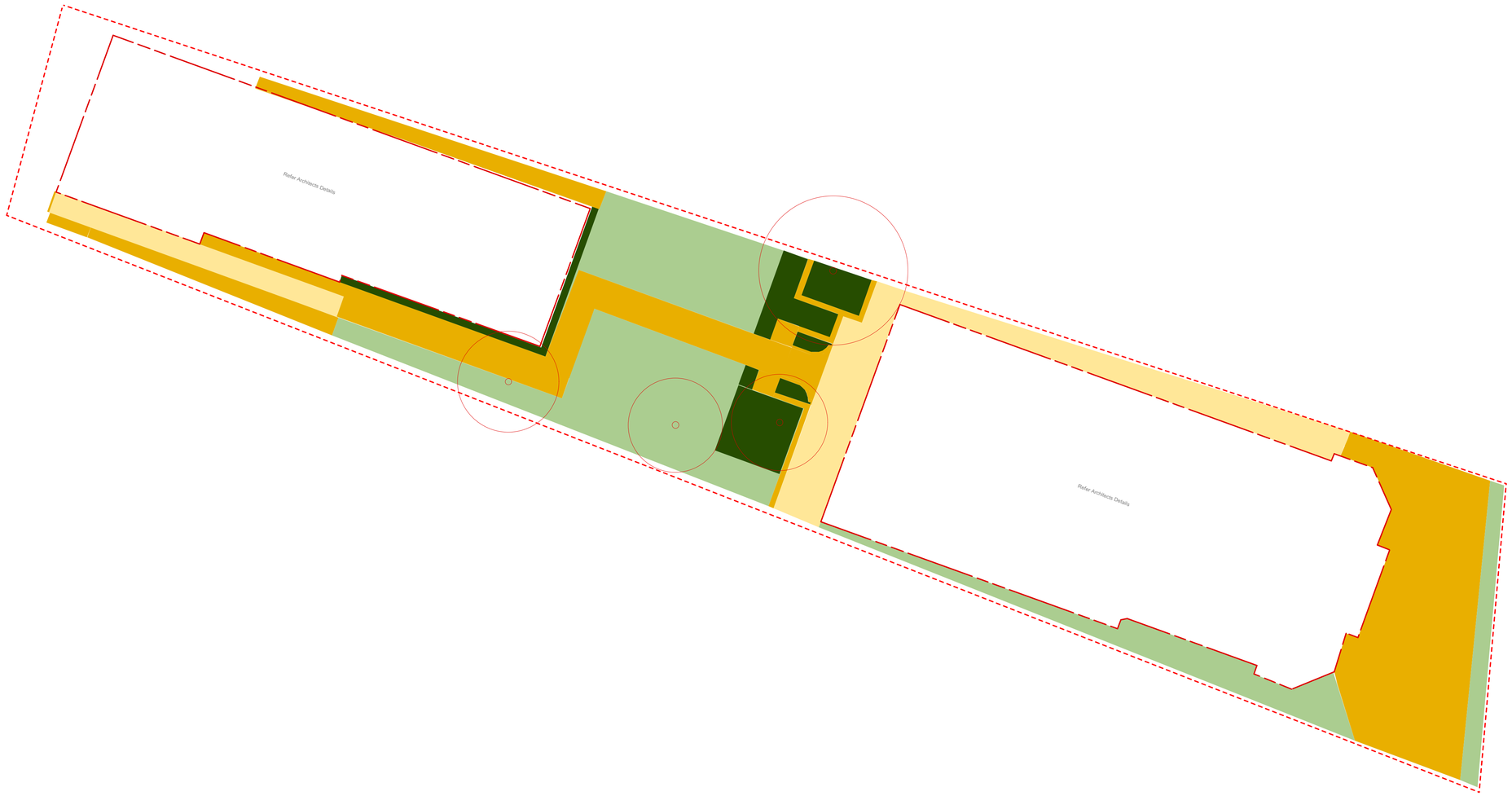
DATE: NOV 20	DRAWN BY: SC
PHASE: DA	REVISION: A

SCALE

NORTH

DRAWING TITLE
Cover Sheet

PROJECT NO	DRAWING NO
20019	001



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SUBJECT TO CHANGE - USE AS GUIDE

LEGEND

Note: Refer to specification and details for all material finishes, types and construction details.

- Existing hardscape to be retained
- Existing hardscape to be removed
- Existing garden bed to be retained
- Existing garden bed to be removed
- Existing tree to be removed
- Property Boundary

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Lavender Bay

DATE: NOV 20	DRAWN BY: SC
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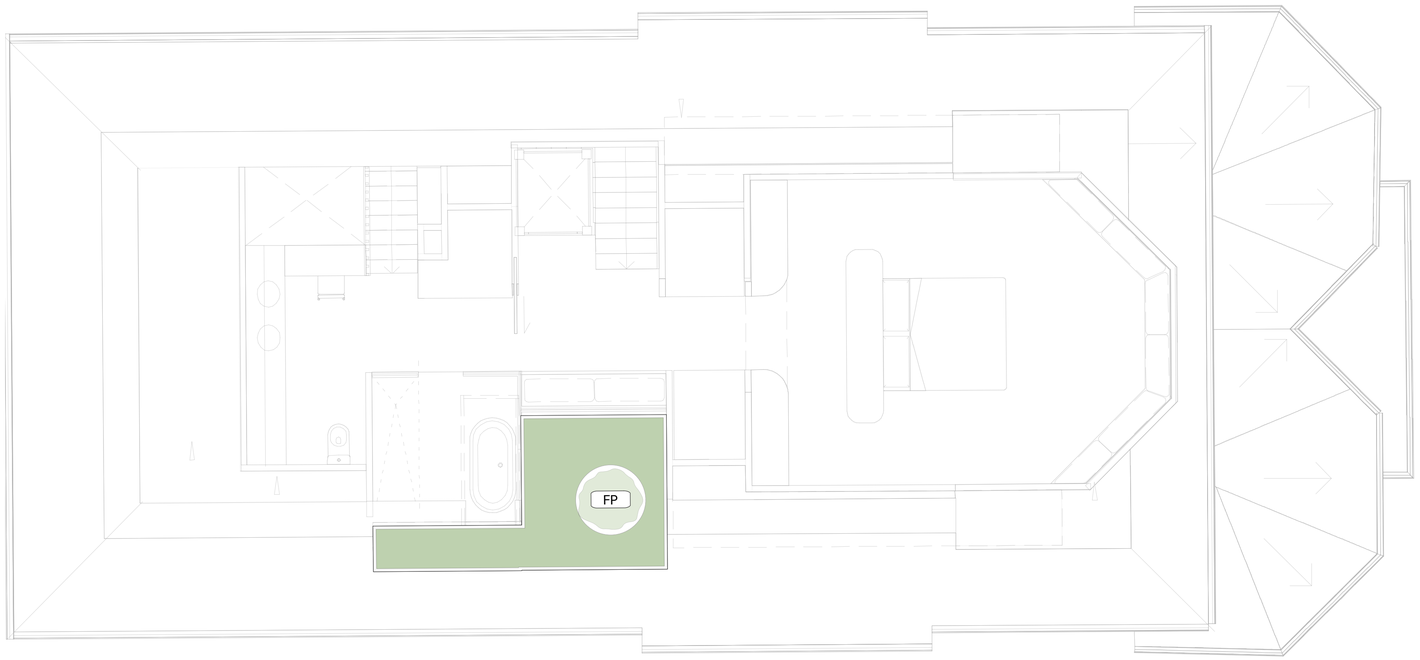
NORTH

DRAWING TITLE
Demolition Plan

PROJECT NO	DRAWING NO
20019	101



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LEGEND

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- Garden Beds
- Raised Garden Beds
- Lawn
- Compacted Toppings
- Timber Decking
- Permeable Concrete Paving
- 500x800 Large Format Sandstone Paving
- 125x600 Small Format Sandstone Tile
- Exposed Aggregate
- Sandstone Slab Benchtop
- Sandstone Stepper
- FR — Feature Sandstone Rock
- SE — Steel Edge
- GB — Glass Balustrade by Architect
- TS — Timber Batten Screen
- ES — Existing Timber Batten Screen
- BW — Proposed Brick Wall by Architect
- WF — Water Feature
- FP — FirePit
- PO — Woodfire Pizza Oven
- BBQ — Built In BBQ
- PP — Feature Planter
- GL — Inbuilt Garden Lounge
- + 00.00 — Revised Level
- + FFL 00.00 — Finished Floor Level
- + TW 00.00 — Top of Wall
- Property Boundary
- Existing Tree to be Removed
- Proposed Tree

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PROJECT
Lavender Bay

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Lavender Bay

DATE: NOV 20	DRAWN BY: SC
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NORTH

DRAWING TITLE
Rooftop Garden - Surface Treatment

PROJECT NO	DRAWING NO
20019	201

AMENDMENTS

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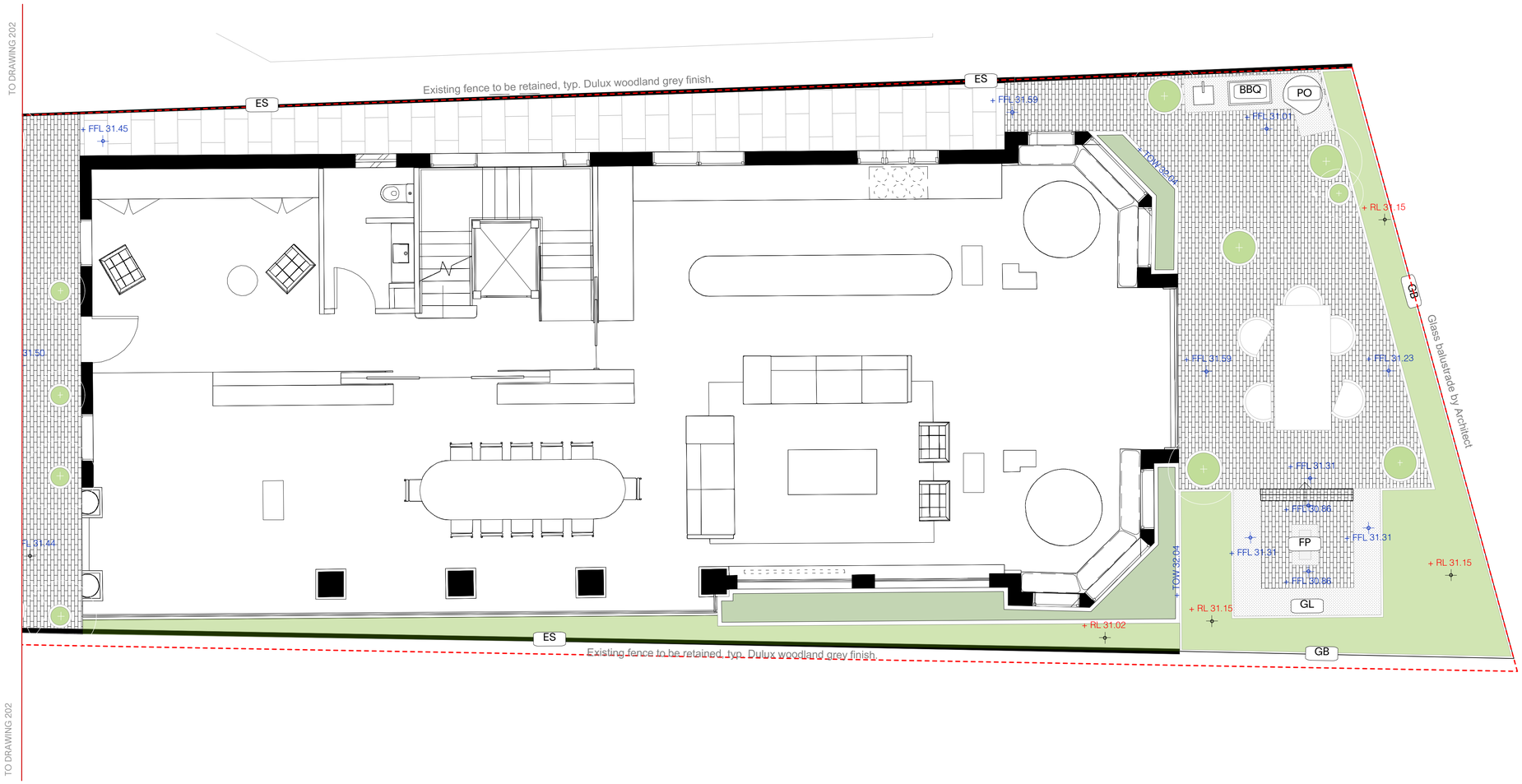
NORTH

DRAWING TITLE
Front Garden - Surface Treatment

PROJECT NO
20019

DRAWING NO
202



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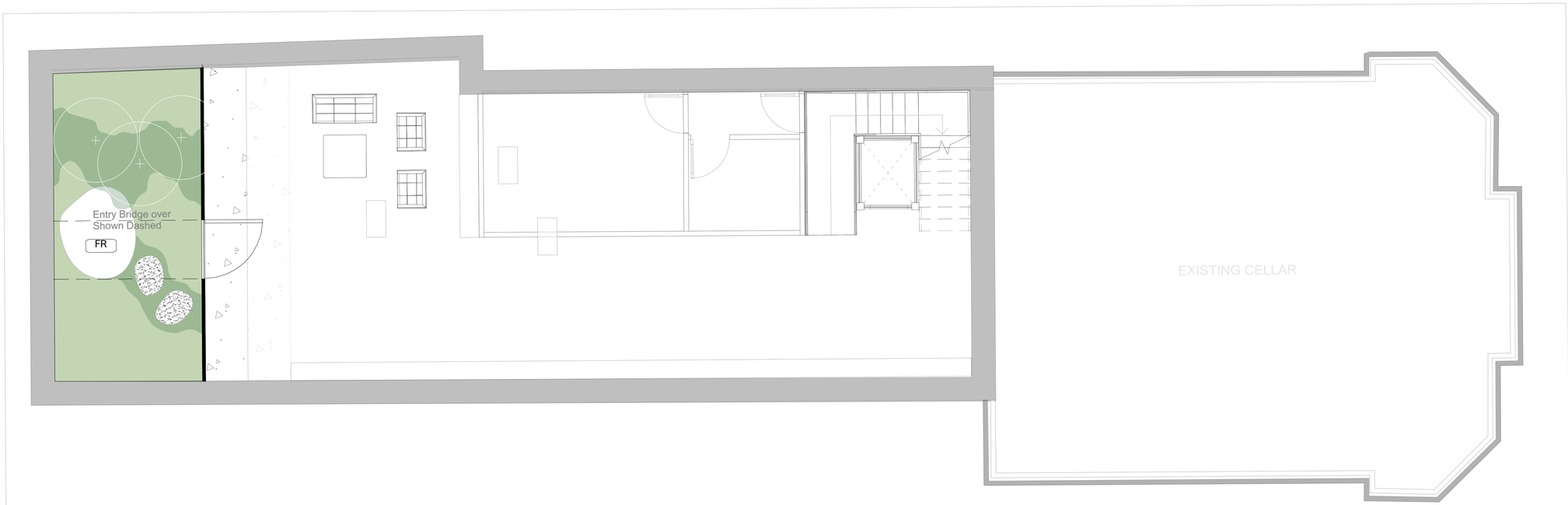
NORTH

DRAWING TITLE
Balcony Garden - Surface Treatment

PROJECT NO	DRAWING NO
20019	203



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PROJECT
Lavender Bay

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Lavender Bay

DATE: NOV 20	DRAWN BY: SC
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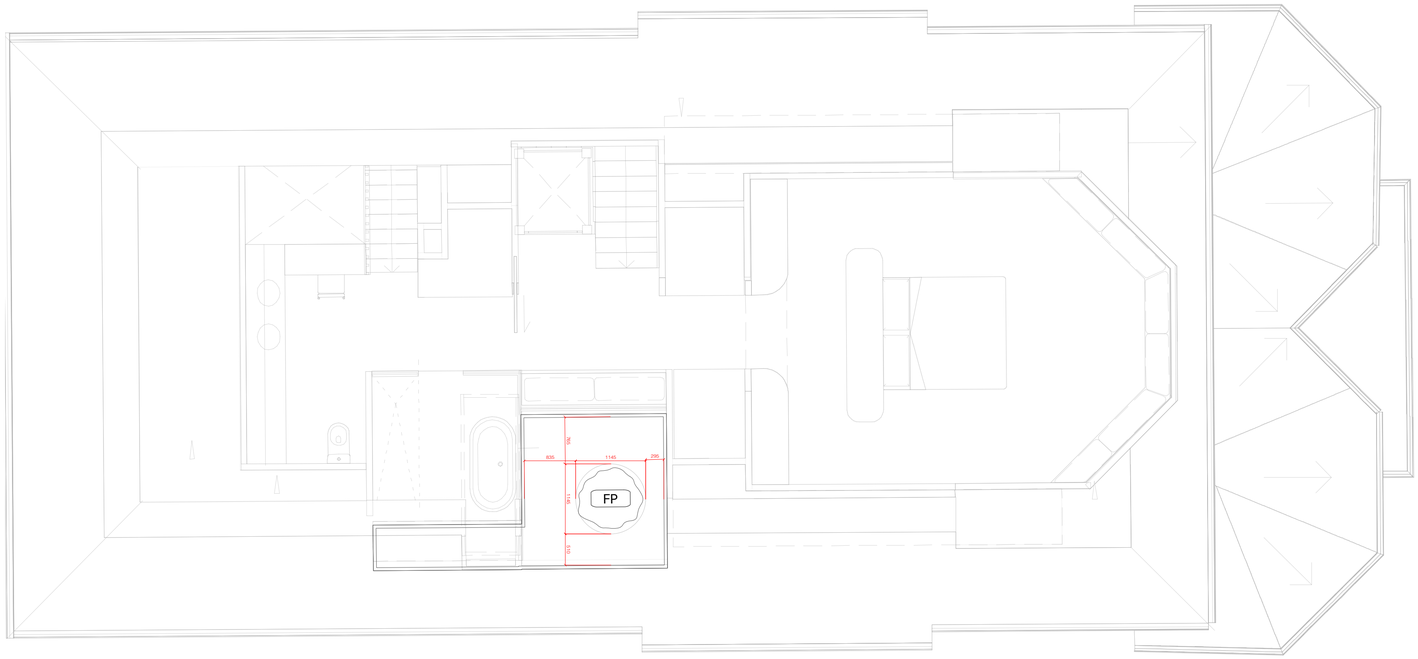
NORTH

DRAWING TITLE
Basement Garden - Surface Treatment

PROJECT NO
20019

DRAWING NO
204



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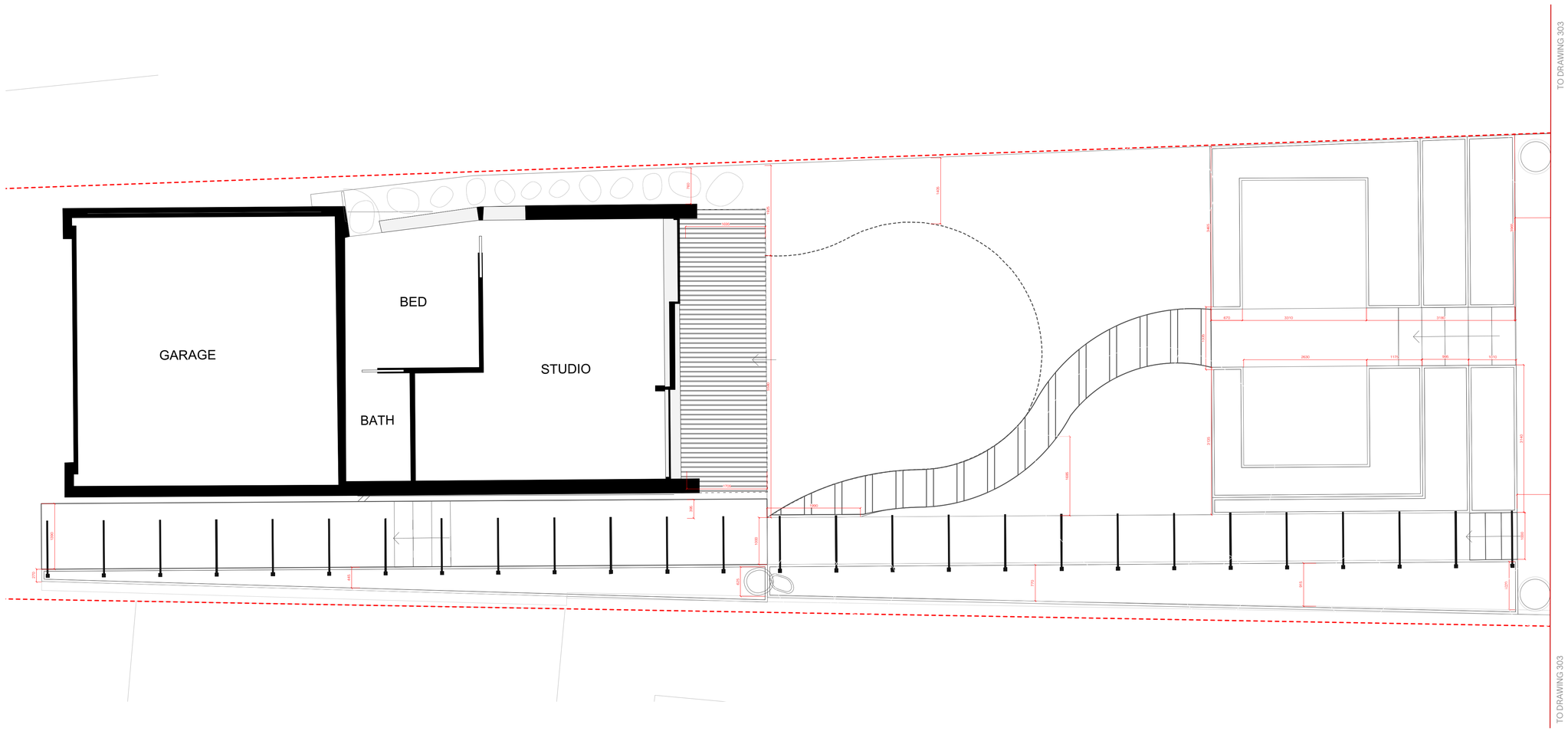
NORTH

DRAWING TITLE
Rooftop Garden Setout Plan

PROJECT NO	DRAWING NO
20019	301



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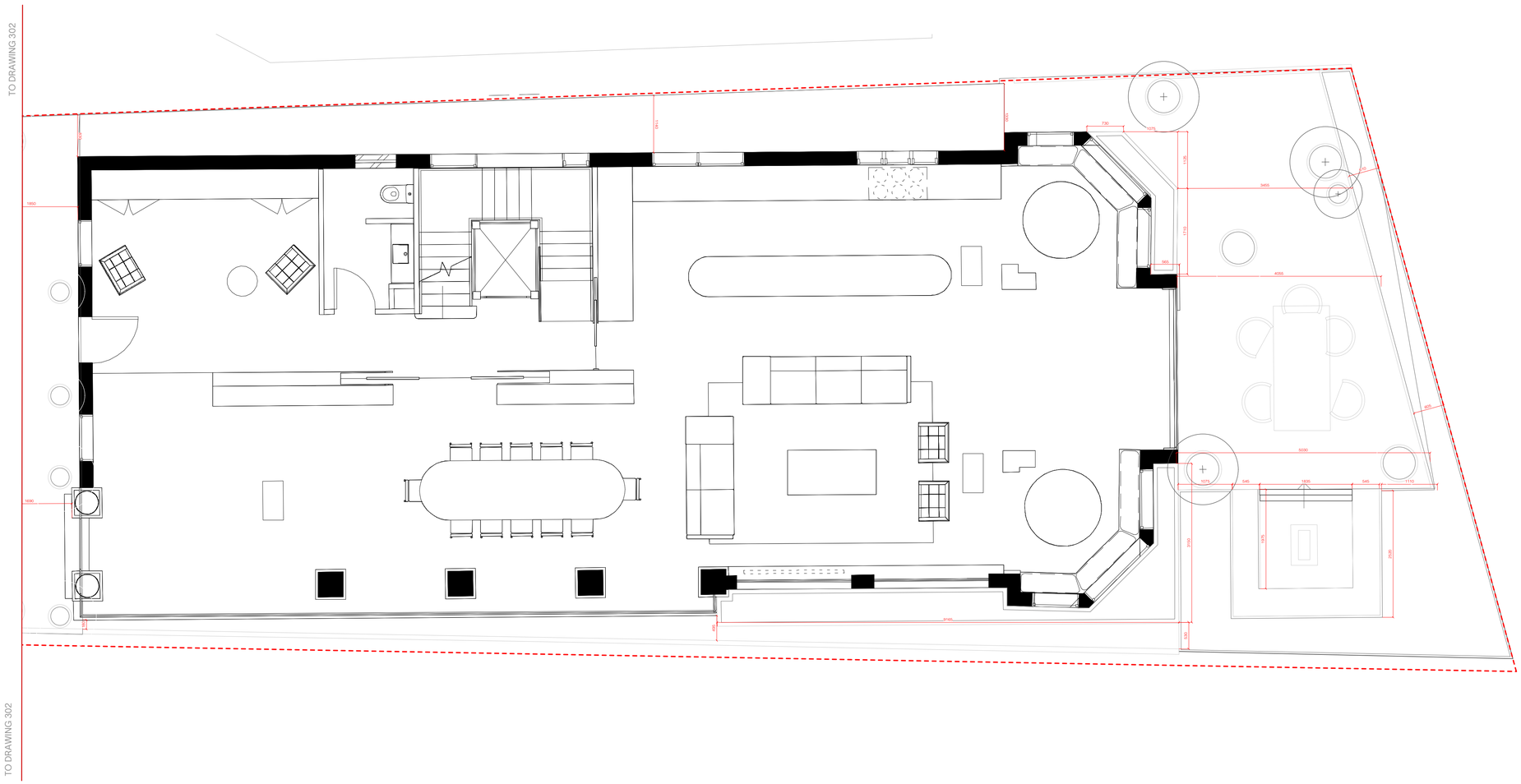
NORTH

DRAWING TITLE
Front Garden - Setout Plan

PROJECT NO	DRAWING NO
20019	302



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PROJECT
Lavender Bay

ADDRESS
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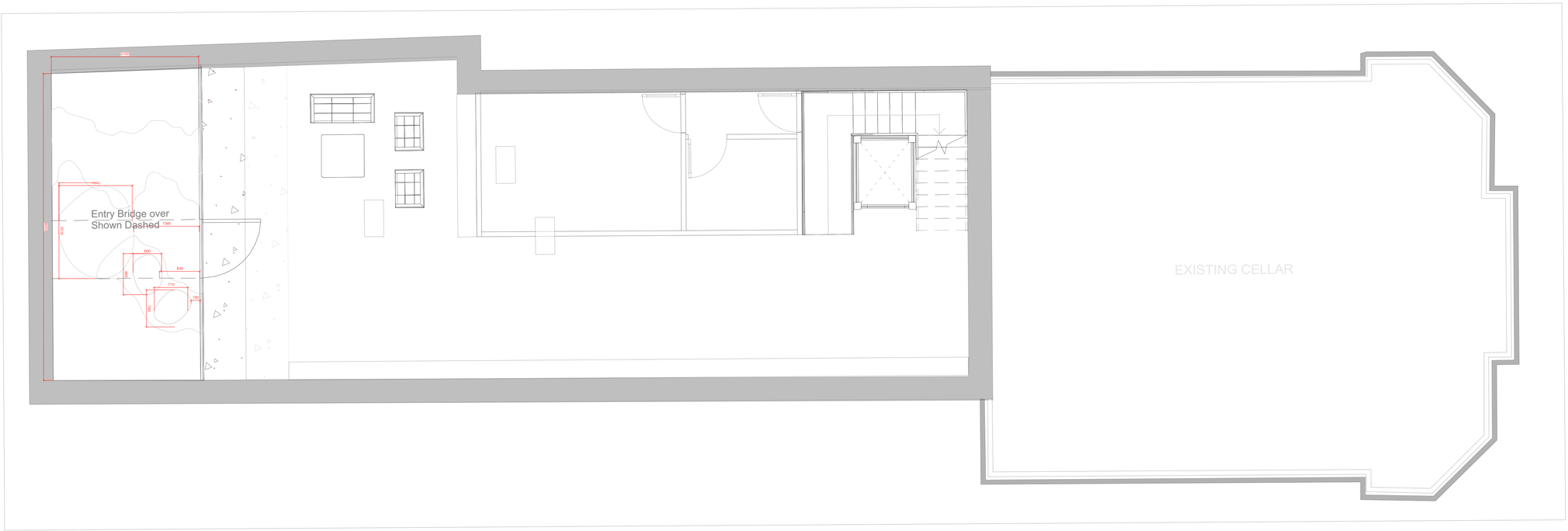
NORTH

DRAWING TITLE
Balcony Garden (Rear) - Setout Plan

PROJECT NO
20019

DRAWING NO
303



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PROJECT
Lavender Bay

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Lavender Bay

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NORTH

DRAWING TITLE
Basement Garden - Setout Plan

PROJECT NO	DRAWING NO
20019	304

TREES - PLANT LEGEND

ID	Quantity	Latin Name	Common Name	Scheduled Size	Mature Height	Mature Spread
AcSe	1	Acer palmatum 'Seiryu'	Japanese Maple	30cm pot	3 - 4.5m	2.4 - 3.6m
AlBa	1	Aloe barberae	Tree Aloe	40cm pot	6-8m	4m
BaMa	1	Banksia marginata	Silver Banksia	100L bag	3 - 5m	3.5 - 6m
BaSe	1	Banksia serrata	Old Man Banksia	100L bag	3 - 15m	2 - 4m
CiLe	1	Citrus limon 'Meyer Dwarf'	Citrus Lemon Meyer Dwarf	40cm pot	3	3
CyaCo	3	Cyathea cooperi	Scaly Tree Fern	20cm pot	1.5 - 10m	1 - 2m
CyRe	4	Cycas revoluta	Sago Palm	20cm pot	1.5 - 10m	1 - 2m
DoEx	1	Doryanthes excelsa	Gymea lily	30cm pot	2 - 4m	2 - 4m
HoFo	1	Howea forsteriana	Kentia palm	50cm pot	4 - 5m	4m
LaIn	1	Lagerstroemia indica	Crepe Myrtle	100L bag	4m	3m
PhRo	3	Phoenix roebelenii	Pygmy Date Palm	40cm pot	3.6-5 m	1.2-1.5m
TeMo	1	Telopea mongaensis	Waratah	40cm pot	1.5 - 2m	1 - 2m
	0					

SHRUBS - PLANT LEGEND

ID	Quantity	Latin Name	Common Name	Scheduled Size	Mature Height	Mature Spread
BaSp	7	Banksia spinulosa 'Birthday Candles'	Hairpin Banksia	20cm pot	0.75 - 0.9m	0.6 - 0.9m
AlCa	46	Alpinia caerulea	Native ginger	20cm pot	1 - 1.8m	0.8 - 1.2m
BaRo	3	Banksia robur	Swamp Banksia	30cm pot	1 - 2m	1 - 2m
BaRo-1	2	Banksia robur	Swamp Banksia	20cm pot	1 - 2m	1 - 2m
BaSe	2	Banksia serrata	Old Man Banksia	100L bag	3 - 15m	2 - 4m
BuSe	18	Buxus sempervirens	Common Boxwood		0.3 - 1.5m	0.3 - 1m
DoCa	46	Doodia caudata	Small Rasp-fern	30cm pot	0.3 - 0.6m	0.3 - 0.5m
DoEx	2	Doryanthes excelsa	Gymea lily	30cm pot	2 - 4m	2 - 4m
DrDr	1	Dracaena draco	Dragon Tree	60 cm pot - 1000 mm high	0.9 - 1.5m	0.9 - 1.2m
EcCa	6	Echium candicans	Pride of Madeira	20cm pot	0.9 - 1.5m	0.9 - 1.2m
PhXa	27	Philodendron xanadu	Philodendron	20cm pot	0.6 - 1.2 m	1.2 - 2.0 m
TeMo	4	Telopea mongaensis	Waratah	40cm pot	1.5 - 2m	1 - 2m
	0					

GRASSES - PLANT LEGEND

ID	Quantity	Latin Name	Common Name	Scheduled Size	Mature Height	Mature Spread
AlIm	3	Alcantarea imperialis	Imperial Bromeliad	20cm pot	1.5-2.5m	1.5m
AnRa	8	Anigozanthos 'Bush Rampage'	Bush Rampage Kangaroo Paw	14cm pot	0.45 - 0.6m	0.0 - 0.3m
CaGl	21	Casuarina Glauca	Cousin it	20cm pot	0.45 - 0.6m	0.6 - 0.9m
DiTa-1	24	Dianella tasmanica 'Cherry Red'	Red leaf lilly	20cm pot	0.6 - 1.0m	0.6 - 1.0m
ZoTe.	15	Zoysia tenuifolia	Korean Velvet Grass	14cm pot	0.45 - 0.6m	1m

GROUNDCOVERS - PLANT LEGEND

ID	Quantity	Latin Name	Common Name	Scheduled Size	Mature Height	Mature Spread
AlCa	4	Alpinia caerulea	Native ginger	20cm pot	1 - 1.8m	0.8 - 1.2m
BaRo	1	Banksia robur	Swamp Banksia	30cm pot	1 - 2m	1 - 2m
LoCo	5	Lomandra confertifolia	Mat Rush	14cm pot	0.7m	0.5m
PaQu	28	Parthenocissus quinquefolia	Virginia Creeper	14cm pot	3m	3m
PrPe-2	192	Pratia pedunculata	Matted Pratia	20cm pot	0.3 - 0.45m	0.3 - 0.6m
ThSe	69	Thymus pseudolanuginosus	White Creeping Thyme	14cm pot	3 - 5m	2.0 - 3.5m
WaGy	5	Wahlenbergia gymoclada	Naked Bluebell	14cm pot	0.1 - 0.8m	0.3m
ZoTe.	5	Zoysia tenuifolia	Korean Velvet Grass	14cm pot	0.45 - 0.6m	1m
	0					

FLOWERS - PLANT LEGEND

ID	Quantity	Latin Name	Common Name	Scheduled Size	Mature Height	Mature Spread
AnRa	5	Anigozanthos 'Bush Rampage'	Bush Rampage Kangaroo Paw	30cm pot	0.45 - 0.6m	0.0 - 0.3m
Hyqu	12	Hydrangea quercifolia	Oak leaf hydrangea	20cm pot	1.5m - 2.5m	2-2.5
KnFl	19	Kniphofia Flaming Torch	Torch Lily	20cm pot	0.45 - 0.6m	0.3 - 0.6m
LiPe	7	Limonium perezii	Sea Lavender	20cm pot	0.45 - 0.6m	0.3 - 0.6m
OzDi	26	Ozothamnus diosmifolius 'Coral Flush'	Rice Flower	20cm pot	0.6 - 0.75m	0.3 - 0.6m
RaIn	5	Raphiolepsis indica	Oriental Pearl	14cm pot - full in pot	0.0 - 0.3m	0.9 - 1.2m
RaUm	23	Rhaphiolepis umbellata	Yeddo Hawthorn	30cm pot	0.8-1m	0.8-1m
RhCb	1	Rhododendron catawbiense 'Boursault'	Catawba Rhododendron	20cm pot	1.4 - 4m	1.6 - 2.2m
SaLe	12	Salvia leucantha	Salvia White Velvet	14cm pot	1.2 - 1.5m	1.2 - 1.5m
VeOf	10	Verbena officinalis	Common Vervain	14cm pot	0.2m	0.6m
WaGy	5	Wahlenbergia gymoclada	Naked Bluebell	14cm pot	0.1 - 0.8m	0.3m

SUCCULENTS - PLANT LEGEND

ID	Quantity	Latin Name	Common Name	Scheduled Size	Mature Height	Mature Spread
AgBl	9	Agave 'Blue Glow'	Agave 'Blue Glow'	20cm pot	0.3 - 0.6m	0.6 - 0.9m
CrOv	14	Crassula ovata blue bird	Crassula Blue Bird	14cm pot	0.6-1m	0.6-1m

TOTAL TREES

Quantity	Scheduled Size
7	20cm pot
2	30cm pot
6	40cm pot
1	50cm pot
3	100L bag

TOTAL PLANTS

Quantity	Scheduled Size
149	14cm pot
253	20cm pot
1	30cm pot

AMENDMENTS

REV.	DESCRIPTION	DATE	BY
A	Planting Plan	26.11.20	sc

TOTAL TREES

Quantity	Scheduled Size
7	20cm pot
2	30cm pot
6	40cm pot
1	50cm pot
3	100L bag

TOTAL PLANTS

Quantity	Scheduled Size
149	14cm pot
253	20cm pot
1	30cm pot

Phillip Withers
284 Wellington Street,Collingwood, VIC 3066
(03) 9077 5989, info@phillipwithers.com

CLIENT
Tsai Architects / Jack Wu

PROJECT
Waiwera

ADDRESS
15 Waiwera Street
Lavender Bay

DATE: MONTH 19 | DRAWN BY: SC

PHASE: DA | REVISION: 1

SCALE | NORTH

DRAWING TITLE
Planting Schedule

PROJECT NO
20019

DRAWING NO
601

NOT FOR CONSTRUCTION

1 **Tree Plan - Sunken Garden**
1:50 @ A1

2 **Tree Plan - Front Garden**
1:50 @ A1

AMENDMENTS

REV.	DESCRIPTION	DATE	BY
A	Planting Plan	26.11.20	sc

Phillip Withers
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CLIENT
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PROJECT
Waiwera

ADDRESS
15 Waiwera Street
Lavender Bay

DATE: MONTH 19 | DRAWN BY: SC

PHASE: DA | REVISION: 1

SCALE
1:50

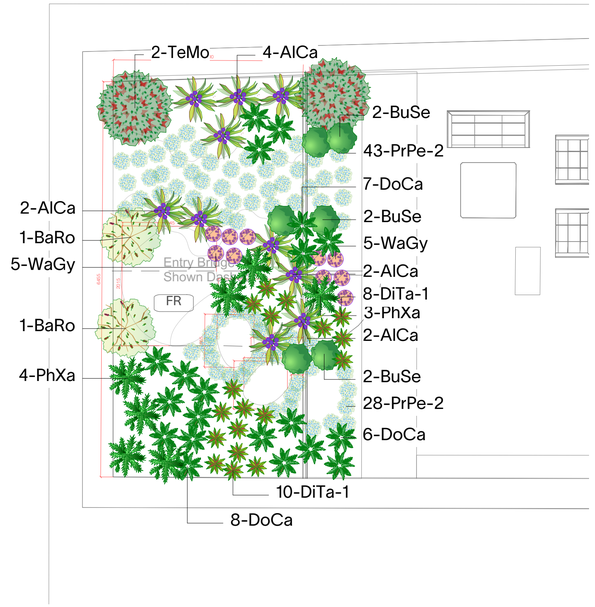
NORTH

DRAWING TITLE
Planting Plan - Trees

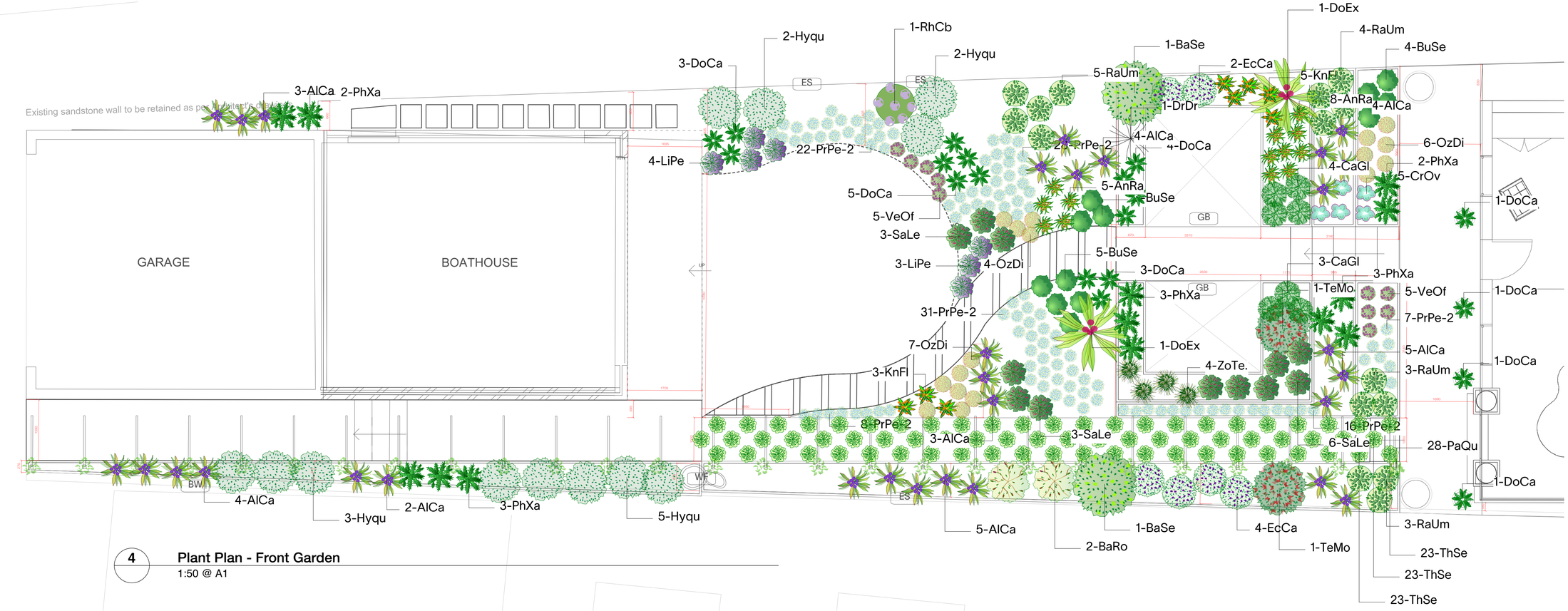
PROJECT NO
20019

DRAWING NO
603

NOT FOR CONSTRUCTION



3 Plant Plan - Sunken Garden
1:50 @ A1



4 Plant Plan - Front Garden
1:50 @ A1

AMENDMENTS

REV.	DESCRIPTION	DATE	BY
A	Planting Plan	26.11.20	sc

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PROJECT
Waiwera

ADDRESS
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Lavender Bay

DATE: MONTH 19 | DRAWN BY: SC
PHASE: DA | REVISION: 1

SCALE
1:50

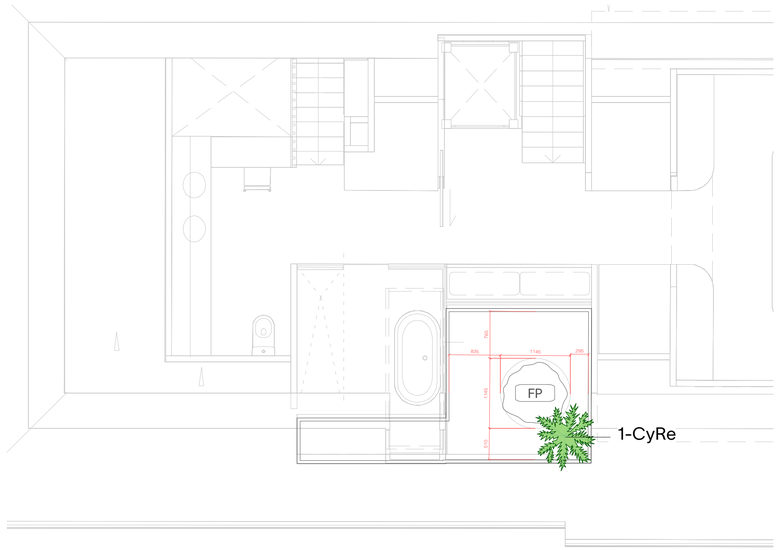
NORTH

DRAWING TITLE
Planting Plan - Plants

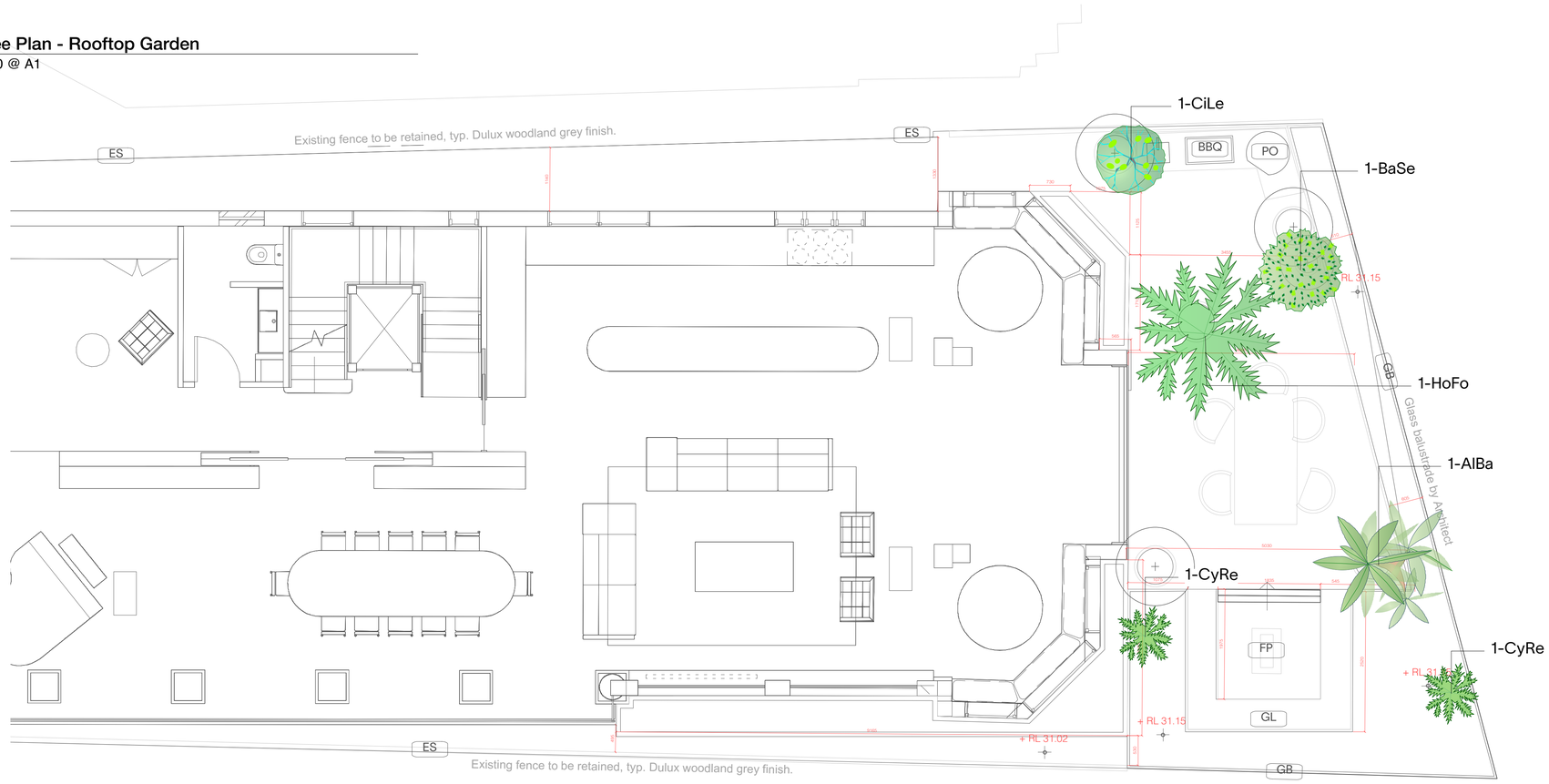
PROJECT NO
20019

DRAWING NO
603

NOT FOR CONSTRUCTION



3 **Tree Plan - Rooftop Garden**
1:50 @ A1



4 **Plant Plan - Balcony Garden**
1:50 @ A1

AMENDMENTS

REV.	DESCRIPTION	DATE	BY
A	Planting Plan	26.11.20	sc

NOT FOR CONSTRUCTION

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15 Waiwera Street
Lavender Bay

DATE: MONTH 19 | DRAWN BY: SC
PHASE: DA | REVISION: 1

SCALE
1:50

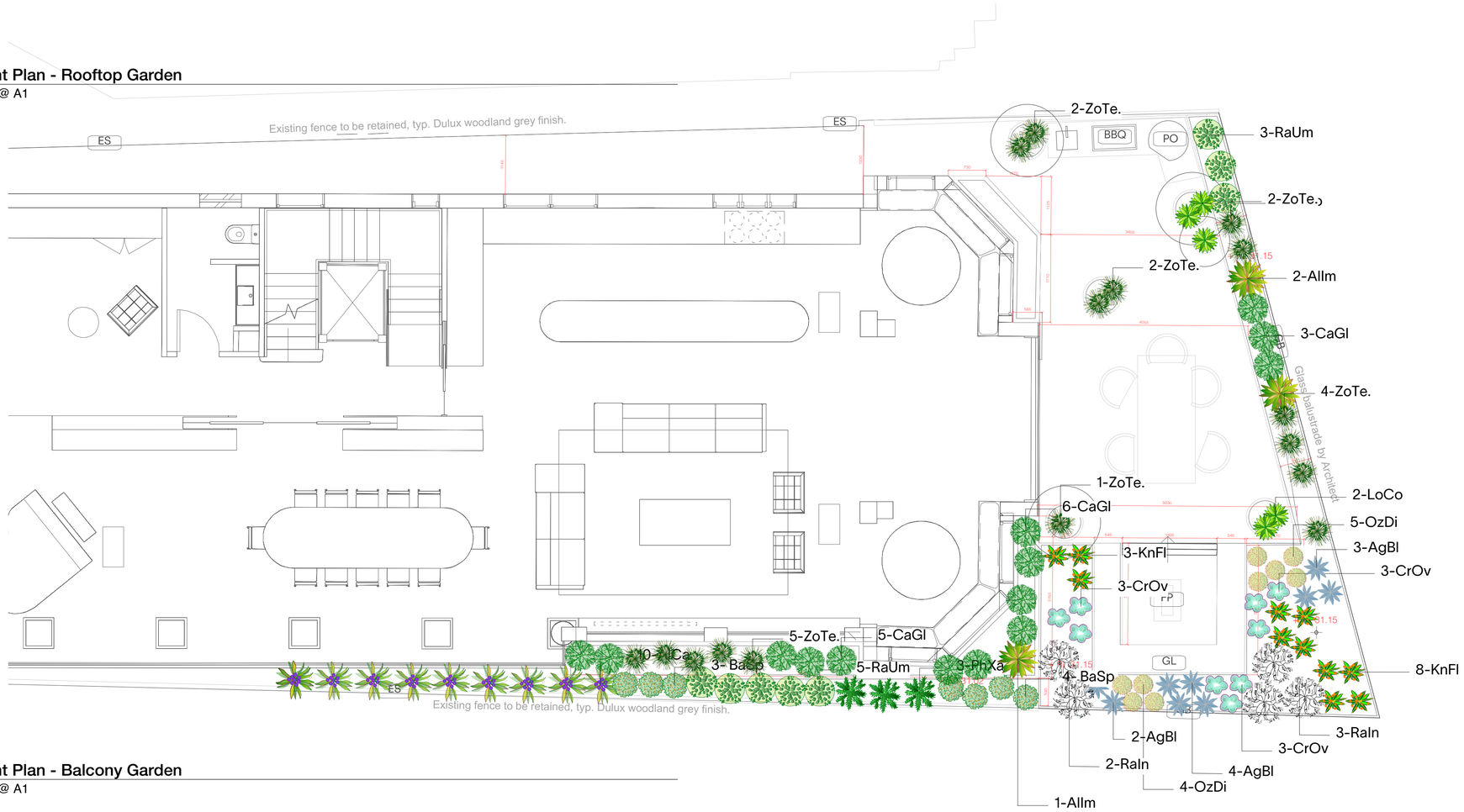
NORTH

DRAWING TITLE
Planting Plan - Trees

PROJECT NO
20019

DRAWING NO
603

5 Plant Plan - Rooftop Garden
1:50 @ A1



6 Plant Plan - Balcony Garden
1:50 @ A1

AMENDMENTS

REV.	DESCRIPTION	DATE	BY
A	Planting Plan	26.11.20	sc

NOT FOR CONSTRUCTION

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PROJECT
Waiwera

ADDRESS
15 Waiwera Street
Lavender Bay

DATE: MONTH 19 | DRAWN BY: SC
PHASE: DA | REVISION: 1

SCALE
1:50

NORTH

DRAWING TITLE
Planting Plan - Plants

PROJECT NO
20019

DRAWING NO
603

Tree Management Strategies

Arboricultural Impact Assessment

15 WAIWERA STREET,
LAVENDER BAY, NSW 2060.
1-12-20

Leigh Brennan
Tree Management Strategies

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Version: 1, Version Date: 19/01/2021

Contents

Summary

Leigh Brennan of Tree Management Strategies was commissioned by Tsai Design to provide an Arboricultural Impact Assessment on four trees at 15 Waiwera Street, Lavender Bay, NSW, 2060.

This report aims to:

- Assess the health and vitality of four trees at the subject site.
- Calculate the impact the proposed development will have on four trees at the subject site.
- Recommend the retention or removal of four trees on the subject site.

The Health, Condition, Retention Value and General data of Tree 1, 2, 3 and 4 is displayed in the Tree Data Schedule (Appendix 1).

The Developmental Impact Zones are shown in the Tree Impact Plan (Appendix 2) and detailed in the Observation/Impacts (Section 3) of this report.

Conclusion

Tree 1, 2, 3 and 4 have major incursions to their Structural Root Zone (SRZ) and Tree Preservation Zone (TPZ) by the proposed development that requires their removal.

The Landscape Plan prepared by Phillip Withers proposes the planting of 2 x Banksia serrata, 1 x Acer seiryu, 1 x Laegerstromia comanche, 3 x Cyathea cooperi and 1 x Howea forsteriana that adequately compensates for the Tree removals.

Recommendations

Remove Trees 1, 2, 3 and 4 to support the proposed development. Tree removal work to be undertaken in accordance with the relevant Australian Standard for the Pruning of Amenity Trees, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).

1. Introduction

Leigh Brennan of Tree Management Strategies was commissioned by Tsai Design to provide an Arboricultural Impact Assessment on four trees at 15 Waiwera Street, Lavender Bay, NSW, 2060 (Figure 1). North Sydney Council is the consenting authority for the proposed development.

The proposed development includes alterations and additions to the current building.

No Trees on adjoining sites are impacted by the proposed development.

This report aims to:

- Assess the health and vitality of four trees at the subject site.
- Calculate the impact the proposed development will have on four trees at the subject site.
- Recommend the retention or removal of four trees on the subject site.

Figure 1: Locality map of the subject site, highlighted in red.

2. Method

2.1 Site Assessment

From the ground, the following information was recorded and displayed in the Tree Data Schedule (Appendix 1) of this report.

- Tree genus and species.
- Approximate height spread if deemed applicable.
- Trunk diameter at breast height and above the buttress.
- Age class: young, semi mature, mature, over mature.
- Health.
- Condition.

Observations were recorded and photographed.

2.2 Research

The following legislation, documents or websites were reviewed:

- The Australian Standard for the Protection of Trees on Development Sites (AS 4970 – 2009).
- North Sydney Council Development Control Plan 2013.
- North Sydney Council Local Environmental Plan 2013.

2.3 Tree Schedule Method

Following the VTA, figures were used to add additional information to the Tree Data Schedule (Appendix 1) with the methods explained below:

Tree Health

Overall Health (Vigour/Vitality)	Tree vigour is exhibited by crown density, crown cover, leaf colour, leaf size, leaf texture, presence of epicormic growth, ability to withstand predation by pest and disease, resistance and degree of dieback.
Good (Excellent)	Good tree vigour exhibited by no decline in overall health and vigour, height and shape. The specimen is observed to be of excellent condition displaying characteristics that is known for that particular species (what would be the expected condition for that particular species of that age in that location), 0% dieback, full crown density, leaf health, no pest or disease present.
Fair	Fair tree vigour exhibited by moderate decline in overall health and vigour, height and shape. The specimen is observed to be of moderate condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), less than 10% dieback, 90% of crown foliage density, more than 90% leaf health, acceptable level of pest or disease is evident for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).
Fair/Poor	Fair to poor tree vigour exhibited by considerable decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 10-20% dieback, considerable foliage deficiencies, 70-90% foliage density, 70-90% leaf health, pest or disease infestation at acceptable thresholds for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).
Poor	Poor vigour exhibited by substantial decline in overall health and vigour, height and shape. The specimen is observed to be of poor condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 20-30% dieback, considerable

	foliage deficiencies, 50-70% leaf health, pest or disease infestation at unacceptable infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).
Very Poor	Very poor vigour exhibited by irreversible decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 15-50% dieback; severe foliage deficiencies; 30-50% density; 30-50% leaf health; pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).
Dead	Dead tree vigour exhibited by complete decline in overall health and vigour, height and shape. The specimen is observed to be dead by not displaying any characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), tree holds less than 15% foliage; branching is dead throughout canopy, pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).

Tree Condition

Overall Condition (Structure/Stability)	The tree condition as identified by the arborist in regard to defects in structure and stability.
Good (Exceptional specimen)	No damage or decay observed to the root plate, visible basal and /or root flare, stable in ground, well tapered branches with sound open unions. All characteristics within thresholds for the assessing arborist.
Fair (Standard tree – no observable major defects to suggest that there is an increased likelihood of tree or part of tree failure)	Minor damage or decay observed to root plate, trunk or primary branches or branch unions (1st or 2nd branch order or scaffolding branch), well-formed branch unions, minor branch end weight or over-extensions within thresholds for the assessing arborist.
Fair/Poor	Moderate damage or decay observed to root plate, trunk or primary branches or branch unions (1st or 2nd branch order or scaffolding branch); minimal basal/root flare; acute branch; past branch failure(s); moderate branch end-weight or over-extension approaching thresholds for the assessing arborist.
Poor	Major damage or decay observed to root plate, trunk or primary branches or branch unions (1st or 2nd branch order or scaffolding branch) no observable basal and /or root flare; acute branch unions starting to include bark; major branch end-weight or over-extension at or exceeds thresholds for the assessing arborist.
Very Poor	Excessive damage or decay observed to root plate, trunk, primary branch or branch unions (1st or 2nd branch order or scaffolding branch), excessive decay or hollows compromising the structural integrity, unstable in ground, excessive branch end-weight, included-bark unions, exceeding thresholds for assessing arborist. Failure probable.
Failed	Failure of root plate or trunk or primary branch or branch unions (1st or 2nd branch order or scaffolding branch) or active split between branch unions or severe damage to primary tree structure.

2.4 Tree Retention Value Method

IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

Tree Significance - Assessment Criteria

High Significance in landscape

- The tree is in good condition and good vigour. The tree has a form typical for the species.
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered Ecological Community or listed on a council's Significant Tree Register.
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - tree is appropriate to the site conditions.

Medium Significance in landscape

- The tree is in fair-good condition and good or low vigour.
- The tree has form typical or atypical of the species.
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area.
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street.
- The tree provides a fair contribution to the visual character and amenity of the local area.
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour.
- The tree has form atypical of the species.
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings.
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area.
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen.
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - tree is inappropriate to the site conditions.
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms.
- The tree has a wound or defect that has potential to become structurally unsound.
- Environmental Pest/Noxious Weed Species.
- The tree is an Environmental Pest Species due to its invasiveness or poisonous/allergenic properties.
- The tree is a declared noxious weed by legislation.
- Hazardous and or Irreversible Decline.
- The tree is structurally unsound and/or unstable and is considered potentially dangerous.
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a mono-cultural stand in entirety.

Useful Life Expectancy (ULE)

Useful life expectancy (SULE) is a measure of a trees remaining lifespan regarding its health, condition and locality ULE categories were measured as:

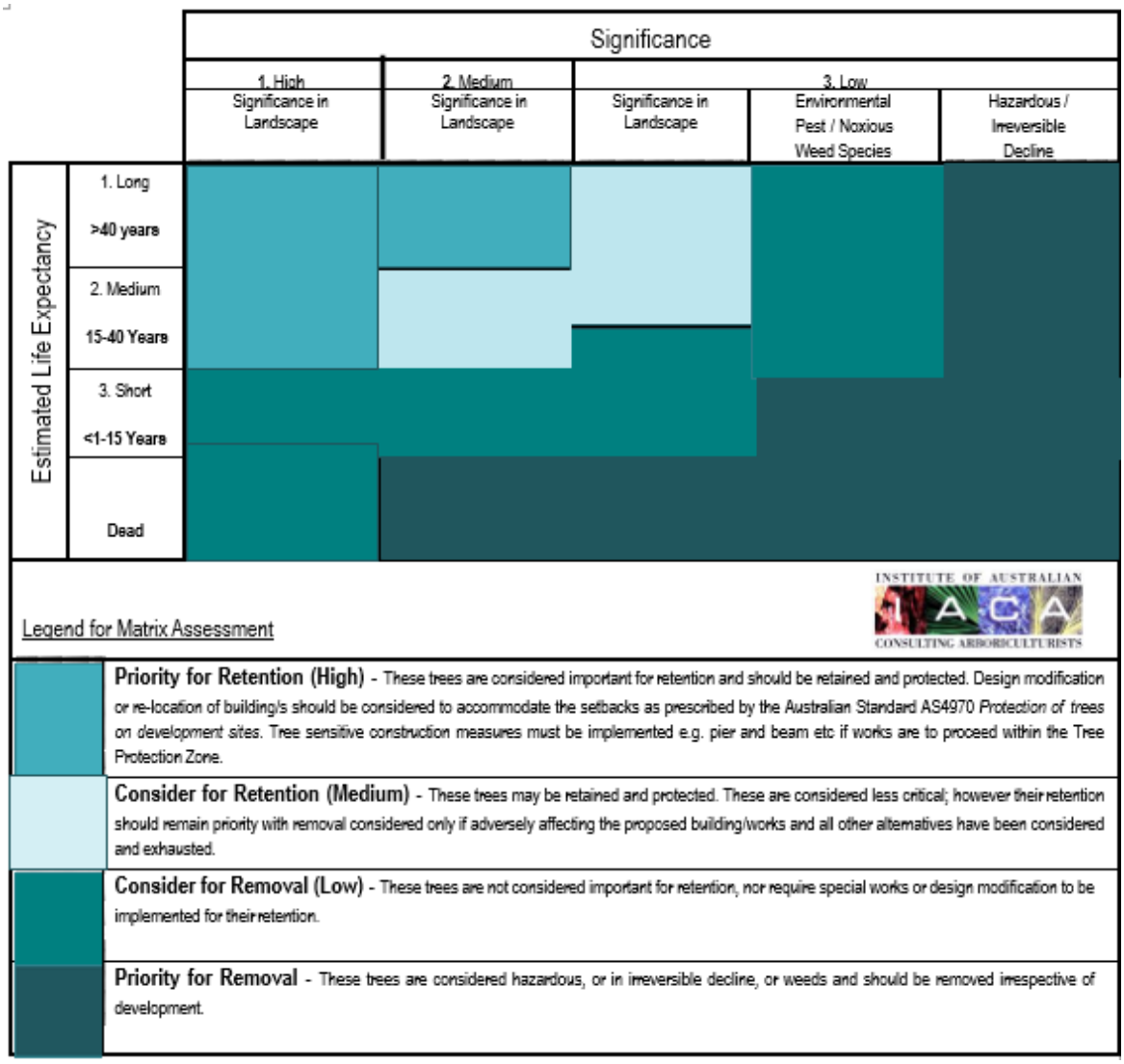
a) Long (greater than 40 years)

b) Medium (between 15 and 40 years)

c) Short (between 1 and 15 years)

d) Dead

Tree Retention Value - Priority Matrix



REFERENCES

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturist (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

2.5 Tree Protection Zone and Structural Root Zone Method

Following the VTA, figures were used to add additional important information to the Tree Data (Section 3) with the methods explained below:

The Structural Root Zone (SRZ) is the area around the base of a tree required for its stability. The woody root growth and soil cohesion in this area are necessary to hold the tree upright; therefore, there are no variations to its size. The SRZ is normally circular with the trunk at its centre and is expressed by its radius in metres (AS – 4970). Due to the potential of causing instability of a tree, it is highly recommended that no roots within its SRZ are pruned or removed. SRZ, which is the area required for tree stability, was calculated as follows: SRZ radius = (D x 50) 0.42 x 0.64.

The Tree Protection Zone (TPZ) is the principle means of protecting trees on development sites. The TPZ is a combination of the root area and crown area that requires protection. It is an area isolated from construction disturbance, so that the tree remains viable (AS – 4970). The radius of the TPZ is calculated for each tree by multiplying its DBH x 12. TPZ = DBH x 12 (DBH = trunk diameter measured at 1.4m above ground level). The radius of the TPZ is measured from COT (Centre of the trunk).

Variations to the Tree Protection Zone (TPZ)

General
It may be possible to encroach into or make variations to the standard TPZ. Encroachment Includes excavation, compacted fill and machine trenching.

Minor encroachment
If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. Variations must be made by the project arborist considering relevant factors. The figures in (Appendix 3) demonstrate some examples of possible encroachment into the TPZ up to 10% of the area.

Major encroachment
If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors listed in the Clause.

3. Observations/Impacts

The Health, Condition, Retention Value, General data and photographs of Tree 1-4 is displayed in the Tree Data Schedule (Appendix 1).

The Developmental Impact Zones are shown in the Tree Impact Plan (Appendix 2) and detailed below.

Tree 1

Tree 1 is given a Low retention value as per IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) © and has a total incursion to its SRZ and TPZ by the proposed Permeable Concrete Pathway, refer to the Tree Impact Plan (Appendix 2).

Design modifications and Tree Sensitive construction:

N/A

Tree Protection measures:

N/A

Conclusion:

Tree 1 is a low retention valued tree and should be removed to support the proposed development.

Recommendation:

Remove Tree 1

Tree 2

Tree 2 is given a low retention value as per IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) © and has a total incursion to its SRZ and TPZ by the proposed new Sunken Courtyard and Permeable Concrete Pathway, refer to the Tree Impact Plan (Appendix 2).

Tree Sensitive construction:

N/A

Design modifications and Tree Sensitive construction:

N/A

Conclusion:

Tree 2 is a low retention valued tree and should be removed to support the proposed development.

Recommendation:

Remove Tree 2

Tree 3

Tree 3 is given a low retention value as per IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©. Tree 3 has a total incursion to its SRZ and TPZ by the proposed Sunken Courtyard, refer to the Tree Impact Plan (Appendix 2).

Design modifications and Tree Sensitive construction:

N/A

Tree Protection measures:

N/A

Conclusion:

Tree 3 is a low retention valued tree and should be removed to support the proposed development.

Recommendation:

Remove Tree 3.

Tree 4

Tree 4 is given a medium retention value as per IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©:

- The tree is in fair-good condition and good or low vigour.
- The tree has form typical or atypical of the species.
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area.
- Safe Useful Life expectancy is Medium (between 15 and 40 years)

Tree 4 is not visually prominent within the locality and its growth is moderately restricted by its current location.

Tree 4 has a total incursion to its TPZ by the proposed Sunken Courtyard and basement excavation, refer to the Tree Impact Plan (Appendix 2).

Design modifications and Tree Sensitive construction:

Design modifications were explored and deemed unachievable and unfeasible.

Tree Protection measures:

N/A

Conclusion:

Tree 4 has a major incursion to its TPZ by the proposed development that requires its removal.

The Landscape Plan prepared by Phillip Withers proposes the planting of 2 x Banksia serrata, 1 x Acer seiryu, 1 x Laegerstromia comanche, 3 x Cyathea cooperi and 1 x Howea forsteriana to adequately compensate for the removal of Tree 4.

Recommendation:

Remove and Replace Tree 4

4. Referenced Documents

Plans that were referred to for this report include:

Plan Title	Drawing Number	Consultant	Revision	Job/ Number
Architectural Plans	DA00- DA26	Tsai Design		2001
Tree Impact Plan	Lav.Tip.01	Tree Management Strategies	27-11-20	
Landscape Design		Phillip Withers		

No civil service plans were reviewed as part of this assessment.

5. Conclusions & Recommendations

Conclusion

Tree 1, 2, 3 and 4 have major incursions to their Structural Root Zone (SRZ) and Tree Preservation Zone (TPZ) by the proposed development that requires their removal.

The Landscape Plan prepared by Phillip Withers proposes the planting of 2 x Banksia serrata, 1 x Acer seiryu, 1 x Laegerstromia comanche, 3 x Cyathea cooperi and 1 x Howea forsteriana that adequately compensates for the Tree removals.

Recommendations

Remove Trees 1, 2, 3 and 4 to support the proposed development. Tree removal work to be undertaken in accordance with the relevant Australian Standard for the Pruning of Amenity Trees, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).

6. References

Shigo, A., 1986, A New Tree Biology and Dictionary: facts, photos, and philosophies on trees and their problems and proper care, Snohomish, WA

Council of Standards Australia (August 2009)
The Australian Standard for the Protection of Trees on Development Sites (AS 4970 – 2009).

Harris, R., Clark, J., Matheny, N., 2003, Integrated Management of Landscape Trees, Shrubs, and Vines, fourth edition, Prentice Hall, Australia

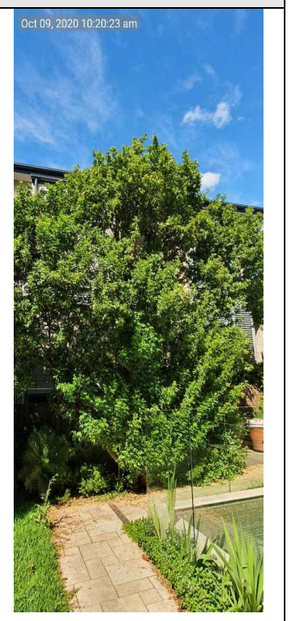
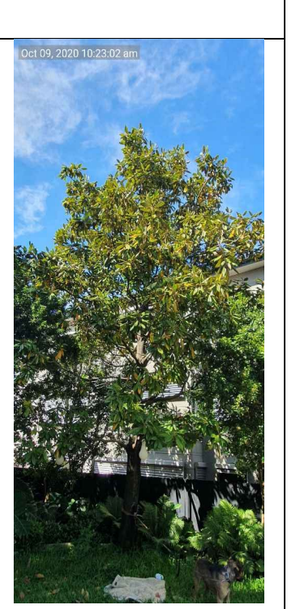
IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

7. Appendices

Appendix 1: Tree Data Schedule

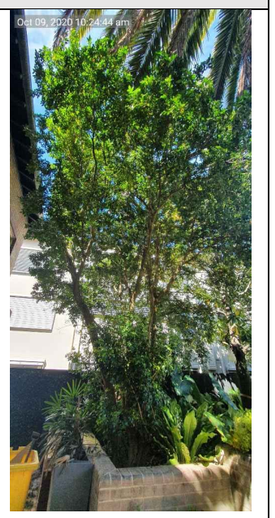
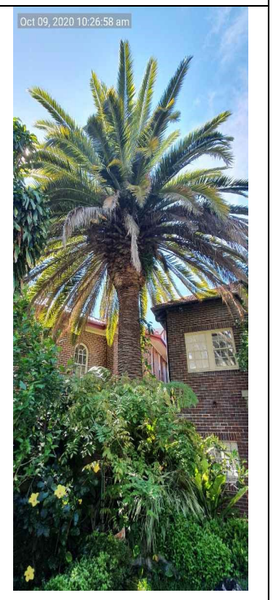
Tree Management Strategies

TREE DATA SCHEDULE P2

No	Genus-species	Common Name	DAB metres (radius) Above Buttress	DBH metres (radius) Breast Ht	SRZ (radius) Metres	TPZ (radius) Metres	Height Metres	Age Young, Semi-Mature, Mature Over Mature	Canopy Spread (Metres) (radius)	SRZ incursion %	TPZ incursion %	Health Good Fair Fair/Poor Poor Failed	Condition Fair Fair/Poor Poor Failed	Useful Life Expectancy High Medium Low	Landscape significance High Medium Low	Retention value High Medium Low	Photo
1	Murray paniculata	Murraya	0.30	0.25	2.00	3.00	6.00	Mature	4.00	Total	Total	Good	Fair/Poor	Medium	Low	Low	
2	Magnolia grandiflora	Bull Bay Magnolia	0.42	0.32	2.30	3.84	12.00	Mature	5.00	Total	Total	Fair	Fair	Medium	Medium	Medium	

Tree Management Strategies

TREE DATA SCHEDULE P2

No	Genus-species	Common Name	DAB metres (radius) Above Buttress	DBH metres (radius) Breast Ht	SRZ (radius) Metres	TPZ (radius) Metres	Height Metres	Age Young, Semi-Mature, Mature Over Mature	Canopy Spread (Metres) (radius)	SRZ incursion %	TPZ incursion %	Health Good Fair Fair/Poor Poor Failed	Condition Fair Fair/Poor Poor Failed	Useful Life Expectancy High Medium Low	Landscape significance High Medium Low	Retention value High Medium Low	Photo
3	Murray paniculata	Murraya	0.31	0.22	2.02	2.64	6.00	Mature	3.00	Total	Total	Fair	Fair/Poor	Medium	Low	Low	
4	Phoenix canariensis	Date Palm	N/A	N/A	N/A	3.00	14.00	Mature	4.00	N/A	Total	Fair	Fair	High	Medium	Medium	

Appendix 2: Tree Impact Plan

Legend

- Canopy Line
- TPZ - Tree Protection Zone
- SRZ - Structural Root Zone
- Incursion Zone

Retention Value

- Medium
- Low

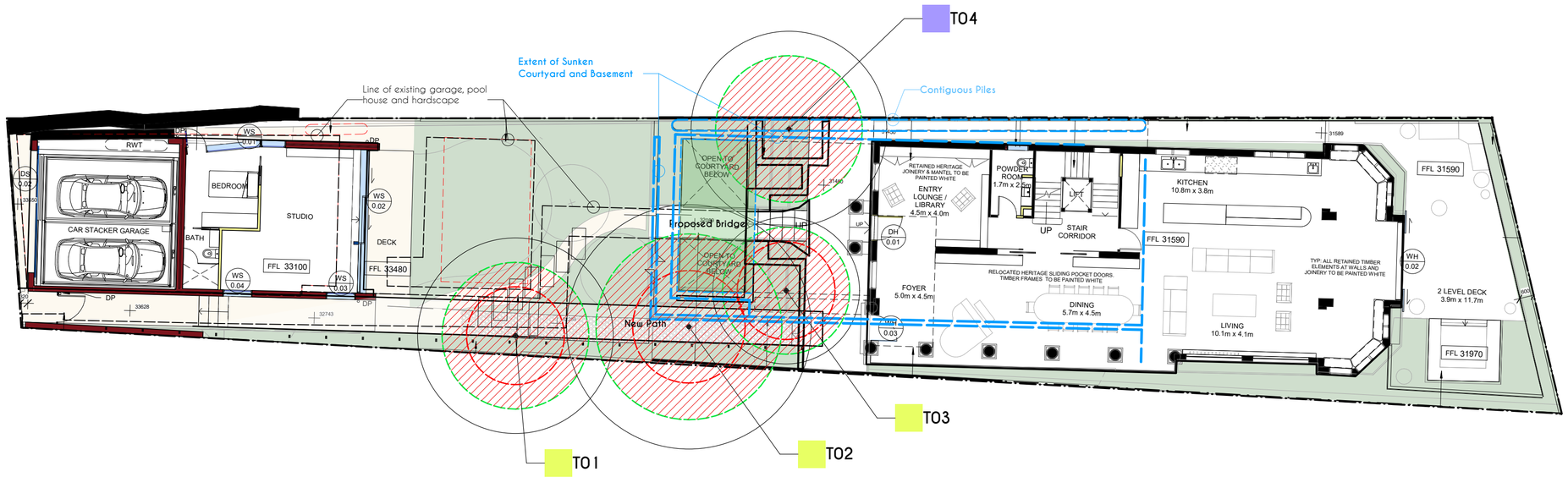
Incursion

T01
Total Path Incursion

T02
Total Sunken Courtyard and Path Incursion

T03
Total Sunken Courtyard Incursion

T04
Total Sunken Courtyard Incursion



0 20 30 40 50 M

N

Tree Management Strategies

DATE:	1/12/2020	DWG: LaVTIP.01	REVISION: 01	SCALE @ A2	1:150	DRAWN	Mark Hill

CLIENT: 15 Waiwera st,

ADDRESS: Lavender Bay

PLAN TITLE: Tree Impact Plan

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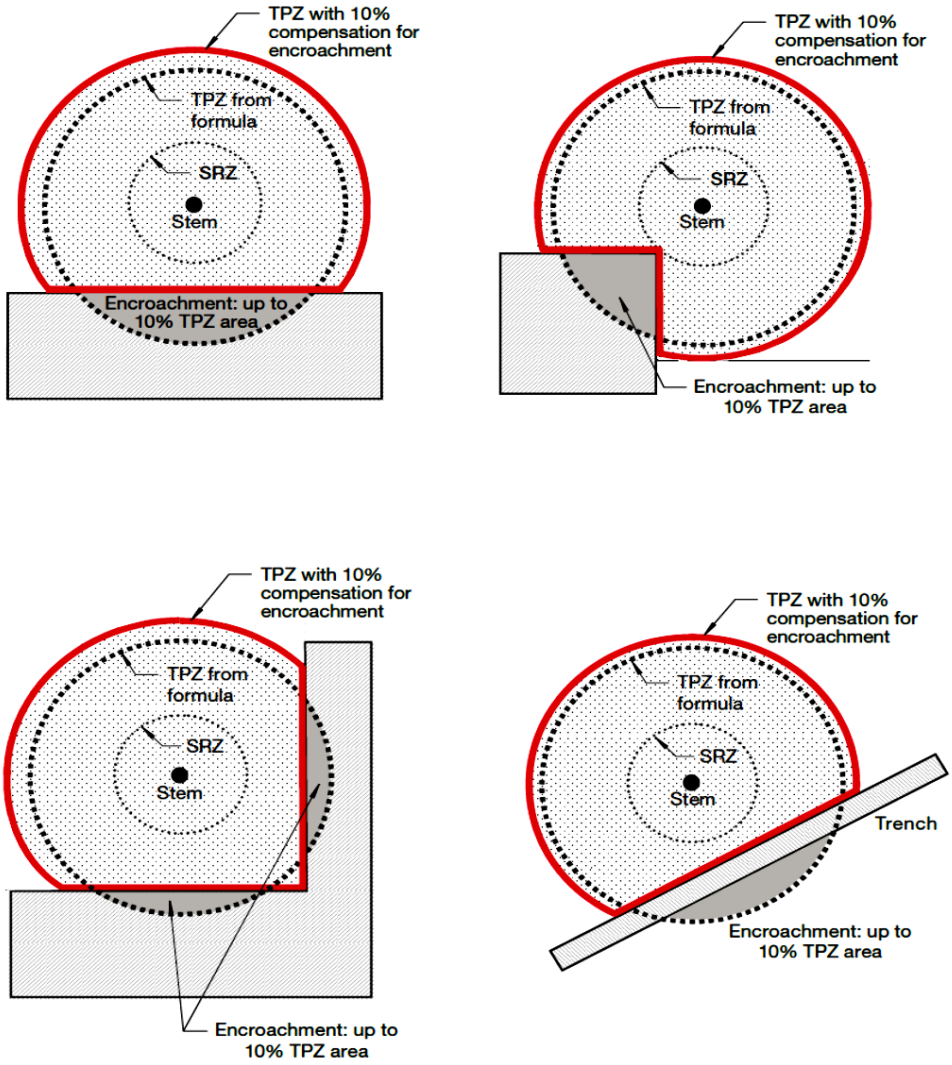
Appendix 3: Encroachment Examples

ENCROACHMENT INTO TREE PROTECTION ZONE

(Informative)

Encroachment into the tree protection zone (TPZ) is sometimes unavoidable. Figure D1 provides examples of TPZ encroachment by area, to assist in reducing the impact of such incursions.



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

FIGURE D1 EXAMPLES OF MINOR ENCROACHMENT INTO TPZ