APRIL 30, 2026

AMENDED ROOT MAPPING INVESTIGATION

PREPARED FOR MHR LINDFIELD INVESTMENTS PTY LTD
ATF MHR LINDFIELD TRUST
24,26, & 28 MIDDLE HARBOUR ROAD, LIND FIELD

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Table of Contents

Appendix C. Amended Root Mapping Investigation – 24,26,&28 Middle Harbour Road, Lindfield

1. Introduction

Root mapping was conducted on 8,9,and 10th September 2025. Lee Hancock Consulting Arborist Level 5 in the company of Complete Arbor Care Level 5 Arborists to investigate the location of woody roots greater than 30mm of trees identified *Syncarpia glomulifera* (Turpentine) numbered 11,15,16,18 & 18A , specifically identified as STIF-protected Turpentine trees. Trees contribute to the "Trafalgar Avenue HCA" (Heritage Conservation Area).

1.1 The Root mapping is an investigative process used to determine the presence, location, depth and spread of tree roots within a site. It provides accurate ,non-destructive information about how tree roots interact with built structures, underground services, or proposed development areas.

1.2 Root mapping provides accurate information only in the excavated areas. Roots may still be present in other parts of the site that were not investigated. Soil conditions, site access, and existing structures may have restricted full exploration in some areas.

2. Aim

The purpose of root mapping is to identify potential conflicts between trees and infrastructure, assist in the preparation of development applications and support arboricultural or engineering decisions. By locating roots in three dimensions, the investigation helps establish the likely origin of roots, assess their structural or physiological significance to the tree, and provide evidence- based recommendations for management.

3. Scope of Report

This report documents the methodology, findings, and interpretations from the root mapping investigation carried out at 28 Middle Harbour Road, Lindfield, focusing on specific trees 11,15,16,18 &18A *Syncarpia glomulifera* (Turpentine) Sydney Turpentine-Ironbark Forest (STIF). The information gathered is intended to guide decision-making regarding tree retention and protection, in accordance with AS4970 *Protection of Trees on Development Sites* 2025 and local planning requirements.

4. Discussion & Findings

Root Distribution Trees 11,15,16, 18 &18A

Roots were located at depths ranging from 10mm – 5mm below ground level. No woody structural roots greater than 30 mm were encountered. Roots were identified extending towards south indicating the size of feeder root less than 30mm will not be impacted upon by the proposed basement.

4.1 Roots varied in diameter from fine feeder roots (<5 mm) to structural roots (>200 mm) Tree 18 . One large structural root was observed extending in the direction of the proposed building, confirming that the tree relies on these roots for anchorage and stability.

4.2 Based on direction, size, and continuity, roots were attributed to *Syncarpia glomulifera* (Turpentine). No evidence of root intrusion from unrelated or off-site trees was identified.

4.4 Root mapping trenches were established at targeted locations based on site constraints and areas of concern.

Excavation was carried out using an air spade (compressed air tool) to safely remove soil while avoiding damage to roots. In areas where the air spade was unsuitable, hand excavation was used to carefully expose root structures.

4.5 Root Identification and Recording

Exposed roots were measured for diameter, depth, and orientation relative to fixed site reference points

The presence and direction of roots were documented to determine their likely origin and functional significance to the tree.

Roots were traced back where possible to confirm their association with the subject tree(s).

4.6 Mapping and Documentation

The location of roots was plotted using site plans, photographs, and measured offsets from known reference points.

- Root positions were recorded in both plan and depth to provide a three-dimensional understanding of root distribution.

4.7 Standards and Guidelines

All works were conducted in accordance with AS 4970–2025 Protection of Trees on Development Sites, relevant arboricultural industry practices, and local council requirements.

5. Images

Tree 11. *Syncarpia glomulifera* (Turpentine)

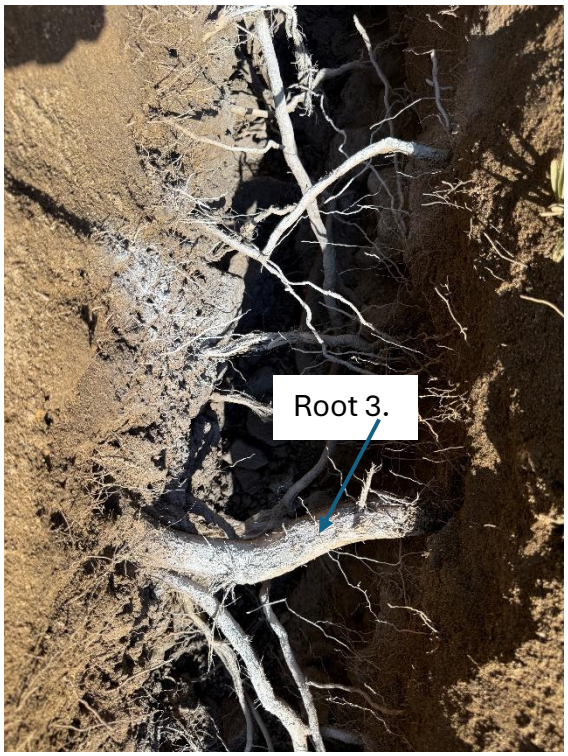
Root Number	Distance to the Top of root in a trench depth of 600mm Offset 4.5m from front boundary 6.7m Length	Root Diameter	Measurement from Tree 11 metres linear distance from centre of trunk.
Root 1.	250mm	20mm	4.5m
Root 2.	150	15m	4.85m
Root 3.	300mm	10m	5.18m
Root 4	500mm	3mm Feeder roots	6.1m
Root 5	400mm	15mm	6. 3m
Root 6	300mm	10mm feeder roots	6.4m
Root 7	500 – 600mm	5mm Feeder roots	6.7m

Tree 11. ***Syncarpia glomulifera*** **(Turpentine)**

Tree 15. *Syncarpia glomulifera* (Turpentine)

Root Number	Distance to the Top of root in a trench depth of 600mm Trench length 6.7m	Root Diameter	Measurement from Tree 15 metres linear distance from centre of trunk
Root 1.	200-300mm	Feeder roots	4.4m
Root 2.	400mm	Feeder roots	4.1m
Root 3.	410mm	25mm	3.6m
Root 4	4500mm	Feeder roots	3.7m
Root 5	500mm	Feeder roots	3.8m
Root 6	500mm	Feeder Roots	3.9m
Root 7	500-600mm	Feeder Roots	4.0m

Tree 15. *Syncarpia glomulifera* (Turpentine)



Tree 16. *Syncarpia glomulifera* (Turpentine)

Root Number	Distance to the Top of root in a trench depth of 600mm 7m	Root Diameter	Measurement from Tree 16 metres linear distance from centre of trunk
Root 1.	150mm	20mm	4.3m
Root 2.	200mm	30mm	3.5m
Root 3.	100mm	25mm	Historically Cut and Dead Refer Figure 1.
Root 4	5mm	Feeder roots	4m

Tree 16 & Tree 18 are within 3m of each other the root mapping findings, it was assumed that roots 1 – 4 belonged to Tree 16. Roots 5 – 8 belonged to Tree 18.

Tree 16

Disconnected pipe where dead root was enclosed in.

Tree 16

Feeder roots

Feeder roots

Figure 1. Dead Root 30mm

Tree 18. *Syncarpia glomulifera* (Turpentine)

Root Number	Distance to the Top of root in a trench depth of 600mm 7m	Root Diameter	Measurement from Tree 18 metres linear distance from centre of trunk
Root 5	100mm	Outside SRZ structural root 200mm	4m
Root 6	600mm	20mm	3.9m
Root 7	400mm	20mm	3.9m
Root 8	350mm	15mm 30mm	Existing connected pipe 4m

Tree 16 &18 7m trench 600mm depth

Tree 18 Root 5. 200mm in diameter

Tree 18A. *Syncarpia glomulifera* (Turpentine) Entrance to residence.

Root Number	Distance to the Top of root in a trench depth of 600mm 2m length	Root Diameter	Measurement from Tree 18 metres linear distance from centre of trunk
Root 1.	Nil roots	Nil	4.3 m
Root 2.	Nil roots	Nil	3.5m
Root 3.	Nil roots	Nil	3.9mm
Root 4	Feeder roots	Feeder Roots	3.9mm
Root 5	500mm	Feeder roots	3.9mm

Tree 18 A. Trench to 2m length 600mm depth

6. Conclusion

The root mapping investigation at 28 Middle Harbour Road, confirmed the presence of minor roots less than 30mm were found associated with Trees 11,15,16,18 & 18 A. *Syncarpia glomulifera* (Turpentine) within the study area. Tree 18 *Syncarpia glomulifera* (Turpentine) roots were observed at varying depths and orientations, with one structural root 200mm in diameter extending towards basement area of proposed works.

Tree 18A *Syncarpia glomulifera* (Turpentine)

6.1 Trench was dug to 600mm 2m wide, the trench was located at the bottom step front entrance of site, it was only feasible to this distance as the building envelope prevented further investigations. No roots of any significance were encountered.
Retain the subject trees 11,15,16 &18, root mapping investigations has found that trees will not be adversely affected by the proposed development and will be protected throughout all stages of the development in accordance with AS 4970–2025 *Protection of Trees on Development Sites*.

6.2 It is recommended that Tree 18 is retained, the presence of significant roots within the Tree Protection Zone (TPZ) is minimal with only one root measuring 200mm in diameter, amending the Pier Beam footing to suspended cantilever slabs without piers not requiring any support from the ground, avoiding any excavations within the tree protection zone. Ensuring the retention and long-term viability of the tree.