BEFORE THE INDEPENDENT HEARING PANEL
APPOINTED BY HAMILTON CITY COUNCIL

IN THE MATTER	of the Resource Management Act 1991 (**Act**)
AND	
IN THE MATTER	of hearing submissions on Plan Change 5 to the Hamilton City District Plan
BETWEEN	**THE ADARE COMPANY LIMITED** **Submitter #53**
AND	**HAMILTON CITY COUNCIL** **Local authority**

EVIDENCE IN CHIEF OF RAYMOND O'CALLAGHAN FOR THE ADARE COMPANY LIMITED

ENGINEERING

16 SEPTEMBER 2022

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SUMMARY OF EVIDENCE

1. My name is Raymond O'Callaghan and I am a senior civil engineer with my sole practitioner company O'Callaghan Design Limited. I am providing evidence in relation to the width of service berms within collector roads.

2. I summarise my evidence, according to the key headings in this statement, as follows:

(a) The Section 42A Report for Plan Change 5 (**PC5**) recommends a minimum requirement for the width of a services berm of 1.5 m for neighbourhood streets local park edge roads, local roads and minor arterial roads and 2.0 m for collector roads.

(b) The industry norm for a services berm, to contain services to an urban residential built environment is 1 – 1.5 m.

(c) In my opinion, a services berm width of 1.5 m for all road types within the Peacocke Structure Plan is sufficient to contain services within this proposed urbanised built environment.

(d) In my opinion, it is unnecessary, and an inefficient use of land, to have a 2.0 m width for a services berm in a collector road within the Peacocke Structure Plan.

(e) I consider the services berm width for a collector road within the Peacocke Structure Plan should be 1.5 m.

INTRODUCTION

1. My full name is Raymond Brian O'Callaghan. I am a consulting infrastructure engineer in sole practice based in Wellington.

2. I hold the qualifications of a Bachelor of Engineering (Civil), Dip Hydraulics (Delft) and I am a Chartered Professional Engineer. I am a Fellow of Engineering New Zealand (formally the Institute of Professional Engineers New Zealand) and a Past President of the Association of Consulting and Engineering.

3. I have 39 years of experience as a Chartered Professional Engineer (I became a Registered Engineer in 1983) and have worked in the field of civil engineering for this period. My engineering work has been mainly focussed on infrastructure including earthworks, roading, stormwater, wastewater, water supply, land development, and resource management processes associated with these projects.

4. I have provided an overview role on the preliminary engineering design work for the Amberfield development since early 2016. I led the assessment of bulk off-site infrastructure to service that development and I have provided specific engineering expertise on these matters to The Adare Company Limited (**Adare**) and Weston Lea Limited relating to their land holdings within the Peacocke Structure Plan Area for the last 6 and a half years. I prepared and presented engineering evidence at the Hamilton City Council and Environment Court hearings for the Amberfield resource consents.

CODE OF CONDUCT

5. I have read the Environment Court Code of Conduct for expert witnesses and agree to comply with it.

6. I confirm that the topics and opinions addressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

SCOPE OF EVIDENCE

7. This evidence covers the matter of appropriate services berm width for roads within the Peacocke Structure Plan.

8. This evidence is structured as follows:

   (a) Background

   (b) Appropriate minimum services berm width

   (c) Conclusion

Background

9. Table 15-6b in Appendix 15 of the notified Plan Change 5 (**PC5**) provisions contains design criteria for the form of transport corridors in the Peacocke Structure Plan Area. It defined the minimum desirable services berm within the Peacocke Structure Plan Area to be 1.5 m on both sides for a Local Road and 2 m on both sides for a Collector Road.

10. Adare sought a change to these widths in its submission and presented an alternative cross-section drawing (drawing No 141842 – SK632) within the submission. This drawing proposed a services berm width of 1.5 m on both sides for Local Roads, Collector Roads and Minor Arterial Roads and 1.5 m on one side only for the Local Park Edge Road cross-section.

11. The Section 42A Report recommends that Table 15-6b should be expanded to include additional design criteria for Minor Arterial Roads, Park Edge roads and Neighbourhood Streets. The services berm criteria are minimum widths of 1.5 m on each side of Minor Arterial Roads, 1.5 m on one side of Park Edge roads and 1.5 m on each side of Neighbourhood Streets. The service berm criteria for Local Roads and Collectors Roads are recommended to be unchanged and are minimum widths of 1.5 m on each side of Local Roads and 2.0 m on each side of Collector Roads.

12. The inconsistency of the 2.0 m service berm width for Collector Roads, compared to 1.5 m for all other roads, was raised during expert conferencing for Planning and Traffic but the issue was not resolved.

Appropriate Services Berm Width

13. The purpose of a services berm is to provide a strip of land to contain power, gas, communications, street lighting services and sometimes water reticulation buried services. It is located beside the property boundary to facilitate close and efficient connection to the adjacent properties.

14. Within the general urban development industry, a typical width for a service berm is 1.5 m. This width is considered sufficient to provide a corridor for these services. It is usual practice to install some of the services in a common trench with minimum separation between each service specified so that one service does not disrupt an adjacent service. For example, power is typically installed a minimum separation distance of 300 mm from communications cables to avoid the influence of near-field electrical field affecting the performance of communications services.

15. The services are usually only installed on the side of the road where houses are developed. If houses are developed on both sides of the road, a services berm is provided on both sides. If there is a stretch of road with no houses on the side of the road, a services berm may not be needed unless services are required to be interconnected between one group of houses on the road and another group of houses further along the road.

16. The Regional Infrastructure Technical Specifications (**RITS**) in the Waikato Region requires a minimum width of 1 m for a services berm on each side of the road (where services are required), as indicated by Drawing D3.1.3 of the RITS. NZS4404: NZ Standard for Land Development and Subdivision does not specify a minimum width for a services berm and leaves it to the designer to assess. Other Local Authority design codes for urban development typically notate the width of the services berm as “varies” and do not define a minimum width.

17. In my experience of over 3 decades of subdivision design, I have generally applied a services berm width of between 1 m and 1.5 m, depending on the requirements of the Local Authority design guides. These widths have been acceptable to the service authorities who install and operate the various services.

18. In my opinion, this design approach, and the flexibility presented by the numerous design codes, reflects that it is not a critical element for road design. A width of up to 1.5 m is acceptable to the service authorities, is sufficient to contain the various services and is not influenced by what priority road it is located within.

19. There is no greater physical requirement for the width of a services berm for a Minor Arterial Road (or Collector Road) than a smaller Local Road – the services are generally the same and the minimum separation distances between the individual services are the same, hence the minimum width of the services berm is the same.

20. The efficient use of land is an important outcome for urban development. If a services berm is wider than necessary, the resulting wasted land taken up in that berm cannot be used for housing and results in an inefficient use of land. The lost land cannot be regained in the future because it sits within a Legal Road reserve and the adjacent house lot boundaries are defined and locked in at issue of title. Thus, land within an excessively wide services berm is lost for the foreseeable future.

21. I therefore fail to understand the Council's requirement to have a wider minimum services berm for Collector Roads over the other road types. I agree with the Council's minimum width of 1.5 m for the services berm for Park Edge roads, Neighbourhood Streets, Local Roads and Minor Arterial Roads.

22. I do not agree with Council's proposal for a minimum services berm width of 2.0 m for Collector Roads within the Peacocke Structure Plan Area. I consider the additional 0.5 m requirement for Collector Roads to be unnecessary and an inefficient use of land which could otherwise be utilised for urban development.

CONCLUSION

23. I conclude the proposed minimum width of 2.0 m for a services berm for Collector Roads in the Peacocke Structure Plan is unnecessary, is an inefficient use of land and should be reduced to 1.5 m as that is sufficient to contain services in an urbanised built environment.

Dated this 16th day of September 2022

Raymond O'Callaghan