

**BEFORE THE HEARING PANEL
APPOINTED BY KAPITI COAST DISTRICT COUNCIL**

IN THE MATTER OF | I TE TAKE O the Resource Management Act 1991
AND | ME

IN THE MATTER OF | I TE TAKE O Proposed Plan Change 5 (Private):
100 and 110 Te Moana Road,
Waikanae, Kāpiti Coast District

**STATEMENT OF EVIDENCE OF
NICHOLAS HILTON TAYLOR
ON BEHALF OF ERIC, VINCE AND RAECHEL OSBORNE**

Dated 3 September 2026

Introduction

1. My full name is Nicholas Hilton Taylor.
2. I have prepared this statement of evidence regarding Proposed Plan Change 5 (Private): 100 and 110 Te Moana Road, Waikanae, to the Kapiti Coast District Plan (**PC5**), in relation to land development, civil engineering and infrastructure matters.

Qualifications and Experience

3. I hold a Bachelor of Surveying with Distinction from the University of Otago and am a Certified Professional Land Development Engineer (CPLDEng), a Registered Professional Surveyor (RPS), and a Licensed Cadastral Surveyor (LCS).
4. I am a Director of Cuttriss Consultants Ltd, a multi-disciplinary consultancy specialising in land development and infrastructure works. I have over 15 years' professional experience in subdivision and civil engineering projects, including land development projects on the Kapiti Coast involving earthworks, stormwater design, wastewater, water supply, roading and infrastructure servicing. I have been a Director of Cuttriss since 2020.

Code of Conduct

5. I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and confirm that I have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise, except where I have indicated that I am relying on others' opinions. I have not omitted material facts known to me that might alter or detract from my evidence.

Summary of Work Completed

6. Cuttriss Consultants Ltd prepared the report titled "Engineering Infrastructure Report to Support Plan Change – 100 & 110 Te Moana Road, Waikanae", dated 3 April 2025 (**Infrastructure Report**). The report was prepared for Eric, Vince and Raechel Osborne to support PC5. Josh Goodman, Civil Designer, prepared the report, and I reviewed and approved it for release on behalf of Cuttriss.
7. The Infrastructure Report provides a high-level assessment of the existing infrastructure located in the vicinity of the PC5 site and describes possible infrastructure solutions for future residential development enabled by PC5. The matters addressed include earthworks, wastewater, water supply, stormwater,

transportation, flood hazard, power and telecommunications, and relevant District Plan objectives and policies. The methodology, work conducted, and conclusions reached are set out in that report.

8. Except as otherwise modified or updated as stated in this evidence, I **adopt** the Infrastructure Report as my opinion for the purpose of this hearing.
9. Since preparing the Infrastructure Report, I have been involved in further work relating to PC5, including discussions with Council engineering staff, New Zealand Transport Authority Waka Kotahi staff, and the wider project team, regarding infrastructure servicing and earthworks design to address flooding, stormwater and hydrology related issues in particular. The Council did not request further information relating to my area of expertise.
10. The discussions with Council staff related to recent modelling commissioned by Council as part of the PC5 process. The Council has recently supplied the Water Supply Assessment, completed by Stantec and dated 12 August 2026, to me. I will discuss the findings of this document further in my evidence below. I note that the Water Supply Assessment report is appended to the evidence of Ms Waterland, which I also refer to below.
11. I confirm that I have read the briefs of Craig Martell, Luke Benner, Graham Ussher, Robert Smith, Ben Ormsby and Susan Jones to which I will cross-refer as necessary. However, my evidence will focus on my area of expertise, infrastructure servicing including earthworks and roading. I have also read the relevant sections of the Council's s 42A report, and the evidence of Ms Waterland and Mr Pillai regarding water supply issues, and Mr Robinson regarding wastewater capacity, in particular.

Summary of Opinion

12. For convenience, I summarise the conclusions and main findings from the Infrastructure Report as follows.
13. The plan change seeks to rezone approximately 5.5 hectares of land at 100 and 110 Te Moana Road, Waikanae, from General Rural Zone to General Residential Zone to enable future residential development. The site is bordered by Te Moana Road, Fairway Oaks Drive and the Kapiti Expressway. Future development is likely to involve earthworks, roading, the installation of services, and stormwater infrastructure including soakage and attenuation devices.

Earthworks

14. The development will require earthworks to remove peaty soils from development areas, modify ground levels to form road and building platforms, enable road construction, service installation, potential attenuation ponds and constructed wetlands, landscaping and possible geotechnical ground improvement. These works will also include erosion and sediment control measures, vegetation and topsoil stripping and final revegetation of the site.
15. Furthermore, I have recently completed a conceptual earthworks design premised on both achieving building platforms clear of predicted flood levels (as discussed by Mr Martell) and maintaining the effective function of the residual flow path through the site. The design also retains the functioning of the open channel along the north-western boundary of the site. Mr Martell's modelling confirms that the conceptual design provides for building platforms above the 1% AEP flood event (refer paragraph 25 of Mr Martell's evidence). This conceptual design is shown on the plan 30602 P1, attached at Annexure A.
16. While detailed earthworks design will be required at the resource consent stage, this conceptual model demonstrates that a feasible developed landform can be achieved and that the earthworks can be managed to achieve a practical cut/fill balance. On that basis, I do not consider the earthworks requirements to represent a fundamental or feasibility constraint to residential development of the site.
17. The conceptual design shows an earthworks footprint of approximately 34,000m² and involves 20,100m³ of cut, 17,600m³ of fill, with the difference between the cut and fill quantities accounted for by bulking and compaction factors and losses due to unsuitable material (such as peaty soils) being removed as is typical of earthworks in this area of the Kāpiti Coast. The final earthworks balance and any requirement to import or export material will be confirmed through detailed design. The conceptual design creates building platforms on Lot 1 with an RL ranging from 3.5-4.7m above mean sea level (NZVD16 datum). The area of the elevated platforms is approximately 9,800m² within Lot 1, confirming significant yield is possible, whilst addressing the flood hazard and stormwater constraints.
18. In my opinion, the conceptual design demonstrates that a practicable and feasible earthworks solution is available. Future earthworks can be designed to comply with the KCDC Land Development Minimum Requirements and NZS 4404:2010, with the detailed effects of those works appropriately addressed through the resource consent and engineering approval processes.

Wastewater

19. The existing network includes gravity and rising mains in the Te Moana Road corridor. Preliminary discussions with the Council indicated that the Rauparaha Street pump station was at capacity, but KCDC also confirmed that it was planning a duplicate rising main to the Paraparaumu Wastewater Treatment Plant. This is confirmed in the s42A report (at paragraph 12.111) and Mr Robinson's evidence as noted later in my evidence.
20. The Infrastructure Report identifies gravity reticulation, a centralised pump station with storage, and a low-pressure sewer network as potential servicing options.
21. It is commonplace within the wider Wellington Region for on-site wastewater mitigation to be provided where downstream network capacity is constrained. Depending on the timing and final form of development, mitigation may include a low -pressure sewer network or a centralised wastewater attenuation tank with an associated pump station. These systems can store and attenuate peak wastewater flows and control the discharge rate and timing so that the development discharge profile is compatible with available downstream network capacity. The particular solution, storage volume and discharge rate would be confirmed through detailed modelling and design at the resource consent stage.
22. In my opinion, the site can be serviced for wastewater, subject to detailed design and modelling at the resource consent stage. Based on the servicing options identified and the ability to attenuate and control discharge from the site, I consider the remaining work relates to selection, sizing and detailed design of the preferred servicing solution rather than whether a practicable wastewater servicing solution exists.

Water Supply

23. Existing water supply infrastructure is located in Te Moana Road. The Waikanae network is supplied by the Waikanae Water Treatment Plant and serviced by the Kakariki Reservoir. The Infrastructure Report noted that at the time of writing, current day pressures were above the minimum pressures required for residential supply and firefighting flows, but that wider network upgrades are expected to be necessary to meet anticipated district growth. The report also noted that the PC5 site is within KCDC's Development Contributions Policy maps and network planning has considered supply to the site.
24. As noted above, since the Infrastructure Report was issued, Council have commissioned a Water Supply Assessment, completed by Stantec and dated 12 August 2026 (as appended to Ms Waterland's evidence).

25. The new Stantec Water Supply Assessment finds that there are significant pressure losses within the network under the modelled demand scenario, which includes recent development in the area as well as the development that could be enabled by PC5.
26. No assessment was completed for the existing scenario as it stands, excluding development that would be enabled by PC5. The assessment therefore does not isolate the incremental effect of PC5 from the wider existing and forecast demand within the Waikanae network.
27. It is important to note that the two other developments identified at Figure 4-1 of the Water Supply Assessment report are significant retirement villages. With reference to the relevant consent applications lodged with the Council, Stages 1 & 2 of the Arvida development at Te Ara Kawakahia include approximately 219 units, and the Summerset development includes approximately 373 units. Based on these numbers, and assuming a maximum total of 150 dwellings to be constructed on the PC 5 site, the maximum PC 5 demand is approximately only 20% of the increase depicted in the Stantec report.
28. The implications of the modelled losses are that there is currently insufficient water pressure in the existing network to meet the current day levels of service for peak day water demand. Stantec have therefore recommended several upgrade options to ensure appropriate levels of service within the catchment. These options include new water main upgrades to the north of Waikanae, pipe upgrades to existing lines down Park Ave and Te Moana Road, or temporarily opening the District Metered Area (**DMA**) valve at the intersection of Belvedere Ave and Ngarara Road (refer Figures 4-5 to 4-7 of the Water Supply Assessment report).
29. Following discussions with the Council, it is anticipated that the immediate network response will be to temporarily open the DMA valve at the intersection of Belvedere Avenue and Ngarara Road to maintain the required level of service pressures. This would provide an interim servicing pathway while the longer-term network upgrades identified by Stantec and through Council's network planning are progressed. This is confirmed in Mr Pillai's evidence (at paragraphs 16-19) who also advises that the Council is planning a 1.8km trunk main extension which is expected to be completed in 2027-28. As Mr Pillai states, once these upgrades are in place, there will be sufficient headroom and capacity in the network to support future residential development on the PC 5 site.
30. It is noted by Stantec in the Water Supply Assessment Report that the PC5 site was included within the demand calculations used when preparing the 2024 Zone Management Plan (**ZMP**) (refer section 5.1). The ZMP identifies upgrades

to the network, including pipe upgrades north of Waikanae. In my opinion, this is relevant because it demonstrates that the potential water demand associated with development of the PC5 site has already been contemplated as part of Council's network planning.

31. It is further noted that the current KCDC Long Term Plan (LTP) allocates \$16,083,000 of funding to the current and future works relating to Waikanae Pipelines/Res (Reservoir) within the next nine years. This is in addition to the \$23,630,000 allocated to general water network upgrades. Mr Pillai confirms this as well, noting provision of approximately \$20M in the LTP to fund capital projects including a new 5.5ML reservoir in Waikanae, and several kilometres of new trunk main and upgrades to existing watermains
32. On the basis of the servicing options identified by Stantec, the interim DMA valve response discussed with Council including the new 1.8km of trunk main confirmed by Mr Pillai, and the longer-term upgrades identified through Council's network planning and LTP, I consider that there is a practicable pathway to maintain the required levels of service within the Waikanae catchment as development occurs.
33. In summary, the site can be serviced for water supply. The timing and form of development will need to be coordinated with the interim and/or permanent network measures available at that time, and detailed modelling will be required at the resource consent stage once the number of lots and platform elevations are known.
34. Given the Council has confirmed the interim solutions through Mr Pillai's evidence, I consider those matters to relate to the timing and detailed design of the servicing solution, rather than a fundamental inability to service the site for water supply.

Stormwater

35. The Infrastructure Report identifies existing stormwater infrastructure in the vicinity of the site and notes that a natural wetland within 110 Te Moana Road has two outlets.
36. Based on experience with a range of projects in the Kāpiti area, I consider that low impact stormwater solutions are appropriate in the elevated parts of the site, with stormwater discharged to ground as close to source as practicable to mimic natural hydrology and ensure hydraulic neutrality.
37. In lower areas, where groundwater is shallow and infiltration may not be suitable, attenuation areas or constructed wetlands are likely to be required to achieve hydraulic neutrality and provide compensatory storage.

38. In my opinion, the site can also be serviced with an appropriate combination of infiltration, attenuation and stormwater treatment measures such as Enviropods & biofiltration devices. Detailed infiltration testing, groundwater monitoring and stormwater design will be required at the resource consent stage once the roading footprint, number of lots and platform elevations are known.
39. In my opinion, the site is large enough to accommodate the necessary stormwater measures and nothing identified through the investigations undertaken to date indicates to me that these are fundamental feasibility constraints; rather, that further work is required to confirm the location, sizing and detailed design of the stormwater measures.

Flood Hazards

40. The District Plan maps identify ponding, stream corridor, residual ponding and residual overflow overlays across parts of the site. The Infrastructure Report notes that the District Plan maps do not currently incorporate changes to flood hazards resulting from construction of the Kapiti Expressway.
41. As also noted in the Infrastructure Report, any future resource consent application proposing earthworks to form flood-free building pads and road connections will require flood modelling to confirm that the proposed works do not result in unacceptable adverse environmental effects or natural hazard risks, including diversion of water onto neighbouring properties. Compensatory storage is likely to be required to offset flood storage losses resulting from filling.
42. I defer to Mr Martell's evidence for a more detailed assessment of this issue and the measures that can be applied to ensure these requirements are met on the PC 5 site, including maintaining the effective functioning of the residual flow path across the site.

Transportation effects

43. The Infrastructure Report relies on the Transport Assessment prepared by LBC Traffic Engineers. It records that Te Moana Road is a Major Community Connector Route and arterial road linking Waikanae town centre and Waikanae Beach.
44. Future road layout within the site will be confirmed through detailed design but is expected to include a local road connection to Te Moana Road, side road cul-de-sacs and pedestrian linkages. I defer to Mr Benner's evidence for a more detailed assessment of transport infrastructure capacity and related issues.

45. In my opinion, future road design can comply with the KCDC Land Development Minimum Requirements and based on Mr Benner's evidence, the effects on the roading network from future residential development will be acceptable.

Power and Telecommunications

46. Chorus confirmed that the site falls within the Chorus UFB area and that the network can be extended to service 50 possible future lots, assuming up to three dwellings per lot. Electra confirmed that the local power network has capacity to service 50 possible future lots, assuming up to three dwellings per lot, and that the network can be extended within the site. On that basis, I consider that effects on network utilities will be acceptable.

Summary – Infrastructure and Servicing Capacity

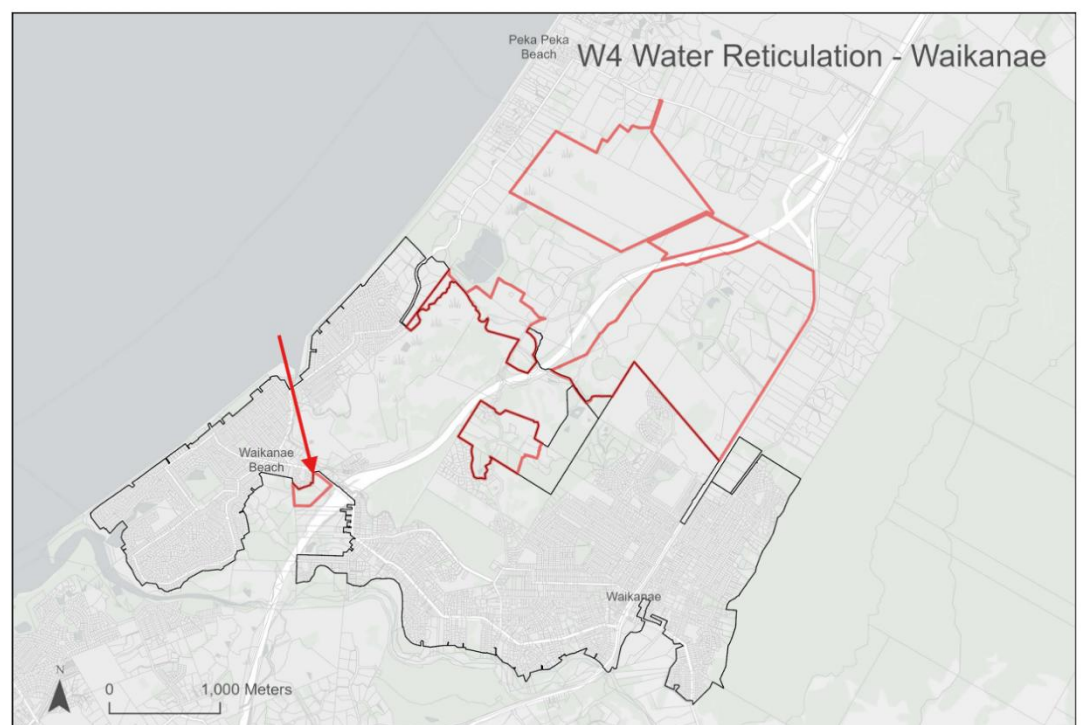
47. Overall, my opinion is that the infrastructure required to support future residential development of the site can be suitably designed and provided. I have not identified a civil engineering constraint that prevents the site from being developed for residential purposes. The outstanding engineering work principally relates to confirming the final form, sizing, timing and detailed design of the servicing and mitigation measures once the development layout and servicing demands are known.
48. I am satisfied that there is sufficient infrastructure within close proximity of the site, together with practicable upgrade and on-site mitigation options, to support future residential development. Further site-specific modelling, detailed design and approvals will be required before subdivision development can proceed, but in my opinion, those matters do not preclude rezoning of the site.

Submissions

49. Submissions on this proposal have raised the following concerns relevant to:
- (a) Infrastructure;
 - (b) Strategic planning;
 - (c) Stormwater management; and
 - (d) Groundwater
50. I have summarised the relevant submitter points and respond below.
51. **Jillian Bond, Bernadette Doolan, Martin Manning, Anthony George; Vanessa Moore and Michael Moore All submitting on behalf of the**

‘Fairway Oaks Drive Residents’ Partnership’ (Submission Number 1) have raised concern about the infrastructure constraints, Long Term Plan provisions.

- (a) S1.2 – The submitters state *“Previous rezoning attempts via Plan Change 2 (2022/23) and the Long-Term Plan (2024) were rejected due to unresolved flood hazards, lack of servicing capacity, and misalignment with strategic growth planning. Those constraints not only remain but have intensified due to increased climate risk, ecological degradation, and infrastructure pressures”*. Infrastructure capacity constraints have been identified in the recent Council modelling assessments, however as discussed at paragraphs 23 and 32, planned upgrades and mitigation measures will address these constraints, meaning the development will be able to be adequately serviced.
- (b) As noted above that the development has been included in the growth modelling within the Council’s ZMP, and as below, the PC 5 site is also included within the Development Contribution catchment maps. From an infrastructure planning perspective, this demonstrates that the potential demand associated with development of the PC5 site has been contemplated in Council's network planning.



- (c) S1.4 – The submitters state *“The adopted LTP and its submissions summary do not extend service-area infrastructure to this rural, hazard-mapped block”*. As above, the site has been included in the Development Contributions catchment as a future growth area, and as

Mr Pillai has confirmed, there is approximately \$20M of funding set aside in the LTP for water network upgrades and a new reservoir for the Waikanae catchment.

- (d) S1.5 – The submitters state *“KCDC’s most recent infrastructure reporting notes limited capacity in water, wastewater, and stormwater systems and highlights the cost of retrofitting network upgrades in flood-prone areas. No service extension has been committed through the LTP or capital works programme, and stormwater management issues in Waikanae have only become more acute with intensification elsewhere.”* It is acknowledged that the recent modelling finds capacity constraints within the current networks, however planned upgrades to the water network will ensure the required levels of service can be maintained, and onsite mitigation and upgrades to the wastewater network will enable the development to connect to the existing network while ensuring no additional unplanned discharges occur.
- (e) As noted at paragraphs 35 to 37 above, the stormwater design for the development will mimic the natural hydrology of the site and achieve the applicable hydraulic neutrality requirements. This will ensure that the post development runoff rates do not increase when compared to the pre-development scenario, meaning no added pressure is placed on the existing stormwater network.
- (f) S1.10 – The submitters raise further concerns relating to infrastructure and servicing pressures. The concerns relating to capacity constraints have been addressed above, however the submitters also raise concerns relating to environmental degradation relating to the stormwater runoff from the developed site. It is proposed to utilise low impact stormwater systems to manage the runoff from the developed site. The natural filtration properties of the in-situ soils will filter out particulate contaminants and hydrocarbons from the road runoff, and other stormwater solutions such as constructed wetlands and biofiltration basins can be utilised to provide natural stormwater treatment. These features have the added benefits of providing on-site amenity and ecological enhancement.
- (g) S1.11 – The submitters state *“It would undermine the strategy’s objectives by enabling development in an area not identified for expansion, thereby increasing the cost and inefficiency of infrastructure provision, and weakening the city-shape outcomes that the Council has adopted. On this basis, there is no strategic planning justification for rezoning this rural land when the Council’s own documents show that the capacity and servicing efficiency criteria are already met within*

existing and planned urban zones.“ As discussed at paragraphs 30 and 31 above, the Council has identified this site for future development in their ZMP and Development Contribution Policy, so the development of the site is aligned with the strategic planning relating to infrastructure.

- (h) Further, I disagree with the submitters' position relating to inefficiency of infrastructure provision. The site is located in the centre of the Waikanae urban area, with existing infrastructure networks located within Te Moana Road immediately adjacent to the site. The development of this site is therefore considered to be an efficient use of the existing infrastructure provisions, as the servicing will not require the type of progressive outward extension of trunk infrastructure that can be associated with development on the urban fringe.
- (i) S1.12 – I generally agree with the submitters that the development of the site will require *“mass earthworks floodplain re-contouring, and engineered drainage systems”*, however I disagree that these works *“would disrupt existing flow paths, increase flood risk downstream, and potentially displace floodwaters onto neighbouring properties”*. I have recently completed a conceptual earthworks design for the purpose of flood modelling.
- (j) As confirmed by Mr Martell, the concept and modelling confirm that the site can be developed in a way which provides flood free building platforms, manages any flood displacement to avoid impacts on neighbouring properties, and maintains the residual flow path through the site. It is anticipated that further modelling will be submitted as part of a subsequent resource consent application, once the final subdivision layout has been confirmed.
- (k) S1.14 – In relation to groundwater assessment, it is noted that further investigation will be completed at the resource consent stage to inform the detailed design. The specific instruments for this assessment have not yet been determined, however piezometers installed in a standpipe are a commonly used method to determine fluctuations in groundwater over time. Based on the investigations completed to date, I have not identified groundwater as a constraint that prevents development; rather, it is an important design parameter that will need to be considered as part of the design process at the resource consent stage.
- (l) S1.19 – As noted at paragraph 31 above, the Council's LTP includes substantial funding for Waikanae pipeline/reservoir works and general water network upgrades. These works form part of a wider package of network investment and are not identified as being required solely

because of possible development of the PC5 site. From an engineering perspective, I therefore do not consider it appropriate to attribute the full cost of those wider network upgrades to PC5.

(m) Furthermore, any future subdivision will be subject to the Development Contributions and Reserve Contribution requirements that apply at the time, and the developer will be responsible for the site-specific infrastructure required to service the development. I have not undertaken an economic assessment of the net ratepayer impact of PC5, however given the existing funding allocations and developer contributions, I disagree with the submitters' statements that the development "*would place a disproportionate burden on existing residents*" and "*The cumulative effect of these pressures is likely to be a significant cost transfer to ratepayers, both through direct financial contributions to infrastructure upgrades*".

(n) S1.22 – I disagree with the submitters' statement "*that the Council has not cited any successful precedent of rural land rezoning in flood hazard areas within this district that has demonstrably avoided environmental, hydrological, or infrastructure impacts over time.*" The Mansell Site at 131-155 Otaihangā Road has a flood hazard overlay and wetlands within the property and was rezoned from Rural Lifestyle Zone to General Residential Zone as part of KCDC's Plan Change 2. The development of the Mansell Site has resulted in enhanced ecological properties of existing natural wetlands and improved water quality outcomes, whilst managing stormwater runoff from the new development.

(o) S1.25 – The relevant risks identified within Appendix 1 of the submission have been addressed above.

52. **NZ Transport Agency Waka Kotahi** (Submission Number 2) in their further submission raised concerns about the impact of the development on the NZTA infrastructure, particularly in relation to stormwater.

(a) The KCDC District Plan requires development to achieve hydraulic neutrality. Accordingly, future stormwater design will need to demonstrate compliance with the applicable pre- and post-development discharge rates and confirm that development of the site does not create an increase in stormwater effects on NZTA infrastructure. This will be confirmed through the stormwater management plan and supporting calculations prepared at the resource consent stage once the subdivision layout has been confirmed.

53. **QEII National Trust** (Submission Number 3) has raised concern about the impact on the hydrology of the wetland.

(a) As noted at paragraphs 35 to 37 above, the stormwater design for the development will mimic the natural hydrology of the site and will be designed to be hydraulically neutral. The high infiltration rates observed to date indicate that low impact infiltration solutions will be appropriate in suitable parts of the site to assist groundwater recharge. However, detailed groundwater monitoring, infiltration testing and stormwater design will be required to demonstrate that the hydrological inputs to the existing wetland are appropriately maintained. Nothing identified through the investigations undertaken to date indicates to me that this outcome cannot be achieved through appropriate design.

Section 42A Report

54. The s 42A Report has raised a number of matters that are within my area of expertise (relating to water supply and wastewater capacity issues in particular), including the evidence of Ms Waterland and Mr Pillai regarding water supply, Mr Brian Robinson regarding wastewater, Mr James Oakley regarding stormwater and flooding, Mr Charles McDermott regarding geotechnical matters, and Mr Colin Shields regarding transport.
55. There is a substantial degree of agreement between my evidence and the Council's technical experts. In particular, the Council's wastewater, water supply, geotechnical and transport experts do not identify an engineering constraint that, in their respective areas of expertise, prevents rezoning. The principal area of disagreement is whether sufficient information is presently available to establish the feasibility of developing the lower-lying land at 100 Te Moana Road in relation to flooding and stormwater management.

Wastewater

56. Since the Infrastructure Report was prepared, Mr Robinson has undertaken hydraulic modelling of the Waikanae wastewater network. This modelling confirms that sufficient capacity is available in the gravity network between the PC5 site and the main Waikanae wastewater pump station for the additional flows anticipated from PPC 5. The principal existing constraint is the rising main between that pump station and the Paraparaumu Wastewater Treatment Plant.
57. Council has substantially progressed a duplicate rising main which, once commissioned, Mr Robinson considers will provide sufficient capacity for forecast growth, including PPC5, to at least 2051. Until then, he considers flows

can be managed through existing inter-pump station controls and storage, although this reduces network headroom.

58. I agree with Mr Robinson's assessment. In my opinion, his modelling confirms that a practicable wastewater servicing pathway exists. The current constraint affects the timing and form of connection rather than the fundamental feasibility of servicing the site. Development can either be sequenced to follow commissioning of the duplicate rising main or, if acceptable to Council, use an approved alternative wet-weather flow management approach.
59. I conclude my assessment on this matter by noting that there are two suitable options for the development of the PC5 site without leading to further uncontrolled overflows. Firstly, wait until the duplicate rising main has been completed, or secondly, install wastewater mitigation measures such as those described at paragraph 21 (low- pressure network, centralised wastewater attenuation tank).

Water Supply

60. Ms Waterland's updated modelling identifies that, once recent and committed development is included, the wider Waikanae network has no remaining capacity for further growth without mitigation or planned upgrades. I accept that this provides a more complete understanding of the wider network than was available when the Infrastructure Report was prepared.
61. Importantly, Ms Waterland does not consider that this constraint prevents rezoning. Her conclusion is that future subdivision or development should not occur until the necessary upgrades or mitigation measures are in place.
62. Mr Pillai's evidence identifies the relevant planned works, including a new 5.5 ML reservoir, trunk main and watermain upgrades, and investigation of an interim connection between the Hemi and Te Moana Road DMAs. In my opinion, that evidence confirms there is a practicable pathway to provide the required water supply capacity as development occurs.
63. I therefore remain of the opinion that the PC 5 site can be serviced for potable water. I agree that development should be sequenced to the availability of sufficient network capacity. I regard that as a development sequencing constraint rather than a reason the land cannot be rezoned.
64. I note that the section 42A Officer similarly concludes that the water supply constraint can be addressed at the resource consent stage but has also recommended site-specific policy direction requiring the necessary water supply network upgrades to be in place prior to development. I do not consider additional policy direction is required, as provision for water supply is already

considered in the District Plan under INF-MENU-P20, which states “All new subdivision, land use or development will have an adequate supply of water in terms of volume and quality for the anticipated end uses, including fire fighting supply. Where a new connection to the reticulated network is proposed, evidence may be required to support its viability”.

Geotechnical matters

65. I have considered Mr McDermott's geotechnical evidence. His opinion is consistent with my own understanding of the site. While further groundwater monitoring, liquefaction assessment, investigation of soft or organic soils, bearing capacity assessment and slope stability assessment will be required as the development design progresses, he considers that the presently identified geological and geotechnical hazards do not make the site unsuitable for residential zoning.
66. I agree with that distinction. In my experience when developing similar sites on the Kāpiti Coast, the identified geotechnical matters can be investigated and incorporated into detailed subdivision and engineering design. I have not identified a geotechnical constraint that prevents a practicable developed landform from being created.
67. Mr McDermott's evidence notes that widespread densification of soil should be avoided in areas proposed for soakage to ground (paragraph 15.5.2 of Mr McDermott's evidence). In my experience, however, dune sand can be compacted to a high degree while retaining the infiltration characteristics required for low-impact stormwater devices such as soakage systems. Pre- and post-earthworks infiltration testing on other projects on the Kāpiti Coast has verified this outcome. Beyond this I defer to the evidence of Mr Smith on geotechnical matters.

Stormwater and flooding

68. The principal area where my opinion differs from the Council's technical evidence is the extent to which further flooding and stormwater information is required at the plan change stage for 100 Te Moana Road. Mr Oakley considers that outstanding matters relating to flood conveyance, flood storage, hydraulic neutrality, effects on adjoining land, groundwater and wetland hydrology, and safe access and egress are fundamental determinants of the developability of that land and should therefore be resolved before rezoning (paragraph 1.2 of Mr Oakley's evidence).
69. I agree with Mr Oakley that each of those matters must ultimately be satisfactorily addressed before development occurs. Where I differ is whether

they represent an unresolved question as to whether the land (Lot 1 in particular) can be developed and should be rezoned accordingly.

70. Mr Oakley states that a detailed understanding of the scale and configuration of the proposed earthworks is required before the feasibility of developing 100 Te Moana Road can properly be assessed (paragraph 7.25 of Mr Oakley's evidence). My original opinion remains that there is sufficient space within Lot 1 to satisfactorily address the flood hazard management, wetland hydrology, and hydraulic neutrality requirements.
71. I agree however that an indicative developed landform is useful for demonstrating a suitable solution is feasible. For that reason, since the earlier plan change material was prepared, I have completed the conceptual earthworks design shown on drawing 30602 P1 at Annexure A of my evidence, as referred to earlier.
72. That conceptual design was prepared specifically to test whether a practicable residential landform could be established while retaining the necessary flood conveyance and stormwater functions. It provides for raised residential platforms, retained flood conveyance corridors, compensatory storage and maintenance of the existing principal drainage systems.
73. The conceptual earthworks design has subsequently been modelled by Awa Environmental Ltd. I rely on the evidence of Mr Craig Martell for the detailed hydraulic modelling results. Mr Martell concludes that the flood level modelling confirms the design provides building platforms clear of the 1% AEP flood hazard and maintains the effective functioning of the residual flow path.
74. Peak water level data from Awa Environmental was used to create a 3D surface of the 1% Annual Exceedance Probability (AEP) flood level across the site. Using 12d model design software, I completed a surface-to-surface volume calculation to determine that the volume of water contained within the pre-development site in a 1% AEP event is 915m³. This volume also considers groundwater levels, which reduce the flood storage capacity. I then completed the same exercise with the conceptual design surface shown at Annexure A (providing compensatory storage on the western portion of Lot 1), which determined that the post development storage capacity in the same area would total 2,800m³. This results in an excess storage capacity of 1,885m³ which can be utilised for the attenuation required to achieve hydraulic neutrality.
75. On this basis and relying on Mr Martell's modelling of the post development hazard, I am satisfied that it is possible to design a development on the Lot 1 area which accommodates the 1% AEP event and provides flood free building

platforms whilst also retaining sufficient onsite storage capacity to meet the hydraulic neutrality requirements.

76. While the final subdivision design may differ in detail, the modelling exercise provides a practical demonstration that the competing requirements of residential development, earthworks, flood conveyance and stormwater management can be accommodated within the site.

Flood conveyance and compensatory storage

77. Mr Oakley has specifically identified concern that, in the Chillingworth Stopbank breach scenario, floodwater enters 100 Te Moana Road over a broad part of the south-eastern boundary and that narrowing this flow path could concentrate flows and increase flood depth or hazard (paragraph 7.21 of Mr Oakley's evidence). I agree that a future development cannot simply obstruct this flow path.
78. The conceptual earthworks design has therefore considered a conveyance corridor through the site, which will be capable of conveying the residual flood hazard in a breach scenario. Mr Martell's modelling addresses the resulting hydraulic performance of that arrangement, and I rely on his evidence in relation to flood levels, flow distribution and effects beyond the site.
79. I also agree with Mr Oakley that floodplain storage displaced through filling should not simply be assumed to be replaced by below-ground soakage devices (paragraph 7.23 of Mr Oakley's evidence). The conceptual design allows for compensatory storage at the western end of the developed site. This area may also be used to attenuate regular stormwater flows to meet hydraulic neutrality requirements, however the volume of storage provided must consider both compensatory storage, and storage required for hydraulic neutrality. In my opinion, this is the appropriate engineering approach because floodplain volume and stormwater soakage perform different functions and should be assessed accordingly.
80. I further note that at paragraph 6.5 of his evidence, Mr Oakley records advice from Mr Pickett in stating that the drain connecting the site and QE II wetland to the 1350mm culvert to the south of the site has been severed by the construction of the site accessway. I asked Cuttriss staff to inspect the accessway to determine if the culvert shown on the Council maps exists. These investigations found no evidence of a culvert conveying water across the site and confirmed that the hydrological connection has been severed. This is reflected in the modelling which is included in Mr Martell's evidence.

Groundwater and stormwater disposal

81. Mr Oakley identifies variability in the groundwater levels observed during the investigations, including groundwater encountered when we completed investigations for the Infrastructure Report at approximately 0.6 m below ground level, and by Awa at approximately 1.5 m below ground level (paragraph 6.31 of Mr Oakley's evidence). He recommends piezometer monitoring and additional infiltration testing to establish seasonal groundwater conditions and appropriate design soakage rates.
82. I agree with those recommendations. My opinion that the site can be serviced for stormwater does not depend upon soakage being viable across all parts of the site. As noted earlier in my evidence, the appropriate stormwater response is likely to vary spatially. Distributed soakage is likely to be appropriate in the elevated sandy areas where adequate separation from groundwater can be achieved, while surface attenuation, compensatory storage and other stormwater management measures are likely to be required in lower-lying areas.
83. The purpose of further groundwater monitoring and soakage testing is therefore to refine the location, form and sizing of the stormwater devices, rather than to establish whether any stormwater servicing option exists. Mr Oakley himself identifies a number of potential stormwater management approaches for 100 Te Moana Road, although he considers further investigation is required before selecting the preferred approach (paragraph 7.6 of Mr Oakley's evidence). I agree that final selection and sizing should occur once the detailed development layout and monitoring information are available.
84. Mr Oakley also supports the view that the earthworks should minimise compaction of the free-draining sandy soils (paragraph 7.13 of Mr Oakley's evidence). This has been addressed at paragraph 67 above.

Wetland hydrology

85. Maintenance of the hydrological function of the QEII wetland is also an important design requirement. I acknowledge Mr Oakley's concern that filling, surface storage, or lowering existing drainage inverts could affect groundwater recharge (paragraphs 7.16-7.17 of Mr Oakley's evidence). I do not consider it necessary to lower the existing controlling drainage levels to service the site, and the detailed design should retain those levels and hydrological connections unless any proposed change is demonstrated to avoid unacceptable effects.
86. I note that Mr Pickett also recognises uncertainty regarding the precise hydrological response but considers groundwater and wetland monitoring and management through future consent conditions to be appropriate. I rely on Mr

Ussher's evidence in relation to ecological effects. From an engineering perspective, I consider the design can be developed to maintain the hydrological inputs to the wetland.

Safe access and egress

87. Mr Oakley also raises the question of safe access and egress during the Chillingworth Stopbank breach scenario and notes that the indicative vehicle access shown on the earlier scheme plan is affected by flooding (paragraph 7.24 of Mr Oakley's evidence).
88. The conceptual earthworks design provides for an overflow path through the site in the highly unlikely event of a stopbank breach. I rely on Mr Martell's evidence regarding the modelled flood depth and hazard across the proposed access under the relevant design events.

Council's proposed site-specific policy

89. I have reviewed the engineering-related provisions of proposed Policy GRZ-P29 recommended in the section 42A Report. In particular, the policy seeks to ensure that development does not increase flood risk to people or property on or beyond the site, and that necessary water and wastewater network upgrades are provided prior to or in conjunction with development so that existing network users are not compromised.
90. From an engineering perspective, I support those outcomes but note that these matters are already considered in the INF-MENU and NH-FLOOD policies of the existing District Plan. I therefore disagree with the Officer's recommendation to include these matters within the new policy wording.
91. If the Panel considers site-specific infrastructure provisions are nevertheless required, I consider water and wastewater should be addressed separately. In particular, any wastewater provision should recognise the two pathways identified in Mr Robinson's evidence: commissioning of the duplicate rising main, or an alternative wet-weather flow management approach approved by Council.

Overall response to the section 42A Report

92. Overall, the Council evidence has caused me to refine aspects of my opinion as recorded in the Infrastructure Report, particularly in relation to the present capacity of the wider potable water network and the timing of wastewater connections. It has not caused me to alter my overall opinion that the PC5 site is capable of being serviced and developed for residential purposes.

93. The Council's water, wastewater and geotechnical experts identify practicable pathways and do not consider the constraints in those areas to preclude rezoning. I acknowledge that flooding and stormwater issues at 100 Te Moana Road require greater consideration, but in my opinion the conceptual earthworks design and subsequent hydraulic modelling now provide the additional work necessary to test whether a practicable engineering solution exists.
94. The remaining groundwater monitoring, soakage testing and detailed design work will principally refine how the site is developed rather than determine whether it is capable of residential development.
95. I therefore disagree with the section 42A recommendation that 100 Te Moana Road should remain in the General Rural Zone on the basis of unresolved civil engineering, stormwater or flood management feasibility (paragraphs 1.12 and 13.3 of the s42A report). Subject to the matters identified above, I remain of the opinion that there is no civil engineering or infrastructure constraint that precludes both 100 and 110 Te Moana Road from being rezoned General Residential.

Conclusions

96. In conclusion, I consider that there are no civil engineering or infrastructure constraints identified through the work undertaken to date that would preclude PC5 from being approved.
97. The site is located close to existing infrastructure, and, in my opinion, there are practicable servicing pathways for wastewater, water supply, stormwater, roading, power and telecommunications. The conceptual earthworks and flood modelling work also provides a basis for concluding that a feasible developed landform can be achieved, subject to the detailed matters addressed in the relevant expert evidence.
98. The detailed engineering design will appropriately occur at the resource consent and engineering approval stages, once the final development layout, site levels and servicing demands are known. At that stage, matters including hydraulic neutrality, compensatory flood storage, groundwater monitoring, infiltration testing, network modelling, erosion and sediment controls, and compliance with KCDC's Land Development Minimum Requirements can be addressed in detail. In my opinion, these matters principally concern how the site is ultimately developed and serviced, rather than whether it is capable of being developed and serviced.

99. My opinion is therefore that the infrastructure effects associated with future residential development enabled by PC5 can be appropriately managed, while recognising that any subsequent development will need to demonstrate compliance with the relevant resource consent, engineering and network requirements before it can proceed.

Nicholas Hilton Taylor

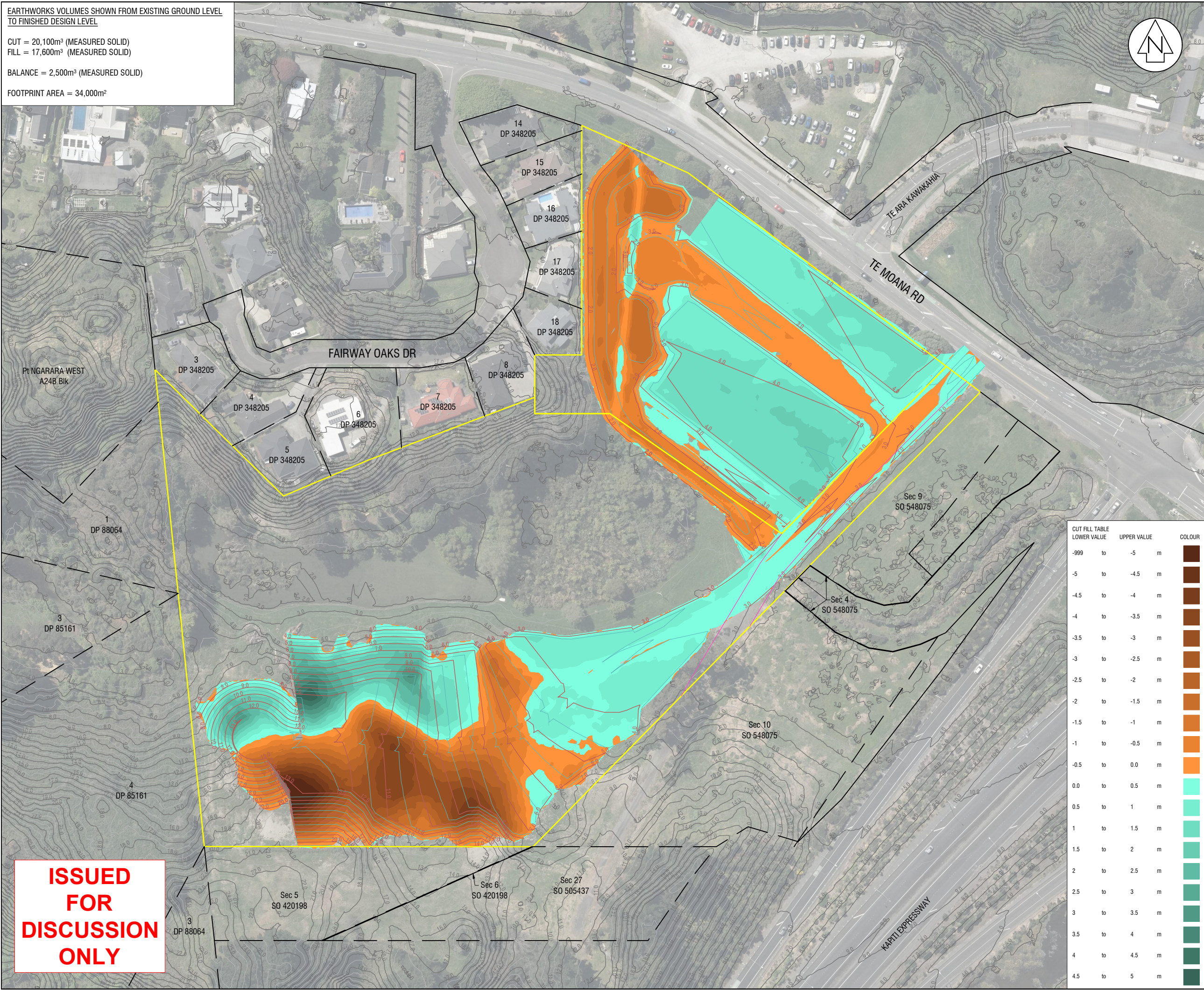
3 September 2026

EARTHWORKS VOLUMES SHOWN FROM EXISTING GROUND LEVEL
TO FINISHED DESIGN LEVEL

CUT = 20,100m³ (MEASURED SOLID)
FILL = 17,600m³ (MEASURED SOLID)

BALANCE = 2,500m³ (MEASURED SOLID)

FOOTPRINT AREA = 34,000m²



REVISION DETAILS		NAME	DATE

- NOTES:
- THIS PLAN IS TO BE USED FOR PRELIMINARY MODELLING PURPOSES ONLY TO SUPPORT THE PLAN CHANGE APPLICATION & IS NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF CUTTRISS CONSULTANTS LIMITED.
 - COORDINATES ARE IN TERMS OF NEW ZEALAND GEODETIC 2000 DATUM, WANGANUI CIRCUIT.
 - LEVELS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016)
 - NOT ALL INTERESTS ON THE RECORD OF TITLE MAY BE SHOWN ON THIS PLAN, AND SHOULD BE INVESTIGATED FURTHER
 - SERVICES HAVE BEEN LOCATED ON SITE WHERE POSSIBLE, OTHERWISE SHOWN FROM KDCG RECORDS, AND SHOULD BE VERIFIED ON SITE
 - CONTOUR INTERVAL: 0.5m. EXISTING CONTOURS SOURCED FROM LINZ.
 - BOUNDARY INFORMATION HAS BEEN SOURCED FROM INFORMATION PROVIDED BY GRIP LTD & HAS NOT BEEN VERIFIED ON SITE
 - FINAL EARTHWORKS TO BE DESIGNED FOLLOWING SITE VERIFICATION OF ECOLOGICAL AND GEOTECHNICAL CONSTRAINTS & IS SUBJECT TO CHANGE.
 - ALL ELECTRONIC CAD DATA MUST BE READ IN CONJUNCTION WITH THESE NOTES.

LEGEND	
	BOUNDARY
	EXISTING CONTOURS
	DESIGN CONTOURS



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CLIENT
OSBORNE

PROJECT
**PROPOSED DEVELOPMENT
LOT 1 DP 71916 & PART
LOT 2 DP 71916
100-110 TE MOANA ROAD,
WAIKANA**

**PRELIMINARY PLAN -
PROPOSED EARTHWORKS**

SCALE			REDUCED SCALE	
A1 - 1:750			A3 - 1:1500	
	NAME	DATE	DRAWING NUMBER	
FIELDWORK			30602 P1	
DESIGNED	NHT	08/26	SHEET	1 OF 1 SHEETS
DRAWN	JAO	08/26	REVISION	-
CHECKED	NHT	08/26		

**ISSUED
FOR
DISCUSSION
ONLY**