

**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY THE
WAIMAKARIRI DISTRICT COUNCIL**

IN THE MATTER OF

The Resource Management Act 1991 (**RMA** or
the Act)

AND

IN THE MATTER OF

Hearing of Submissions and Further
Submissions on the Proposed Waimakariri
District Plan (**PWDP** or **the Proposed Plan**)

AND

IN THE MATTER OF

Hearing of Submissions and Further
Submissions on Variations 1 and 2 to the
Proposed Waimakariri District Plan

AND

IN THE MATTER OF

Submissions and Further Submissions on the
Proposed Waimakariri District Plan by
Momentum Land Limited

**EVIDENCE OF GEOFFREY CHARLES DUNHAM (NORTH BLOCK)
ON BEHALF OF MOMENTUM LAND LIMITED REGARDING STREAM 12
REZONING OF LAND**

DATED: 5 March 2024

Presented for filing by:
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INTRODUCTION

- 1 My name is Geoffrey Charles Dunham.
- 2 I am a self-employed Registered (NZIPIM) Farm Management Consultant primarily working in Canterbury but with client base between Central Otago and Nelson, and including Central Plateau, with specialisation in pastoral and arable land use systems and development.
- 3 I hold the qualifications of Bachelor Agricultural Science, Lincoln University
- 4 I work with farmers, local and central government organisations, and industry interest groups.
- 5 I specialise in advising in farm and agribusiness management with particular expertise in grazing and stock management systems, arable farming, irrigation & farm development, financial management, and supervise and contract-manage development projects.
- 6 I am familiar and experienced with all the farming practises, soils, and climate of the Kaiapoi and Rangiora area in general including the site in question.
- 7 I have worked for MAF Advisory Services Division based in Nelson and North Canterbury prior to forming my own consultancy practice, Dunham Consulting Ltd, in 2002
- 8 I regularly research and undertake feasibility and financial viability analysis for potential farming options. This has included land development strategy options for unimproved and irrigated land and intensification of land use through conversion to more intensive land use policies. This work has been over a full range of land types and farming systems.
- 9 I have acted as an expert witness in relation to various issues including land use planning, land development disputes, farm machinery development disputes and animal welfare prosecutions.
- 10 My evidence that considers the suitability of the property located at 177 Ferry Road, Kaiapoi for farming purposes.
- 11 My qualifications as an expert are set out above. The matters addressed in my evidence are within my area of expertise, however where I make statements on issues that are not in my area of expertise, I will state whose evidence I

have relied upon. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

SCOPE OF EVIDENCE

- 12 In my evidence I address the following issues:
- (a) The land use capability of the site.
 - (b) The range of pastoral, arable and horticultural options that could be physically operated on a long-term basis on the site.
 - (c) Consideration of the climate, soils, and water environments of the site.
 - (d) The type and extent of support industries and resources, contractors, and expertise required for a sustainable and viable farming operation.
 - (e) The infrastructure on the site or required on site to support a viable farming business.
 - (f) The site's neighbouring land uses and its potential to impact on viable land use activities on the site.
 - (g) The economic viability of operating a business or use of the North Block compatible with the site's rural zoning under Operative Plan and rural lifestyle zoning under the Proposed District Plan.

SUMMARY OF EVIDENCE

- 13 The hearings panel have requested that each statement of evidence contains a brief summary of evidence.

CONTEXT

- 14 My evidence assesses land located at 177 Ferry Road, Kaiapoi (**site or North Block**).
- 15 The site is legally described as LOT 1 DP 5010, LOT 2 DP 4532 and LOT 5 DP 313322.
- 16 The site contains 28.48 hectares as a square block of land with a long history of agricultural use owned and managed as part of a larger farming enterprise since mid-1930's.

- 17 The North Block is zoned Rural in the Waimakariri District Council Operative District Plan and zoned Rural Lifestyle under the Proposed District Plan, for both rural use and rural lifestyle use.
- 18 I am familiar with the North Block and visited the site on 24th February 2023.
- 19 I have earlier prepared a comprehensive report that considers the suitability of the above property for farming purposes within each Waimakariri District Council zone entitled "North Block Farming Assessment dated 8 March 2023" (**North Block Report**). My report is attached at **Appendix 1**.
- 20 The discussion that follows is informed by the North Block Report and provides a summary of the key findings contained within that document.

PHYSICAL SITE ATTRIBUTES AND LOCATION

- 21 Ninety-three percent of the site is flat with only approximately 20cm height variation, lying at a low elevation (3.0m) above sea level, the same as neighbouring farmland to the north & east, resulting in insufficient fall between the site and existing storm water drains to provide sufficient year-round drainage of surplus surface water.
- 22 Site drainage is served by three deep (> 1.0m) main drains flowing off-site, fed by a network of medium-shallow (0.5–1.0m) and shallow (<300mm) surface drains. The effectiveness of the drains is highly variable according to time of year and degree of soil saturation.
- 23 Currently all-weather access to the site for farm management and support activities such as agricultural contractors is through the owner's farmland east of the site directly from Ferry Road. One other access point is via urban streets west of the site onto a grassed-down north-south embankment on a paper road that provides access to a Waimakariri District Council Storm Water Utility Reserve. This is dry weather access only and not suitable for large trucks or machinery.
- 24 The site's close proximity to neighbouring residential subdivisions west and south of the site make byproducts of agricultural activities – noise, dust, chemical spray, and fertiliser drift - a high potential source of conflict with the community even assuming operating at best practice and by approved registered operators.

- 25 Close proximity to urban housing places livestock, particularly sheep, at elevated risk from dog attack and the farming infrastructure at risk from vandalism and theft.
- 26 When site access is limited to the western embankment route for agricultural services support the urban access route is a major disincentive that will restrict the quality and timing of work undertaken and the potential productivity levels of physically viable farm policies.

SOILS AND AVAILABLE LAND MANAGEMENT ACTIVITIES

- 27 Ninety-three percent of the site has deep heavy clay gley soils which are strongly affected by being waterlogged for prolonged periods of time, typically remaining saturated from early winter until late spring/early summer, or occasionally into late summer/early autumn. These are highly structurally vulnerable soils, very easily damaged by pugging or ill-timed vehicle or machinery activities.
- 28 The Land Use Capability of the site is **2w**, defined *as land with slight limitations for arable use and suitable for cultivated crops, pasture, or forestry but where soil wetness resulting from poor drainage or a high-water table, or from frequent overflow from streams or coastal waters first limits production.*
- 29 The key point here is that the wetness limitations override the broad versatility that the Land Class 2 designation implies.
- 30 The soils on the site are predominantly unusable for 5-6 months of the year and up to 7-8 months in some years, being either waterlogged or at excessive moisture content that prevent grazing and or land management activities without soil or pasture damage. The site elevation in relation to neighbouring land means that the high-water tables are always going to be the predominant state.
- 31 Water-logged soils or even the high chance of becoming waterlogged means that perennial horticultural crops or root vegetable crop are not a viable proposition, but sheep grazing, and young light cattle could be considered albeit that desirable pasture species have limited survival rapidly resulting in predominance of weeds and species of low suitability for livestock grazing.
- 32 The combination of difficult to manage soil types, and low-lying flat topography of the site and surrounding land resulting in ineffective drainage

means that arable cropping, dairy farming, growing of winter green feed crops (for dairy support or beef), horse agistment, and perennial horticulture crops are not feasible.

- 33 Site history assessed by over 17 years of aerial photographs, show no farming or stock activity for 40% of the year (June – October); cattle grazing only occurring November to February; pasture renewal restricted to driest months, typically January and over no more than driest one-third of the site; no green feed crops grown; and supplementary hay or silage only being late-harvested in February. The aerial images from 2005-2022 are attached at **Appendix 2**. This confirms the waterlogged soil restrictions.
- 34 Effectively the site has only been able to utilise the feed grown by using two methods, cattle for short intense periods of summer grazing, and harvesting of medium-poor quality hay or baleage in late summer.
- 35 Of all the possible farming enterprises, the most likely is light weight livestock; all the others are precluded because of the wet soils.

EXISTING INFRASTRUCTURE, PASTURE COVER AND STOCKING RATES

- 36 Subdivision fencing into ten paddocks is old fencing, partially cattle proof but not sheep proof; stock water system is rudimentary with old or missing troughs and fed from mainlines originating off-site. The system is inadequate for cattle and sheep but currently supplemented by access to surface water and drains; no cattle or sheep yards; no sheds suitable for modern farming needs; no shelter plantings.
- 37 Pasture cover at inspection was short term Italian Ryegrass (life approximately 2-years) with minimal legume content and lots of broadleaf weeds. It is expected that weed competition and wet soils will result in rapid deterioration of annual pasture yield and of feed quality, typical of heavy poor-draining silt over clay soils. Annual dry matter productivity is low and utilized yields even lower (below 50%).
- 38 There has been no stock grazing on the site for approximately 12-months. Long term stocking rates of the site as part of a larger farming operation are calculated at about 7.5 su/ha by assessing sporadic cattle grazing and volumes of late harvested hay. Using the site as a stand-alone block, the stocking rate is expected to be in the range of 5.0 – 6.5 su/ha utilising the small sandy soil area (2.1 ha) and lots of hay for up to 6-months of the year.

However, this would raise animal welfare concerns and is unlikely to be economic.

SITE DEVELOPMENT REQUIRED TO SUPPORT ANIMAL GRAZING ENTERPRISE

- 39 Any financially viable animal grazing enterprise would require better pastures and a regular pasture renewal programme to retain adequate pasture quality.
- 40 Upgrading infrastructure (fences, stock water, handling facilities) for sheep & beef livestock farming is estimated to cost \$85,000 - \$90,000. Alternatively upgrading for cattle-only, is estimated to cost about \$45,000. Undertaking pasture renewal, the cheapest viable way and aiming for reasonable but not ideal pasture would cost about \$16,000 and needs to be repeated no less frequently than every five years, supported by estimated \$3,800/year of annual maintenance fertiliser, not including any nitrogenous fertilisers.
- 41 The effective farming area of 26.0 hectares currently carrying an estimated 7.5 stock units per hectare, is about two-thirds the wider district average stocking rate of 11.6 stock units per hectare.

FINANCIAL VIABILITY OF ANIMAL GRAZING ENTERPRISE

- 42 Even assuming that a potential land user could operate at a stocking rate above the district average at eight percent higher (12.5 su/ha), and using available productivity and economic benchmarks [Beef & Lamb NZ; Economic Service] the gross income is calculated at \$37,000 per annum, farm operating expenses \$14,400, livestock loan costs \$1,500, and interest and principle costs of development of \$12,100 for a net annual return of \$9,000. There is no return for labour included, and assumes the land is owned debt free.
- 43 Financial viability is little better than or at break-even at best.

There is no operational scale or enough land-class diversity on the site with which to manage and mitigate farming risk.

MATTERS RAISED BY SUBMITTERS

- 44 There are no matters raised by submitters that are relevant to my statement of evidence.

CONCLUSION

- 45 The soils on the site are predominantly unusable for 5-6 months of the year and up to 7-8 months in some years, being either waterlogged or at excessive moisture content that prevent grazing and or land management activities without soil or pasture damage. The same elevation of the site as the neighbouring land means that the high-water tables are always going to be the predominant situation.
- 46 The infrastructure is poor and requires significant upgrade to allow better management practices to be used and increase productivity.
- 47 The location of the site for agricultural services support and access onto the site are a major disincentive that will restrict the quality and timing of work undertaken.
- 48 Of all the possible farming enterprises, the most likely is cattle; all the others are precluded because of the wet soils.
- 49 There is insufficient scale or enough land class diversity on the site with which to manage and mitigate farming risk.
- 50 Even at high stocking rates the financial returns are likely to be little better than breakeven, and with little chance of recouping any capital invested into land improvement. There is no return for labour included, and my calculations assume the land is owned debt free.
- 51 It is difficult to see any prudent land user placing themselves under these kinds of risks to farm the land on this site.
- 52 While a Rural Lifestyle use has lower financial imperative, the land use is still restricted to livestock including horses, with plants or orchard or gardening having the same obstacles of waterlogged soils.
- 53 It is difficult to see any prudent land user assessing the site as a good opportunity to establish and operate a rural business or use for rural lifestyle purposes and placing themselves under these kinds of risks to farm the land on this site.
- 54 Thank you for the opportunity to present my evidence.

Geoffrey Charles Dunham
Date: 5 March 2024

APPENDIX 1

North Block Farming Assessment, 8 March 2023

APPENDIX 2

North Block Aerial Photographs 2005-2022