



# memorandum



TO Tim Carter  
FROM Jarred Arthur  
Carter Group Ltd  
DATE 5 March 2025  
RE 104 Ryans Road – Assessment of waterway and wetland values

## 1.0 Introduction

A 55.5 ha industrial development is proposed at 104 Ryans Road, Yaldhurst. It includes the establishment of logistics, warehousing, light manufacturing, and other airport-related businesses. To support a Fast-track application for the development, Carter Group Limited (CGL) requested Pattle Delamore Partners (PDP) to provide advice on the presence and value of waterway and wetland features at the site.

PDP ecologists (see Appendix A) conducted a desktop assessment and subsequently visited the site on 27<sup>th</sup> November 2024. This memorandum includes site photographs and briefly describes the characteristics of the site in respect to waterway and wetland features

## 2.0 Waterways and wetlands

The proposed development site is managed pastoral land situated on a low-sloping plain (Figures 1 and 2). It is located to the west of Christchurch City. Unlike areas further north and east, where groundwater is shallower (e.g., within urban limits and nearer Waimakariri River), the site does not contain spring upwellings or other natural surface water features. A site visit confirmed the findings of the desktop review with no stream channels, saturated ground or hydrophytic vegetation observed.

A water race is located adjacent the site and flows west to east along Ryans Road (Figures 1 and 3). This is a lateral channel of the Paparua Water Race Network (PWRN) owned and operated by Selwyn District Council (SDC). It sources water from Waimakariri River near Intake Road and supplies irrigation and stock drinking water to the surrounding area. The PWRN channels are considered artificial waterways, however many long-standing race networks across the Canterbury Plains have established aquatic values over time. This is due to their inadequate screening of fish at intake and discharge points to natural waterways.

A review of the New Zealand Freshwater Fish Database (NZFFD) found two records (i.e., in 2018 and 2020) of upland bully (*Gobiomorphus breviceps*) in the PWRN between 1.0 and 1.5 km east of the 104 Ryans Road site. This native bully has a threat classification of 'Not Threatened' (Dunn *et al.* 2018)<sup>1</sup> and is non-migratory, meaning it does not need passage to the ocean to complete its life-cycle. Despite blocked culverts impeding fish passage adjacent to the project site, it is likely that upland bully inhabit sections of the water race close to the site.

<sup>1</sup> Dunn, N.R.; Allibone, R.M.; Closs, G.P.; Crow, S.K.; David, B.O.; Goodman, J.M.; Griffiths, M.; Jack, D.C.; Ling, N.; Waters, J.M.; Rolfe, J.R. 2018: Conservation status of New Zealand freshwater fishes, 2017. New Zealand Threat Classification Series 24. Department of Conservation, Wellington. 11 p.

NZFFD records also show that the following species have been caught in connecting lateral channels of the PWRN within approximately a 3 km radius of the site:

- ✧ Common bully (*Gobiomorphus cotidianus*): Not Threatened
- ✧ Longfin eel (*Anguilla dieffenbachia*): At Risk - Declining
- ✧ Shortfin eel (*Anguilla australis*): Not Threatened
- ✧ Brown trout (*Salmo trutta*): Introduced and Naturalised
- ✧ Goldfish (*Carassius auratus*): Introduced and Naturalised (pest species)

It is possible that some of these species inhabit the water race adjacent to the 104 Ryans Road project site.

The water race is considered a network waterway under the District Plan. It is intended that the race will be piped for an approximate length of 840 m as described in the infrastructure report. This is to facilitate the upgrading of Ryans Road to an industrial standard with kerb and footpath. It is proposed that the existing water will be diverted via a stabilised diversion channel to enable the pipe to be installed offline. The piping of the water race requires consent under the District Plan and the Land and Water Regional Plan as described in the planning assessment. Approvals under the Selwyn District Council Water Race Bylaw 2008 will be obtained as required prior to any works within the water race.



**Figure 1.** Development site at 104 Ryans Road, Yaldhurst (red outline). A Selwyn District Council water race (blue line) is located adjacent to the southern boundary of the site.



### 3.0 Conclusions and recommendations

There are no natural surface water or wetland features on, or likely within 100 m of, the site at 104 Ryans Road, Yaldhurst. The water race that flows along Ryans Road is an artificial hydrological feature, but may contain some limited aquatic values due to the potential presence of native fish populations. The fish species present (if any) are most likely to be small native bullies, but it is possible that some eels or brown trout are also inhabiting the race.

Robust sediment and erosion control measures will be implemented to mitigate any potential discharge effects from earthworks on open races. Given the artificial, highly managed characteristics of the PWRN, it is not necessary, in an ecological context, to retain or enhance the water race adjacent to the project site boundary. However, to manage the effects of piping approximately 840 m of the race, it is recommended that the following condition (or similar) be included as part of the consent:

- ✧ Prior to any diversion or construction within the bed of flowing water races, a qualified freshwater ecologist must undertake the salvage and translocation of freshwater fish. Any species caught must be translocated to a nearby reach of waterway unimpacted by the works. Any pest species caught should be humanely destroyed and disposed of.

On the basis of the management actions recommended above, it is expected that the proposal to develop land at 104 Ryans Road will have a very low risk of any impact on freshwater or wetland ecosystems.



**Figure 2 Rank grassland typical of the proposed development site at 104 Ryans Road, 27<sup>th</sup> November 2024.**





**Figure 3** Water race flowing along Ryans Road in front of the proposed development site (left) and a close-up of the water race channel bed (right), 12<sup>th</sup> November 2024. Photos supplied by CGL.

#### 4.0 Limitations

This memorandum has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Carter Group Limited. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the memorandum. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

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Prepared by

A handwritten signature in black ink, appearing to read 'Jarred Arthur', written over a white background.

**Jarred Arthur**

Technical Director – Ecology

## Appendix A: Project Team bios

The assessments outlined in this memorandum were undertaken by the following qualified ecologists:

### Jarred Arthur (Technical Director – Ecology)

Jarred is a freshwater ecologist with fifteen years experience working in both the public and private sectors. He graduated from the University of Canterbury with a Master of Science (Ecology) in 2010. He is a member of the New Zealand Freshwater Sciences Society (NZFSS).

His previous work as a Regional Council scientist (Environment Canterbury, 2016-2023) involved providing technical support to policy and planning processes, governance and community groups, iwi, and other technical specialists. He has extensive experience informing consent application processes associated with a range of land and water use activities.

Jarred is well-versed in the monitoring of river ecosystems including water quality and habitat parameters, and macroinvertebrate and fish communities. He has analysed and interpreted ecological datasets, written and peer-reviewed numerous technical reports, and prepared and presented evidence at hearings. His recent work with PDP has involved assessing the environmental effects of construction- and operational-phase activities associated with residential and industrial developments. This has included mitigation and offsetting for waterway and wetland ecosystems.

### Lachie Davidge (Freshwater and Terrestrial Ecologist)

Lachie is an ecologist with three years of experience working in environmental consultancy. He graduated from the University of Otago with a Master of Science (Ecology) in 2023. He is affiliated with the New Zealand Ecological Society (NZES), New Zealand Herpetological Society (NZHS), and Society for Research on Amphibians and Reptiles in New Zealand (SRARNZ).

Lachie has expertise in terrestrial and freshwater ecology, pest plant and animal management and restoration work. He has been involved in a wide range of work including freshwater assessments, bird surveys, lizard management works, wildlife hazard management, infill and riparian planting plans and implementation. He has conducted several research projects developing novel survey methods for rare, high alpine lizard species.