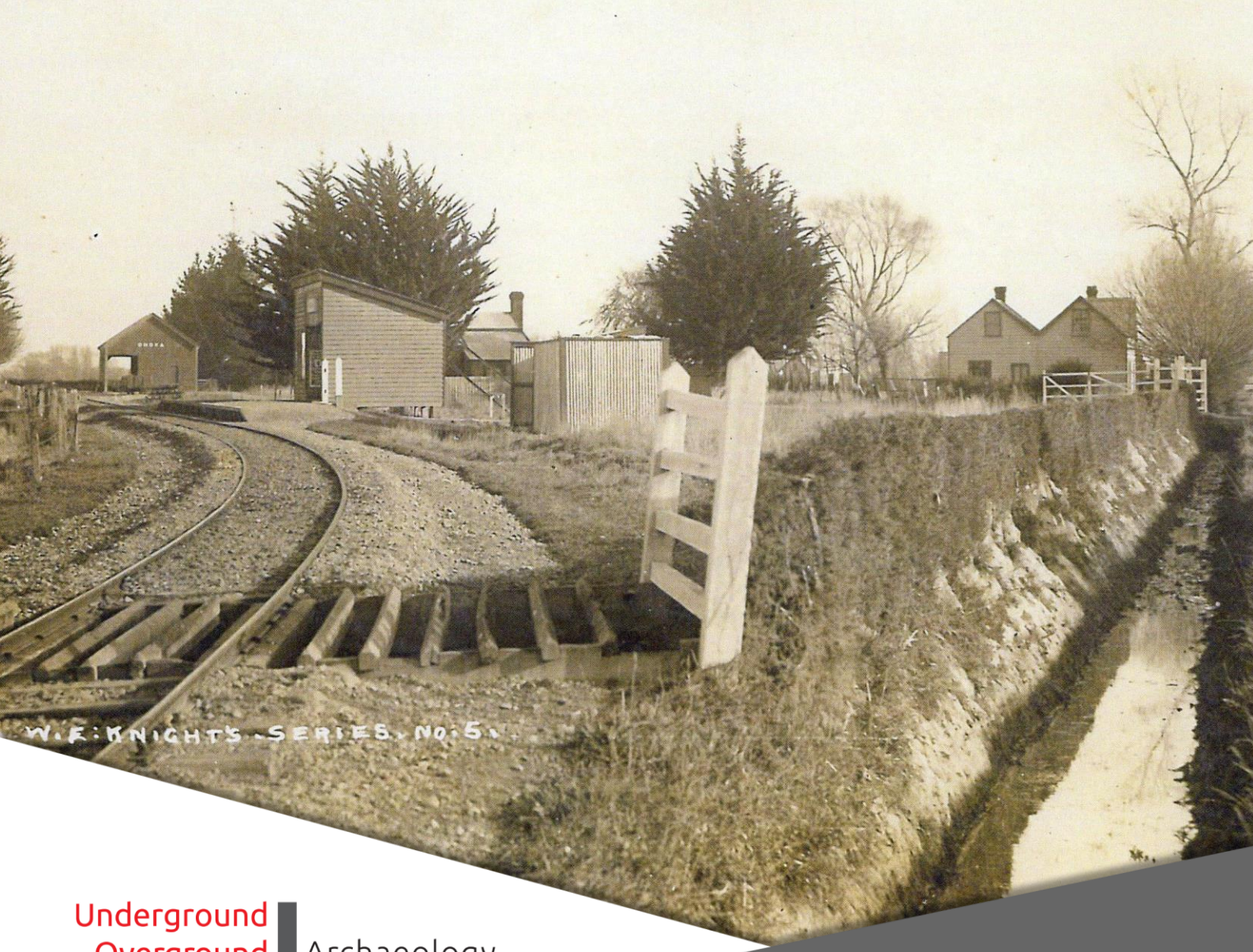


Underground Overground Archaeology

Mill Road subdivision, Ōhoka

Archaeological assessment

Report prepared for Carter Group Limited
Author: Tristan Wadsworth and Annthalina Gibson
Reviewed by: Kirsa Webb
Submitted: June 2026

Underground Overground Archaeology

Mill Road subdivision, Ōhoka

Archaeological assessment

Report prepared by:
Underground Overground Archaeology Ltd
P.O. Box 388, Christchurch, 8140
T: 0800 654 686 | E: admin@underoverarch.co.nz
www.underoverarch.co.nz

Project details

Archaeological site No.	M35/1875 (Ōhoka railway station)
Site address	535 Mill Road and 290 Bradleys Road, Ōhoka (Lot 2 and 3 DP 318615, part Lot 1 DP 8301, Lot 2 DP 8301, Lot 2 DP 61732)
Client	Carter Group Ltd
Client contact	Bruce Van Duyn
Report authors	Tristan Wadsworth, Annthalina Gibson (historical background)
Reviewed by	Kirsa Webb
Nominated s45 Approved Person	Tristan Wadsworth
Report submitted to	Carter Group Ltd, Ngāi Tūāhuriri Rūnanga, Heritage New Zealand Pouhere Taonga, Environmental Protection Authority, FTA Panel Conveners and Expert Panel, Waimakariri District
Document control ID	J012274_AA_REV B

Document control

Revision no.	Date submitted	Description	Prepared by	Reviewed by
A	15 August 2025	First draft	TW	KW
B	4 June 2026	Updated scope	KJW	TW

Ownership and disclaimer

Cover photo: view from Mill Road looking west towards the Bradley Road intersection. Image: Knight, n.d.

Expert Witness Statement & Confirmation of skill and competency

This statement sets out the information required under clause 7 of Schedule 8 of the FTAA for the application for approval to carry out the out activities under the authority.

I, Tristan Wadsworth, confirm that I possess the necessary skill and competency, and that I am fully capable, of ensuring that the activities covered by the archaeological authority sought for works for the Ōhoka Residential Subdivision project are carried out to the satisfaction of Heritage New Zealand Pouhere Taonga.

I have over 14 years' experience in advising on archaeological and heritage matters. I am currently employed as a Principal Archaeologist at Underground Overground Archaeology. I hold the qualification of Master of Archaeology (University of Otago, 2015). I have been approved as a section 45 approved person by Heritage New Zealand Pouhere Taonga, and have served, and continue to serve, as the section 45 approved person for numerous archaeological authorities.

I confirm that I will adhere to and follow accepted archaeological practice in undertaking the archaeological work required by the conditions of any authority granted as a result of the application.

I confirm that I meet the criteria required to be an approved person to undertake an activity under the authority under sections 7(5) of the Act and 45(2)(a) of the Heritage New Zealand Pouhere Taonga Act 2014.

I confirm that I have access to appropriate institutional and professional support and resources. Underground Overground Archaeology, employs a large team of qualified archaeologists, along with professional affiliations and peer networks. These provide me with the ability to draw on additional technical expertise to ensure high-quality work and respond to any unforeseen.

While the project area does not include an archaeological site of interest to Māori, I have the requisite competences for recognising and respecting Māori values through my experience as a section 45 approved person on projects with archaeological sites associated with Māori occupation and settlement. I have access to appropriate cultural and tikanga support.

My role in relation to the implementation of the Ōhoka Residential Subdivision Project ("the Project") has been to provide expert advice in relation to archaeology as part of the Project. I conducted research, performed data analysis, and wrote the Archaeological Effects Assessment, and Archaeological Management Plan.

My experience across selected relevant projects includes:

North Belfast Residential Development – Archaeological effects assessment, HNZPT Act authority application, on-site monitoring, s45 approved person.

Spring Grove subdivision – archaeological effects assessment, HNZPT Act authority application, on-site monitoring, final report author, s45 approved person.

Kōwhai Solar Farm – archaeological effects assessment, HNZPT Act authority application, on-site monitoring, s45 approved person

Tuahiwi water and sewer upgrade project – archaeological effects assessment, HNZPT Act authority application, on-site monitoring, final report author, s45 approved person.

In providing this evidence in relation to archaeology, I have considered the following matters as relevant to that topic:

The project description as set out in Section 5 of the Substantive Application prepared by Carter Group Limited;

The technical drawing set and information produced to support the Substantive Application including: General Layout Plan, Proposed Earthworks Cut and Fill Plan and Detailed Site Investigation.

Unpublished archaeological technical reports prepared for previous works within the surrounding area.

I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing this report. Other than when

I state I am relying on the advice of another person/technical assessment, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Tristan Wadsworth
4 June 2026

Executive summary

Carter Group Ltd is proposing the subdivision of approximately 154.4 ha to the southwest of the current Ōhoka township, bordered by Bradleys Road, Mill Road, and Whites Road (Lots 1, 2 and 3 DP 318615, Part Lot 1 DP 8301, Lot 2 DP 8301, and Lot 2 DP 61732). The project will include approximately 875 residential lots at a range of densities, a commercial/mixed use centre, a retirement village, recreational facilities, and all necessary associated infrastructure. Work will involve demolition and foundation removal of standing buildings and other structures, topsoil stripping in advance of cut and fill works to level the area, the infillings and realignment of existing drains and waterways, formation of roads, service installation and other works. The following archaeological assessment has been commissioned to assess the archaeological potential of the project area and to consider the impact that the proposed works will have on any archaeological sites.

This archaeological assessment has identified that the works will affect the recorded site of the Ōhoka Railway Station, founded in 1875 (M35/1875). The archaeological values of the site are estimated to be medium. Based on current plans, the concrete loading bank structure is proposed to be retained within a heritage reserve which incorporates some public interpretation about the site. The retention of this structure and the provision of historical interpretation will minimise the adverse effects on this archaeological site. The site, however, extends outside of the reserve area and the proposed works would still remove the majority of the site and reduce its archaeological value to low.

In addition, the works will infill portions of likely 19th century drains, and have the potential to affect unrecorded subsurface archaeological remains associated with 19th century domestic and agricultural occupation of the area, concentrated around identified historic dwelling areas near 543 Mill Road and Lot 1 DP 55849 on Bradleys Road.

No direct evidence was found that Māori archaeological sites would be encountered during within the project area, but the possibility cannot be discounted.

Pre-1900 archaeological sites are protected under the Heritage New Zealand Pouhere Taonga Act 2014, and modification of these recorded and potential unrecorded archaeological sites would require an archaeological authority under the HNZPT Act 2014 or the FTA Act 2024. An archaeological management plan should be commissioned to guide the archaeological requirements of the project. Archaeological monitoring, recording, investigation, interpretation, and production of a final report will partially mitigate the effects of the proposed redevelopment works on archaeological sites within the project area; however adverse effects, even with these mitigation measures in place, will still be major for the unrecorded pre-1900 drains and domestic and agricultural occupation sites (see table below). The residual effects on M35/1875 will be moderate. As the project will result in the irreversible loss of physical fabric from these sites the adverse effects will be permanent.

Sites affected by the proposed Ōhoka subdivision.

NZAA site ID	Site name	Site location	Brief description
M35/1875	Ōhoka Railway Station	Near junction of Mill Road and Bradleys Road, Ōhoka	Remains of Ōhoka Railway Station 1875-1954. Surface remains of the railway include a low earth embankment, and standing concrete structure.
Not recorded	-	Approx. location of 543 Mill Road, Ōhoka	19th century farming occupation of RS 2220, the farmstead of which was likely located on Bradleys Road near the modern 543 Mill Road.
Not recorded	-	Approx. location of Lot 1 DP 55849, Bradleys Road, Ōhoka	19th century farming occupation of RS 4133, the farmstead of which was likely located on Bradleys Road near the modern Lot 1 DP 55849.
Not recorded	-	Former Ōhoka estate	Network of open drains and water races within the former Ōhoka estate, Ōhoka

Abbreviations

Abbreviation	Definition
AMP	Archaeological Management Plan
DEM	Digital Elevation Model
EPA	Environmental Protection Authority
FTA 2024	Fast-track Approvals Act 2024
HNZPT	Heritage New Zealand Pouhere Taonga
HNZPTA 2014	Heritage New Zealand Pouhere Taonga Act 2014
LiDAR	Light Detection and Ranging
NZAA	New Zealand Archaeological Association
RMA 1991	Resource Management Act 1991
UOA	Underground Overground Archaeology Ltd

Acknowledgements

Underground Overground Archaeology acknowledges and thanks the following individuals who assisted in this project: Lydia Mearns, Bruce Van Duyn, Peter Sherriff, Tim Walsh.

Table of contents

Project details i
Document control i
Ownership and disclaimer i
Expert Witness Statement & Confirmation of skill and competency ii
Executive summary iv
Abbreviations v
Acknowledgements v
Table of contents vi
List of figures vii
List of tables ix
1 Introduction 10
1.1 Project area 10
1.2 Proposed activities 11
2 Statutory requirements 12
2.1 Heritage New Zealand Pouhere Taonga Act 2014 12
2.2 Resource Management Act 1991 13
2.3 Protected Objects Act 1975 13
2.4 Fast-track Approvals Act 2024 13
3 Methodology 15
3.1 Research to identify archaeology and inform archaeological values 15
3.2 Assessment of archaeological values 15
3.3 Assessment of effects 16
4 Physical environment and setting 17
5 Historical background 18
5.1 Rural Section 2220 20
5.2 Rural Section 3176 23
5.3 Rural Section 4133 24
5.4 Rural Section 3177, 3182, 3662 26
5.5 Ohoka Estate 26
5.5.1 Ohoka Subdivision 1908 26
5.6 Ōhoka Railway Station and Eyreton Line 28
5.7 Ōhoka Stream and drainage 30
6 Previous archaeological investigations and archaeological context 34
6.1 Previous archaeological records and reports 35
6.2 Archaeological investigations of railway stations in New Zealand 36
6.3 Waterways and Māori archaeological sites in Canterbury 36
7 Site survey 38
7.1 Ōhoka Railway Station: M35/1875 38
7.2 547 Mill Road 47
7.3 Streams and waterways 48
7.4 Dwelling areas 49
7.4.1 531 Mill Road 49
7.4.2 236 Bradleys Road 49
8 Research results 51
8.1 Constraints and limitations 52
9 Archaeological and other values 53

10 Assessment of effects and other considerations 57
10.1 Assessment of effects on archaeological and other values 57
10.2 Recommendations to avoid, minimise and/or mitigate adverse effects 57
10.2.1 Sites and features to be avoided or protected 58
10.2.2 Methods to minimise damage to archaeological sites or features 59
10.2.3 Mitigation for information loss 60
10.3 Summary of effects on archaeological values 61
11 Conclusions and recommendations 62
12 References 65
Appendix A Development plans A-1
Appendix B Site record forms B-1

List of figures

Figure 1-1. Proposed subdivision location, showing legal parcels. 11
Figure 4-1. Geomorphology of landscape surrounding area of works. Data: Begg, Jones and Barrell, 2015. 17
Figure 5-1. Detail from a survey of 'pasturage runs' in Canterbury. The wetland areas identified as runs 147 and 103 are highlighted in red, with the approximate location of the proposed works marked by the blue dot. Image: Jarman, n.d. 19
Figure 5-2. Detail from the 1864 Black Map 141, a survey of the Mandeville and Rangiora Road District. The proposed subdivision is shaded in red. The yellow dashed line shows part of the Eyreton Railway Line. It is also possible to see the Ōhoka Stream forming a boundary between rural sections 2220 and 4133. Image: Cass, 1864. 20
Figure 5-3. View of Mill Road looking west towards the Bradley Road intersection, with no specific date, but likely early 20th century. A two-storied dwelling is visible at the centre of the image, which was the first Methodist parsonage. Image: Knight, n.d. 21
Figure 5-4. Sale notice for Clist's property. Noted are the four sections subdivided as DP 2267. Image: Press, 14/04/1906: 15. 21
Figure 5-5. Detail from the 1906 survey, DP 2267, showing the railway siding. Highlighted in magenta is the part of Rural Section 2220 that will form part of the project area. Image: LINZ, 1906. 22
Figure 5-6. Aerial imagery from 1940, with the 1906 subdivision lots highlighted in cyan, pink and green. These sections form part of the proposed Ōhoka subdivision. Image: Canterbury Maps, 2025. 23
Figure 5-7. Detail from 1960 aerial imagery. Highlighted in cyan is part of Lot 2 DP 2267. The yellow circle shows the possible location of the 1888 dwelling recorded in the valuation rolls. Image: Canterbury Maps, 2025. 23
Figure 5-8. Aerial imagery from 1940. Highlighted in green is Rural Section 4133. The likely location of the pre-1900 structures is circled in yellow and remains outside the proposed area of works. Highlighted in red is Rural Section 3176 with no structures recorded on the section. Image: Canterbury Maps, 2025. 25
Figure 5-9. Aerial imagery from 1940 showing the extant buildings at this time in the vicinity of the modern Lot 1 DP 55849. Several of these buildings fall within the project area, and may have been built prior to 1900. 25
Figure 5-10. Subdivision of the Ohoka Estate in 1908. Lots 10, 11, and part of Lot 12 would form part of the proposed project area, which is highlighted in pink. Image: Rangiora Museum, 1908. 26
Figure 5-11. Detail from the 1908 survey of Rural sections 3177 (coloured green), 3182 (coloured yellow), and part of 3662 (coloured blue). These were surveyed as Lots 10 and 11 in the Ohoka Estate plan (Figure 5-10). Image: LINZ, 1908. 27

Figure 5-12. Rural Section 3177 (coloured green), 3182 (coloured red), and 3663 (coloured cyan) in aerial imagery from 1940. The red line marks the area of the proposed subdivision. Image: Canterbury Maps, 2025. 28
Figure 5-13. Detail from Kemp's 1881 survey of the Rangiora district. It is possible to see the Kaiapoi-Oxford Branch line along Bradleys Road before turning into the Ohoka Railway station, and continuing along Mill Road towards Kaiapoi. Image: Kemp, 1881. 29
Figure 5-14. Detail from the plan of the Ohoka Railway Station (highlighted in red) in 1891. Outlined in blue are the locations of the platform, station master's house, and the goods shed. North is toward the bottom of the plan Image: Archives New Zealand, 1891. 29
Figure 5-15. View from Mill Road looking west towards the Bradley Road intersection, with no specific date, but likely early 20th century. It is possible to see the drain along Mill Road and the first Methodist parsonage to the right of the railway. The station master's house is visible near the centre of the image behind the station building, and the goods shed to the left. The rail line sits within a low gravel embankment. Image: Knight, n.d. 30
Figure 5-16. Detail from Waimakariri District Council maps showing drainage and water races marked in blue within the proposed project area (highlighted in red). It is possible to see the Ōhoka Stream, and the south branch of the stream marked by the blue lines running through the property. Image: Waimakariri District Council, 2025. 31
Figure 5-17. Detail from the 1908 subdivision of Eliza White's Ohoka Estate showing the creeks (highlighted in cyan) and water races (highlighted in blue). Highlighted in pink is the proposed project area. Image: Rangiora Museum, 1908. 32
Figure 5-18. Detail from aerial imagery in 1940 showing the two branches of the Ohoka stream running through the proposed area of works. Image: Canterbury Maps, 2025. 32
Figure 5-19. Aerial imagery from 1955 until 1964 showing the straightening of the southern branch of the Ohoka Stream (highlighted in cyan). Image: Canterbury Maps, 2025. 33
Figure 6-1. Recorded archaeological sites within and in the immediate area of works. 34
Figure 6-2. Exposed stratigraphy with ballast in centre, as exposed during works completed under archaeological authority 2016/644. Trowel included for scale. Image: Trotter, 2016: 7. 35
Figure 6-3. Annotated map showing the location of artefact findspots during works completed under archaeological authority 2016/911. Image: Trotter, 2017: 10. 36
Figure 7-1. View southwest from Mill Road along railway embankment. The approximate boundaries of the embankment are shown with dashed white lines. 38
Figure 7-2. View southwest along railway embankment. The approximate boundaries of the embankment are shown with dashed white lines. 39
Figure 7-3. View west across railway embankment. The approximate boundaries of the embankment are shown with dashed white lines. 39
Figure 7-4. View of LiDAR (Light Detection and Ranging) imagery of the Ōhoka Railway Station embankment. 40
Figure 7-5. View of concrete structure within M35/1875. 41
Figure 7-6. Aerial imagery of Ōhoka Railway Station, 1940-1944, showing the location of the standing concrete structure. 42
Figure 7-7. Detail of aerial imagery of Ōhoka Railway Station, 1940-1944, showing the location of the standing concrete structure in relation to dwellings. 42
Figure 7-8. Internal view of concrete structure. 43
Figure 7-9. 'M 95' marking on concrete structure. 44
Figure 7-10. Possible marking/graffiti on concrete surface. 44
Figure 7-11. View of formwork impressions, east side. 45
Figure 7-12. In situ corrugated iron and railway iron within northeast side. 45
Figure 7-13. Concrete protrusion on southeast corner. 46
Figure 7-14. Protrusion on southeast corner of structure, showing cut iron nail projection. 46
Figure 7-15. Concrete (left) and wood (right) fragments. 47
Figure 7-16. Ceramic or slag fragments. 47
Figure 7-17. 547 Mill Road. 47

Figure 7-18. View east along the drain along the south side of Mill Road (left), and of culvert in area of embankment on Mill Road (right). 48
Figure 7-19. View along Ōhoka Stream from culvert, west (left), and east (right). 48
Figure 7-20. Views along Ōhoka South Branch. Left: View west from dwelling at 236 Bradleys Road; Right: view east along drain on north side of dairy buildings. 49
Figure 7-21. Aerial imagery of buildings at 236 Bradleys Road, 1940-1944. 50
Figure 8-1. Plan of known 19th century historical occupation areas, water races within the project area in 1908. 51
Figure 10-1. The standing concrete structure, within proposed Lot 115. Image provided by Carter Group Ltd. Note that since Feb 2025 the boundaries of the lot have been altered slightly so that the entire structure is within the parcel. 58
Figure 10-2. Rendered landscape plan showing the proposed heritage reserve. Image provided by Carter Group Ltd. 59

List of tables

Table 1-1. Summary of project area. 10
Table 3-1. Scale of overall archaeological value (adapted from DoT, 2008). 16
Table 5-1. Initial Crown grants of the rural sections within the proposed project area, with a summary of early occupation. 20
Table 5-2. Valuation rolls records of the relevant parts of Rural Section 2220, recording the ownership, occupation, and structures on the land in 1908. The appellations are from the 1906 subdivision DP 2267 (Archives New Zealand, 1908-1914: 307, 308; see Figure 5-5). 22
Table 5-3. Valuation rolls records of rural sections 3176 and 4133 in 1908 (Archives New Zealand, 1908-1914: 309). 24
Table 6-1. Table summarising recorded archaeological sites within Ōhoka and surrounds. 34
Table 6-2. Table summarising recorded archaeological sites relating to the Eyreton Brach rail line. 35
Table 9-1. Summary of archaeological value for M35/1875. 53
Table 9-2. Summary of archaeological values for drainage and water race features. 54
Table 9-3. Archaeological values for 19th century farming sites. 55
Table 9-4. Summary of archaeological value for Māori oven and midden sites. 55
Table 11-1. Sites affected by the proposed Ōhoka subdivision. 62

1 Introduction

Carter Group Ltd are proposing the subdivision of approximately 154.4 ha to the southwest of the current Ōhoka township, bordered by Bradleys Road, Mill Road, and Whites Road (Figure 1-1; Lots 1, 2 and 3 DP 318615, Part Lot 1 DP 8301, Lot 2 DP 8301, and Lot 2 DP 61732). An archaeological site, the location of the former Ōhoka Railway Station (M35/1875) is recorded within the project area. This archaeological assessment has been prepared to assess the archaeological potential of the project area and to consider the impact that the proposed works will have on any archaeological sites. Archaeological sites are defined within legislation as areas that witnessed human occupation prior to the year 1900 and can provide information on the history of New Zealand through archaeological investigation. Archaeological sites are protected under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA 2014).

1.1 Project area

The project area is defined as 531 Mill Road, 535 Mill Road/347 Whites Road, Ōhoka, encompassing approximately 154.4 ha and six land parcels, and a summary of the project area is provided in Table 1-1.

Table 1-1. Summary of project area.

Site address	531 Mill Road, Ōhoka, 535 Mill Road/347 Whites Road, Ōhoka
Legal description	Lot 1 DP 318615, Lot 2 DP 318615, Lot 3 DP 318615, Part Lot 1 DP 8301, Lot 2 DP 8301, Lot 2 DP 61732
Landowner	HC Trustees 2010 Limited, Peter John Sherriff, Rhonda Jane Sherriff
Territorial authority	Waimakariri District Council
Archaeological site no.	M35/1875
Previous archaeological authorities	n/a
New Zealand Heritage List/Rārangi Kōrero	None within project area: Ōhoka Gate Keeper's Lodge (no. 3817) and Te Wai Pounamu School House (former)(no. 3738) are located nearby.
Covenant or heritage order	n/a
Scheduled heritage on district plan	n/a
Reserve status	n/a
Statutory acknowledgement area	n/a
Customary marine title	n/a

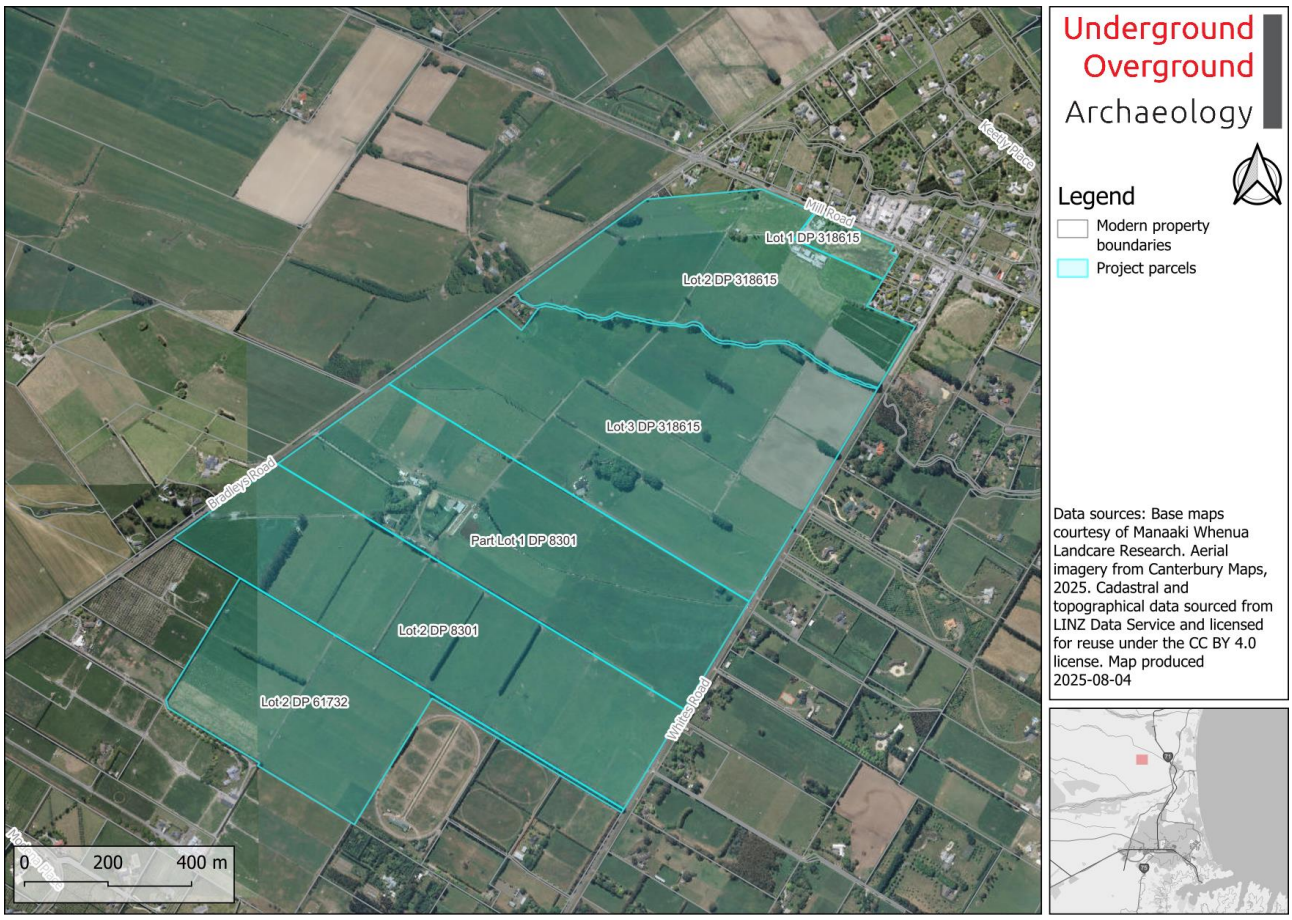


Figure 1-1. Proposed subdivision location, showing legal parcels.

1.2 Proposed activities

The proposed development is to consist of subdivision for residential allotments, a retirement village, a small commercial centre and a polo ground and associated facilities. The predominant land use will be residential, with density gradually decreasing towards the south. Stormwater and recreation reserves are proposed through the development stages.

Earthworks for the development of the project will include:

- Construction of new roads and berms
- Installation of sewer reticulation
- Establishment of stormwater reticulation
- Development of stormwater management areas
- Construction of water supply infrastructure
- Trenching and installation of utility services
- Re-alignment of waterways and existing drains, including naturalisation of existing drains, and establishment of new culverts for crossing the existing streams and drains within and bounding the projects
- Road upgrades within Whites Road, Bradleys Road and Mill Road

Excavations are likely to occur over the entirety of the project area to varying depths for levelling the area, including cutting up to approximately 2 m in some places. Cut and fill works are likely to involve stripping of topsoil across the entirety of the project area in advance of cutting and filling. Service excavations will be up to 3.5 m from the finished surface. An outline of the proposed works was provided by INOVO, and will accompany the application. Outline plans of the proposed works are presented in Appendix A.

2 Statutory requirements

The legislative requirements relating to archaeological sites and artefacts are detailed in the following sections. There are two main pieces of legislation that provide protection for archaeological sites: the Heritage New Zealand Pouhere Taonga Act 2014 and the Resource Management Act 1991 (RMA 1991). Artefacts are further protected by the Protected Objects Act 1975. The Fast-track Approvals Act 2024 (FTA 2024) allows for applicants to apply for approvals covering a range of normally separate consents and/or authorities, including several that may apply to heritage (RMA 1991, HNZPTA 2014, Conservation Act 1987 and Reserves Act 1977).

2.1 Heritage New Zealand Pouhere Taonga Act 2014

HNZPT administers the HNZPTA 2014, and the purpose of this Act is to promote identification, protection, preservation, and conservation of New Zealand's historical and cultural heritage. The HNZPT Act outlines the archaeological authority process for any work affecting archaeological sites, where an archaeological site is defined as:

(a) any place in New Zealand, including any building or structure (or part of a building or structure), that—
  (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
  (ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
(b) includes a site for which a declaration is made under section 43(1)

Archaeological sites are protected under Section 42 of the act, and it is an offense to carry out work that may "modify or destroy, or cause to be modified or destroyed, the whole or any part of that site if that person knows, or ought reasonably to have suspected, that the site is an archaeological site", whether or not the site has been previously recorded. Each individual who knowingly damages or destroys an archaeological site without having the appropriate authority is liable, on conviction, to substantial fines (Section 87).

Any person who intends carrying out work that may damage, modify or destroy an archaeological site, or to investigate a site using invasive archaeological techniques, must first obtain an archaeological authority from Heritage HNZPT. The process applies to sites on land of all tenure including public, private and designated land. The Act contains penalties for unauthorised site damage or destruction.

The archaeological authority process applies to all sites that fit the HNZPTA definition, regardless of whether

- the site is recorded in the New Zealand Archaeological Association (NZAA) Site Recording Scheme (ArchSite), listed by HNZPT, or scheduled under a district plan;
- The site only becomes known about as a result of ground disturbance, and/or;
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted.

HNZPT will process the authority application within five working days of its receipt to assess if the application is adequate or if further information is required. If the application meets the requirements under Section 47(1)(b), it will be accepted and notice of the determination will be provided within 20 to 40 working days. HNZPT will notify the applicant and other affected parties (*e.g.*, the landowner, local authorities, iwi, museums, *etc.*) of the outcome of the application.

Once an authority has been granted, modification of an archaeological site is only allowed following the expiration of the appeal period or after the Environment Court determines any appeals. Any directly affected party has the right to appeal the decision within 15 working days of receiving notice of the determination. HNZPT may impose conditions on the authority that must be adhered to by the authority holder. Provision exists for a review of the conditions.

The authority is tied to the land for which it applies, regardless of changes in the ownership of the land. Prior to any changes of ownership, the landowner must give notice to HNZPT and advise the succeeding landowner of the authority, its conditions, and terms of consent.

2.2 Resource Management Act 1991

The RMA 1991 defines historic heritage as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities. Historic heritage includes historic sites historic sites, structures, places, and areas; archaeological sites; and sites of significance to Māori (including wahi tapu); and surroundings associated with the natural and physical resources. These categories are not mutually exclusive, and some archaeological sites may include above ground structures or may also be places that are of significance to Māori. It should be noted that this definition does not include the 1900 cut-off date for protected archaeological sites as defined by the HNZPTA 2014. Any historic feature that can be shown to have significant values must be considered in any resource consent application.

The RMA requires city, district, and regional councils to manage the use, development, and protection of natural and physical resources in a way that provides for the well-being of today's communities while safeguarding the options of future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (section 6f).

Iwi/hapū management plans are planning documents that are recognised by an iwi authority, relevant to the resource management issues, including heritage, of a place and lodged with the relevant local authority. They have statutory recognition under the RMA 1991. Iwi management plans set baseline standards for the management of Māori heritage and are beneficial for providing frameworks for streamlining management processes and codifying Māori values. Iwi management plans can be prepared for a rohe, heritage inventories, a specific resource or issue or general management or conservation plans (NZHPT, 2012).

Te Ngāi Tūāhuriri Rūnanga of Ngāi Tahu are tangata whenua in Ōhoka and the surrounds. The Mahaanui Iwi Management Plan provides a policy framework for Ngāi Tahu values in the proposed area of works (Jolly and Ngā Papatipu Rūnanga Working Group, 2013).

2.3 Protected Objects Act 1975

The Protected Objects Act 1975 was established to provide protection of certain objects, including protected New Zealand objects that form part of the movable cultural heritage of New Zealand. Protected New Zealand objects are defined by Schedule 4 of the act and includes archaeological objects and taonga tūturu. Under Section 11 of the Protected Objects Act 1975, any newly found Māori cultural objects (taonga tūturu) are automatically the property of the Crown if they are older than fifty years and can only be transferred from the Crown to an individual or group of individuals through the Māori Land Court. Anyone who finds a complete or partial taonga tūturu, accidentally or intentionally is required to notify the Ministry of Culture and Heritage within:

(a) 28 days of finding the taonga tūturu; or
(b) 28 days of completing field work undertaken in connection with an archaeological investigation authorised by HNZPT.

2.4 Fast-track Approvals Act 2024

The Fast-track Approvals Act (FTA) 2024 allows for applicants to apply for approvals covering a range of normally separate consents and/or authorities, including several that may apply to heritage (RMA 1991, HNZPTA 2014, Conservation Act 1987 and Reserves Act 1977).

Applicants must apply to the Environmental Protection Authority (EPA). Any approvals, such as archaeological authorities, granted under the FTA 2024 must be treated as if granted under the relevant legislation that establishes it or provides for it (e.g. HNZPTA 2014).

Schedule 8 of the FTA 2024 outlines the process and requirements for applying for an archaeological authority under this legislation. Archaeological sites, historic places and historic areas have the same definition as the HNZPTA 2014 (see Section 2.1). All applications for archaeological authorities under the FTA 2024 are referred to HNZPT and the Māori Heritage Council, who provide recommendations back to the expert panel. A substantive application that seeks an archaeological authority under the FTA 2024 may include an application for approval of any person nominated to undertake an activity under the authority.

Applications for resource consents under the FTA 2024 must include an assessment of the proposed activity against Section 6 of the RMA 2024, which includes the protection of historic heritage from inappropriate subdivision, use and development.

3 Methodology

This archaeological assessment has been prepared in accordance with HNZPT's (2019) guideline on preparing an archaeological assessment. Presented below are the methods used to gather information to identify the archaeological potential of the project area, determine the archaeological significance, and assess the effects of the proposed work on archaeological values.

3.1 Research to identify archaeology and inform archaeological values

The first half of this report provides the information gathered to inform on the archaeological values of the project area, including the setting, historical background, archaeological context, and the site survey. Documentary research was undertaken to inform the background research sections of this assessment. The physical environment section documents the setting of the project area, its land use, and considers environmental factors that may influence how the site was occupied through time. The historical background first provides an overview of human history for the wider area before narrowing down on evidence that is specific to the project area itself to determine the nature and significance of the archaeology. Previous archaeological research and investigations for the project area provides an understanding of research results, areas of modification, and informs on the potential for the proposed works to affect archaeology. This section also considers the wider archaeological context, including the consideration of sites recorded near the project area and how identified site types are represented in the archaeological record at the local, regional, and national level. Sources utilised for this research include:

- Published primary and secondary sources for the development of the Waimakariri and Ōhoka areas
- Kā Huru Manu, Ngāi Tahu's digital atlas,
- Historic newspaper articles through PapersPast,
- Historic maps accessed via GRIP and from Archives New Zealand,
- Land Information New Zealand (LINZ) Data Service
- TLA (Territorial Local Authority) – Waimakariri District Council
- The New Zealand Archaeological Association site recording database (ArchSite),
- The HNZPT archaeological reports digital library,
- New Zealand Heritage List/Rārangi Kōrero,

A site survey provides the opportunity to identify archaeological features that are present within the project area along with their condition. The site visit also notes any disturbances to the site that may affect the distribution or preservation of subsurface archaeology. A site survey was undertaken by Tristan Wadsworth (UOA), meeting Bruce Van Duyn (Carter Group Ltd) and Peter Sherriff (landowner) on site. The results of the site survey are detailed in Section 7.

3.2 Assessment of archaeological values

The assessment of archaeological and other values is based on criteria established by HNZPT (2019):

- The condition of the site(s).
- Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?
- Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; the relationship between features within a site, and the wider context of the surroundings.
- Information potential. What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.
- Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?

- Does the site(s) have any special **cultural associations** for any particular communities or groups (e.g., Māori, European, Chinese.)

The criteria outlined above help to build an assessment of significance of an archaeological site, and UOA have adopted the following scale to which overall archaeological value is assigned (Table 3-1). This scale follows the recommendations proposed by Department of Transport (2008); although, this steers away from the use of local, regional, and national importance, which Kerr (2013) argues is irrelevant to the assessment process. It is important to note that it is not possible to fully understand the archaeological value of subsurface sites, and that the significance of a site may change on the basis of what is found during the work program.

Table 3-1. Scale of overall archaeological value (adapted from DoT, 2008).

Overall value	Criteria
Very high	• World Heritage Sites (and proposed sites) • An archaeological site of acknowledged international importance

High	• Listed archaeological sites, including those of listing quality and importance
	  ○ Category 1: places of special or outstanding historical or cultural heritage significance or value;
	  ○ Category 2: places of historical or cultural heritage significance or value; and
	• Scheduled archaeological sites, including those of scheduling quality and importance
	• Archaeological sites with exceptional values

Medium	• Archaeological sites that can be shown to have moderate values
Low	• Archaeological sites with limited value, including those that are highly represented, have low information potential, have poor preservation, and/or poor survival of contextual association
Negligible	• Sites with very little surviving archaeological interest
Unknown	• The importance of the site is not yet known

3.3 Assessment of effects

After determining that there is evidence that archaeology is present within the project area and evaluating its archaeological value, an assessment of the effects of the proposed work on those values was completed. Specifically, consideration was given to the following matters as outlined by HNZPT (2019):

- How much of the site(s) will be affected, and to what degree, and what effects this will have on the values of the site(s).
- Whether the proposed work may increase the risk of damage to the site(s) in future. For example, change from farming to residential use may make sites vulnerable to increased pedestrian and vehicular activity.
- Whether a re-design may avoid adverse effects on the site(s). It is recognised that detailed evaluation of alternatives may be beyond the scope of the archaeological assessment, however, some consideration of alternatives should be considered where possible.
- Possible methods to protect sites, and avoid, minimise or mitigate adverse effects should be discussed. These will form the basis of any recommendations in the final section.

The magnitude of impact on archaeological values is defined below with a scale ranging from no impact to major impact. In most instances these impacts are adverse; however, there may also be positive impacts on the site.

- **Major** - impact to the archaeological site, such that the asset is totally altered (*e.g.*, a site is totally destroyed) and all archaeological values are removed or are significantly reduced.
- **Moderate** - impact to the archaeological site, such as the asset is significantly modified (*e.g.*, at least half of a site is affected) and its overall values are decreased.
- **Minor** - impact to the archaeological site, such that the asset is slightly different (*e.g.*, a small portion of the site is affected) and some archaeological values are reduced but the overall value is not affected.
- **Negligible** - slight changes to archaeological site that hardly affect it or alter the archaeological values.
- **No impact** - the works will not affect the site or its values.
- **Positive** – the archaeological values of the site are enhanced.

4 Physical environment and setting

Ōhoka is one of a number of small townships west of Kaiapoi. The land is part of an extensive fluvial plain north of the Waimakariri River, and crossed by various smaller waterways flowing roughly west-east (Begg, Jones and Barrell, 2015). The majority of the project area is level pasture, currently in use for dairy farming. There are three areas of dwellings and associated farm buildings: 543 Mill Road, 325 Whites Road, and 236 Bradleys Road, Ōhoka. The surrounding area is largely rural pasture with low-density residential occupation, with the Ōhoka township an area of higher density occupation and low-density residential subdivision to the northeast.

The project area is crossed by the Ōhoka Stream toward the north end, and by the Ōhoka South Branch near the middle. Several drains run across the site, some fed by local springs, and open drains border the site on most boundaries.

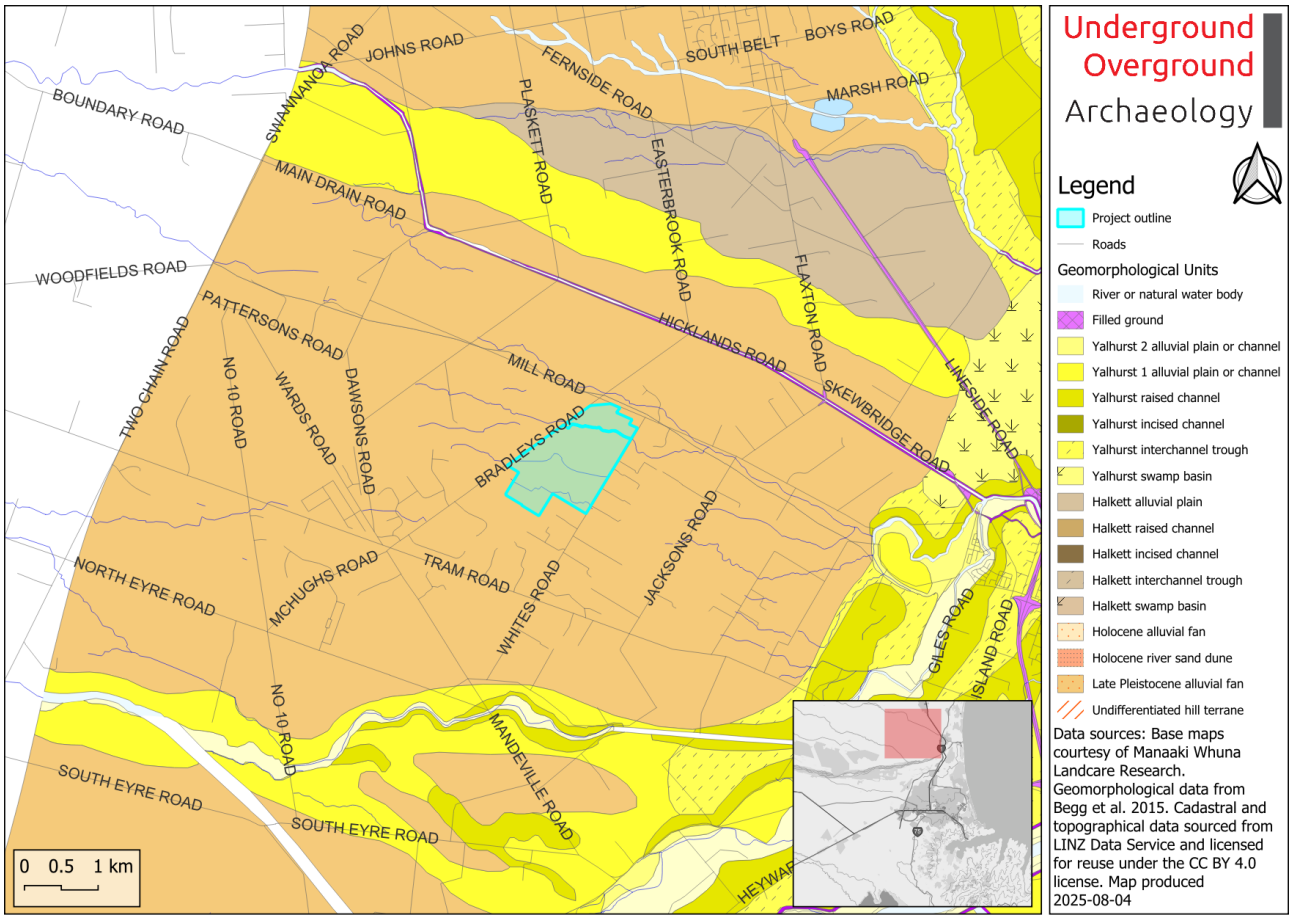


Figure 4-1. Geomorphology of landscape surrounding area of works. Data: Begg, Jones and Barrell, 2015.

5 Historical background

Traditional accounts relate successive migrations to Te Wai Pounamu from Te Ika a Māui (the North Island). The earliest groups noted in oral traditions include Kāhui-Tipua, Hawea and Te Rapuwai, and Ngāi Tahu scholars have considered these groups as at least semi-mythical, as traditions regarding them are typically aetiological narratives explaining the origins of such things as kūmara or the Moeraki Boulders. Traditions regarding later groups (Waitaha, Ngāti Māmoe, and Ngāi Tahu) are, by contrast, primarily related to human events, rather than the supernatural (Tau & Anderson, 2008).

The first human settlers of Te Wai Pounamu (the South Island), for which traditional accounts and whakapapa are clear, were Waitaha, descendants of the explorer Rākaihautū who arrived in the waka *Uruao*. They were followed later by Ngāti Māmoe, who migrated from Te Ika a Māui (the North Island) to the South Island around the late 16th/early 17th centuries. The relationship between Waitaha and Ngāti Māmoe was complicated, with periods of peace and intermarriage as well as conflict. Still, Ngāti Māmoe gradually came to establish mana whenua through both means over much of the South Island. In the early to mid-17th century, Ngāi Tahu migrated to the South Island from the lower North Island, and traditions recount their whakapapa to the East Coast and the Tākitimu waka. As with their predecessors, Ngāi Tahu came to establish mana whenua over most of the South Island through both conflict and intermarriage (Anderson, 1998; Tau and Anderson, 2008).

When a Ngāi Tahu war party from Kaikōura, under the leadership of Moki, the youngest son of Tūāhuriri, had overcome Ngāti Māmoe in Canterbury, they began dividing and seizing estates around Horomaka (Banks Peninsula) and the Canterbury coast. When Moki returned to his home in Kaikōura, he told his older brother, Tūrākautahi, about the lands he had conquered and about the food available there. Moki convinced Tūrākautahi to move to Canterbury, where he could establish himself and his hapū in the status it deserved. Together, the two brothers constructed a pā adjoining the Taerutu lagoon, located to the north of the modern Pegasus subdivision, which Tūrākautahi called Te Kōhaka-a-kaikai-a-waro. The pā site covered about 5 acres in extent and was well protected by the Taerutu lagoon and deep ditches and earthworks. The brothers used timber from the forest, which at that time covered a good portion of the adjoining Canterbury Plains, to construct strong palisades which crowned the earthworks. The pā was also defensively well situated, as for many miles on each side there was almost impenetrable swamp land (*Lyttelton Times* 20/10/1898: 4; Tau and Anderson, 2008: 117).

When Tūrākautahi first came to live in the area, he brought his large hapū with him, including a number of the younger chiefs of Ngāi Tahu. As the population in the region increased, the people began to separate into smaller hapū groups, settling around the Banks Peninsula and Canterbury. While many remained within the main pā, smaller areas of settlement began to be formed a short distance away, one of the more well-known being the settlement at Tuahiwi established by Ngāti Hinekakai and Ngāti Hurihia. It has been noted that it was common for Māori to reside in relatively small hapū units of 10-30 members, and each hapū would have its area of mahinga kai (Environment Canterbury, 2007: 13; Tau, 2016; Tau and Anderson, 2008: 117, 121-122).

The rivers and swamps around the pā provided a number of foodstuffs, including several fish species such as tuna (eels), kanakana (lamprey), kokopu (native trout), koukoupara (bullies) and inanga (whitebait), and some bird species were also caught for food, such as pukeko, putakitaki (paradise shelduck), parera (grey ducks) and weka (Environment Canterbury, 2007: 13). However, some criticised Tūrākautahi's choice of a pā site as it was some distance from permanent sources of food. Tūrākautahi replied to his critics that 'Kai' must be 'poi' or swung to the spot, meaning that food would be traded and brought in from a range of locations such as "potted birds from the forests of Kaikōura in the north, fish, and mutton birds from the sea-coasts of the south, Kiore and weka and kauru from the plains and mountain ranges of the west". It is from this saying that the pā obtained the name Kaiapoi or 'food depot' (Stack, 1893: 23).

In the late 1820s and early 1830s, a coalition of North Island iwi invaded the South Island under the leadership of Te Rauparaha of Ngāti Toa. In 1831, Te Rauparaha besieged the Kaiapoi pā, and the pā was raised. Many of the nearby kāinga, or unfortified villages, were also attacked and destroyed. The Kaiapoi pā and Tuahiwi kāinga

were both abandoned, for they had become tapu, and for a while, those who escaped Te Rauparaha's attacks established a new base of settlement at Tioriori (Anderson, 1998; Tau & Anderson, 2008; Taylor, 1952).

The accounts of a number of the early surveyors and settlers who visited the area in the latter 1840s, including Captain John Stokes and Mrs Charlotte Godley, provide details of their encounters with the local Māori who lived on the banks around the Waimakariri and Kaiapoi rivers (Logan, 1987: 11-13). One of the known Māori kāinga in the area at this time was Ruataniwha, which was situated on the Cam River, Kaiapoi (Logan, 1987: 12). Although Canterbury and its waterways are recorded historically as areas known for Māori occupation, there are no recorded Māori archaeological sites within 100 m of the proposed works (ArchSite, 2025).

Following the acquisition of the land by the British Crown, an area of land referred to as the 'Canterbury Block was made available by the Canterbury Association to 'men of capital' to purchase large blocks of land and establish, perpetuating, the English ideals of settlement. This was against the squatting system, where large parcels of land were rented cheaply and run with stock on existing native pasture. As such, a convoluted pastoral licensing system was introduced (Acland, 1975: 21). The land north of the Waimakariri River and to the west of Kaiapoi was considered 'poor and inhospitable' and was initially bypassed in favour of more desirable options. (Figure 5-1).

The Ōhoka area was generally described in historical publications as largely marshy and was fed by smaller tributaries of nearby rivers and streams. Historian Donald Hawkins noted that these wetlands may have been the result of the Waimakariri River building up its fan through braiding, and this expanded fan blocking the river outlets of the Eyre and Cust Rivers (Hawkins, 1957: 137; Trotter, 2017). Pākehā settlement of the area was limited until the latter part of the 1850s and early 1860s, when settlers drained the wetland areas to form farmland productive for European-style agriculture (Hawkins, 1957: 136; Trotter, 2017). The relevant area, initially surveyed as run 147, was eventually subdivided and surveyed into rural sections (Figure 5-1 and Figure 5-2). The following history details the rural sections, railway formation, and the Ōhoka Stream.

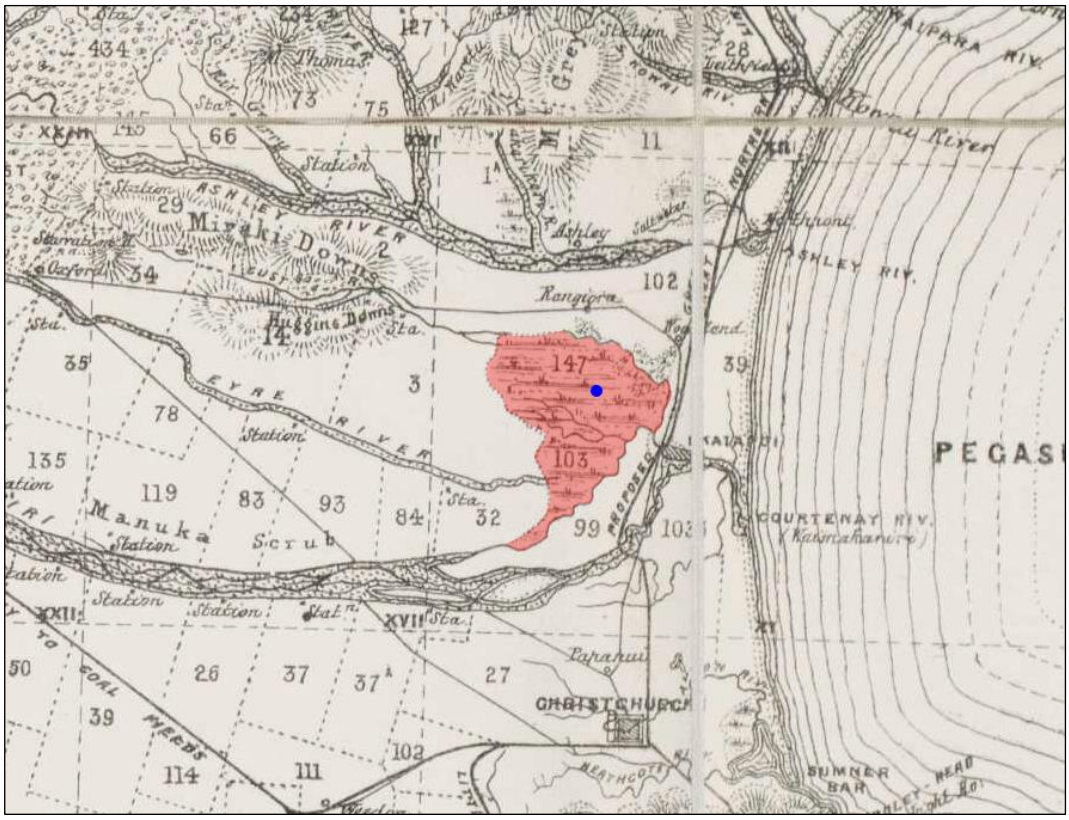


Figure 5-1. Detail from a survey of 'pasturage runs' in Canterbury. The wetland areas identified as runs 147 and 103 are highlighted in red, with the approximate location of the proposed works marked by the blue dot. Image: Jarman, n.d.

Table 5-1. Initial Crown grants of the rural sections within the proposed project area, with a summary of early occupation.

Rural section	Crown Grant/Owner	Details and occupier
2220	1862 - George Clist	Occupied by Clist, with part subdivided for railway purposes in 1875, Clist owned the property until 1895. Subdivided in 1906 (LINZ, 1860: 2220; see Rural Section 2220 below).
3176	1863 - W. Travis	In 1878, the rural section was conveyed to George Leatherdale (LINZ, 1860: 3176; see Rural Section 3176 below).
3177	1863 - W. Travis	Travis sold the property to R. Chapman in 1863, who retained it until 1866, selling it to Joseph Senior White. Formed part of the Ohoka Estate.
3182	1863 - W. Travis	Travis sold the property to R. Chapman in 1863, who retained it until 1866, selling it to Joseph Senior White. Formed part of the Ohoka Estate.
3662	1863 - W. Travis	Travis sold the property to R. Chapman in 1863, who retained it until 1866, selling it to Joseph Senior White. Formed part of the Ohoka Estate.
4133	1866 - George Leatherdale	Leatherdale owned the property until he died in 1889, and the property was transferred to the Public Trustee, who sold it to Charles Skevington in 1890 (LINZ, 1879; see Rural Section 4133 below).

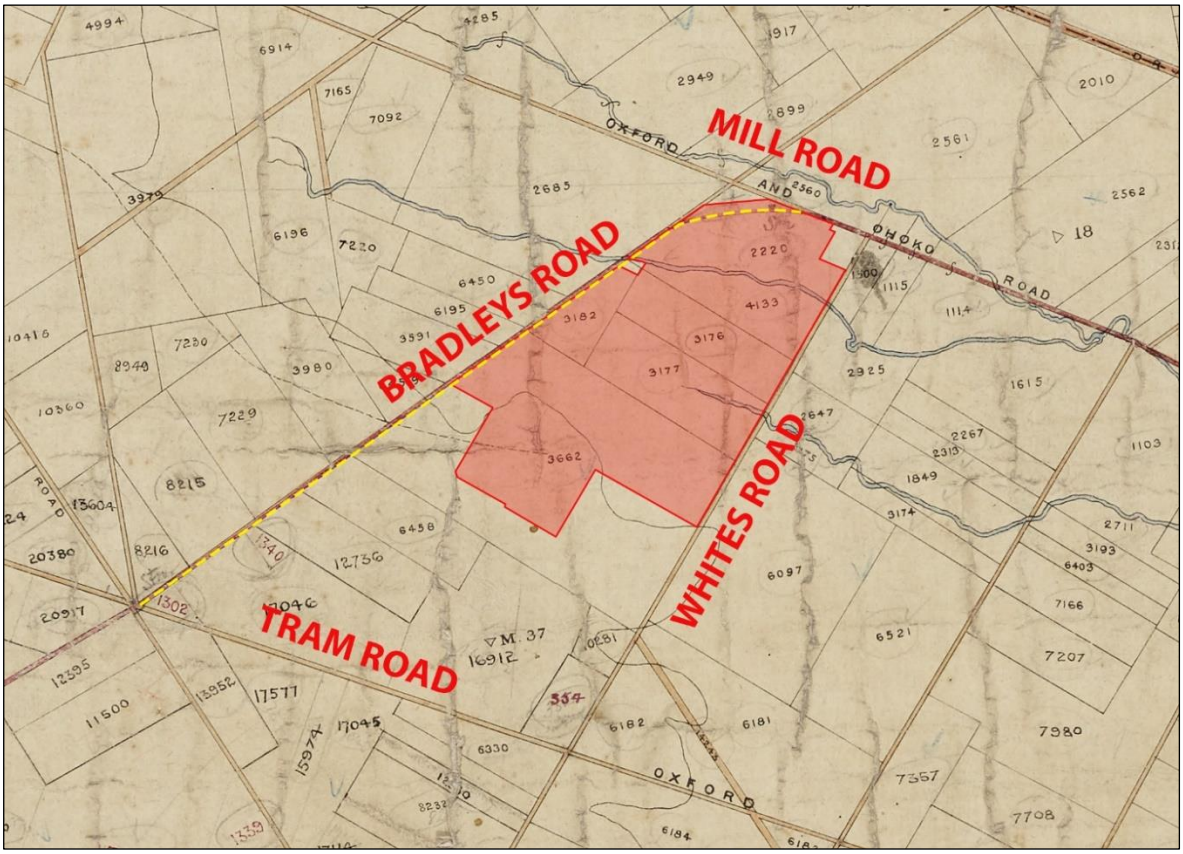


Figure 5-2. Detail from the 1864 Black Map 141, a survey of the Mandeville and Rangiora Road District. The proposed subdivision is shaded in red. The yellow dashed line shows part of the Eyreton Railway Line. It is also possible to see the Ōhoka Stream forming a boundary between rural sections 2220 and 4133. Image: Cass, 1864.

5.1 Rural Section 2220

Rural Section 2220 was surveyed in the 1860s along with the formation of the Oxford and Ohoka Road, which would eventually form Mill Road (Figure 5-1 and Figure 5-2). In 1862, the rural section was a Crown grant to George Clist (senior), an early Ōhoka settler who built the Junction Hotel on the corner of Mill and Whites Road (MacDonald, G.R., 1952-1964: C392; Wood, 2008: 37). In 1865, Clist took a mortgage out with Bowron (LINZ, 1860a: 2220). From at least 1862 until 1868-1869, Clist was listed as living at Woodgate Farm on the Ohoka Road, Kaiapoi. It likely that Rural Section 2220 formed part of this farm (*Lyttelton Times*, 19/04/1862: 3; Canterbury, New Zealand, Provincial Rolls, 1868-1869: 2). In the early 1870s, Clist started to subdivide parts of the rural section outside the proposed project area near the corner of Mill Road and Whites Road (LINZ, 1860a: 2220). By 1875, Clist had repaid his mortgage with Bowron and further subdivided the land, selling part of the rural section for railway purposes (LINZ, 1860a, b: 2220, 401). Clist retained most of the rural section until he died in 1895 (Archives New Zealand, 1895). It is not clear from the research where on the property the dwelling where Clist lived was located.

A photograph from the early 1900s shows the Ohoka railway station with its sidings, associated buildings, station master's house and a two-storied double-gabled dwelling near the corner of Mill Road and Bradley Road, at what would become known as the first Methodist parsonage when it was transferred to the church in 1911, 547 Mill Road, outside the proposed area of works (see Figure 5-3; Trotter, 2017: 3-4). It is possible that this could have been Clist's dwelling.

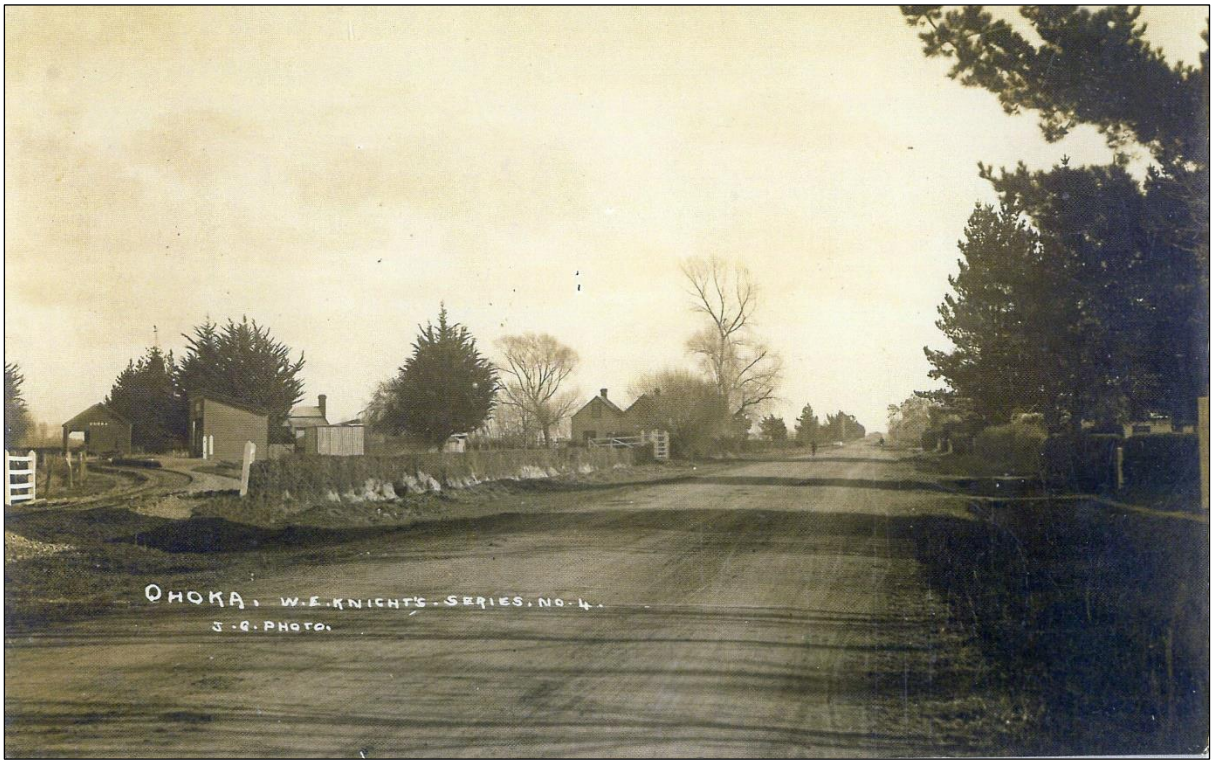


Figure 5-3. View of Mill Road looking west towards the Bradley Road intersection, with no specific date, but likely early 20th century. A two-storied dwelling is visible at the centre of the image, which was the first Methodist parsonage. Image: Knight, n.d.

In 1906, the rural section was surveyed as DP 2267 and subdivided into four sections. The survey also recorded the subdivided railway siding (LINZ, 1906; Figure 5-5). The sale notice for the property specified 'improvements', suggesting there were dwellings (*Press*, 14/04/1906: 15; Figure 5-4). Lots 2-4 of DP 2267 would form part of the proposed project area (LINZ, 1906; Figure 5-5).

OHOKA LAND FOR SALE BY PUBLIC AUCTION.

TUESDAY NEXT, APRIL 17th.

WE have received instructions from the Trustees in the Estates of the late George Clist and Mary Anne Clist to OFFER for SALE by PUBLIC AUCTION, in our Land Saleroom, Rangiora on

TUESDAY NEXT, APRIL 17th,
At 11.30 o'clock,

The following PROPERTIES situated at Ohoka, as follows:—

LOT 1—2 Acres 2 Roods 25 Perches.
LOT 2—66 Acres 3 Roods 24 Perches.
LOT 3—13 Acres 1 Rood 16 Perches.
LOT 4—5 Acres 0 Roods 35 Perches.

Together with the improvements thereon.

The land is in good heart, the fences in good order, and the improvements all that is required, and is only placed on the market by the trustees to close the estates.

For full particulars apply

NORTH CANTERBURY CO-OP., LTD.,
Auctioneers.

Or to
MESSRS WYNN-WILLIAMS and BROWN,
9513 Solicitors, Christchurch.

Figure 5-4. Sale notice for Clist's property. Noted are the four sections subdivided as DP 2267. Image: Press, 14/04/1906: 15.

Valuation rolls from 1908 list one pre-1900 structure, a dwelling, built circa 1888 (Archives New Zealand, 1908-1914: 307, 308; Table 5-2). A dwelling is visible on Lot 2 DP 2267 – at the northeast corner – in aerial imagery from 1940, while lots 3 and 4 remain in pasture (Figure 5-6). This dwelling remained standing until 1965, and is considered likely to be that described in the valuation rolls (Figure 5-6, Figure 5-7; Canterbury Maps, 2025). By the 1970s, this dwelling had been demolished and replaced by the current dwelling at 543 Mill Road (Canterbury Maps, 2025).

On Lot 1 of DP 2267, a second Methodist parsonage would be built in circa 1913; this is outside the project area and remains extant at 344 Bradleys Road (*Press*, 13/10/1914: 2). The two-gabled dwelling, as seen in the above image, was noted by Trotter in his 2017 report as being built circa 1860s-1870s, and transferred to the Methodist Church in 1911, suggesting this could have been Clist's residence. In 1920, according to Trotter, the top story of the dwelling was removed and the dwelling reroofed, though the source of this information is not known (Trotter, 2017: 3-4; Canterbury Maps, 2025). The dwelling at 547 Mill Road, still extant, is also outside the proposed project area (Canterbury Maps, 2025).

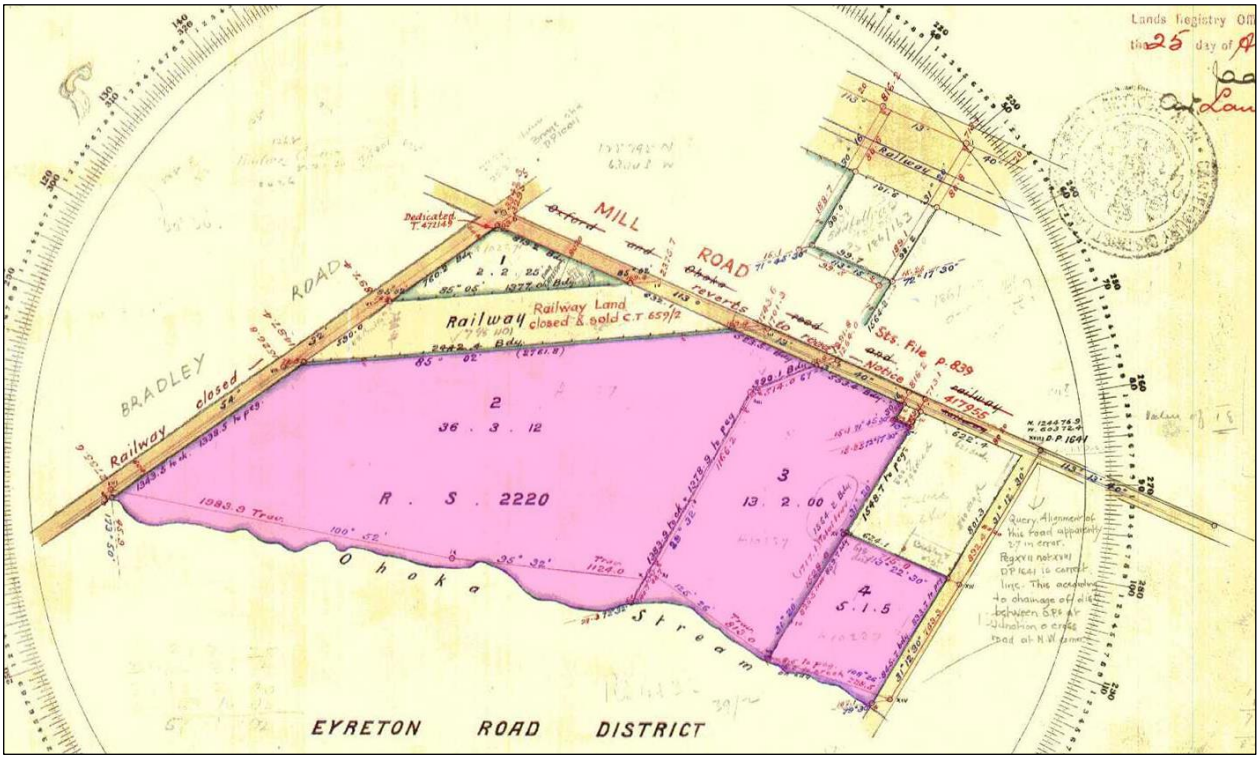


Figure 5-5. Detail from the 1906 survey, DP 2267, showing the railway siding. Highlighted in magenta is the part of Rural Section 2220 that will form part of the project area. Image: LINZ, 1906.

Table 5-2. Valuation rolls records of the relevant parts of Rural Section 2220, recording the ownership, occupation, and structures on the land in 1908. The appellations are from the 1906 subdivision DP 2267 (Archives New Zealand, 1908-1914: 307, 308; see Figure 5-5).

Rural Section	Appellation	Owner/Occupier	Area	Buildings	Age/Date of Construction
2220	Lot 1 DP 2267	Wesleyan Methodist Trustees per Charles R. Sheat, Horrelville	2a-2r-25p	1x WIR dwelling (new parsonage) 1x WIR wash house 1x WIR shed	1 year old (1907) 1 year old (1907) 1 year old (1907)
2220	Lots 2-4 DP 2267	William Frederick Parish	55a-2r-17p	1x WIR dwelling 1x WIR Shed	20 years old (1888) 1 year old (1907)

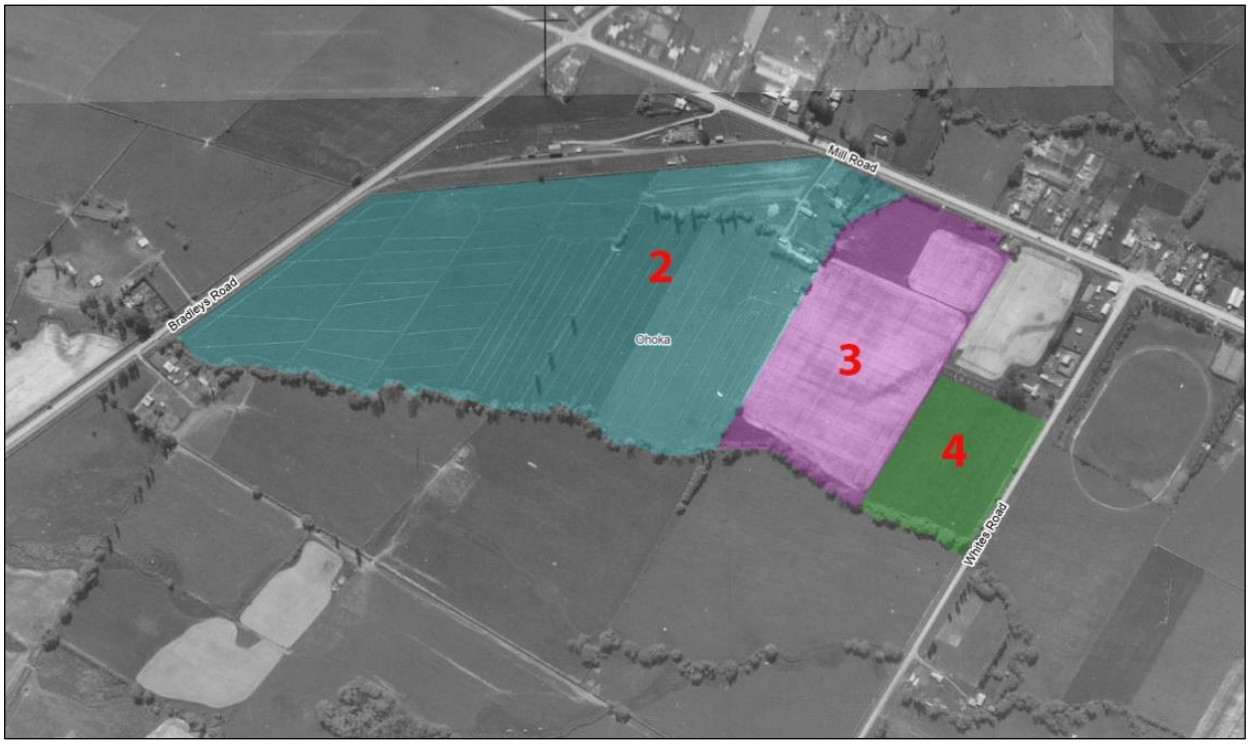


Figure 5-6. Aerial imagery from 1940, with the 1906 subdivision lots highlighted in cyan, pink and green. These sections form part of the proposed Ōhoka subdivision. Image: Canterbury Maps, 2025.

Figure 5-7. Detail from 1960 aerial imagery. Highlighted in cyan is part of Lot 2 DP 2267. The yellow circle shows the possible location of the 1888 dwelling recorded in the valuation rolls. Image: Canterbury Maps, 2025.

5.2 Rural Section 3176

Rural Section 3176 was a Crown grant in 1863 to William Travis, along with rural sections 3177, 3182, and 3662 (LINZ, 1860b: 3176). These rural sections would eventually form part of the proposed project area (Figure 5-10). Rural Section 3176 was sold in 1878 to George Leatherdale (LINZ, 1878). With current research, there is no indication whether the rural section was developed or occupied for anything other than agricultural purposes during this period. Leatherdale also owned Rural Section 4133 to the north of Rural Section 3176,

from 1866, so he may have leased Rural Section 3176 initially for agricultural purposes before purchasing, though there is no clear record of this. Leatherdale owned the two rural sections until he died in 1891. Rural Section 3176 was transferred with Rural Section 4133 to Charles Skevington (LINZ, 1878, 1879). See section 5.3 for details regarding Leatherdale's pre-1900 occupation in Ōhoka.

5.3 Rural Section 4133

Rural Section 4133 was an 1866 Crown grant to George Eldridge Leatherdale. Leatherdale was a farmer, identified in electoral rolls as living on Rural Section 4133 (New Zealand Electoral Roll [Kaiapoi] 1876-1878: 8, 10). After Leatherdale died in 1889, the trustees of his estate leased both Rural Sections 3176 and 4133 until the 100-acre farm was advertised for sale two months later (*Press*, 05/07/1889: 5). No mention was made of any improvements on the property aside from being divided into paddocks and being all in grass with a water supply (*Press*, 21/06/1890: 8). As mentioned above, Charles Skevington purchased the property in 1890, owning it until 1895 when the rural sections were transferred to Thomas Skevington (LINZ, 1878, 1879). Skevington leased the property to Henry Mangels in 1903 for seven years. During that lease, Skevington sold to Alexander Wilson Ironside in 1908 (LINZ, 1878, 1879).

Rural Sections 3176 and 4133 were listed in the valuation rolls in the occupation of David N. Gallagher in 1908; no mention was made of Skevington's ownership. The structures recorded on the property in these valuation rolls included a dwelling and, stable and dairy which were constructed between 1879 and 1889, suggesting they were built during the ownership of George Leatherdale (Archives New Zealand, 1908-1914: 309; Table 5-3).

Table 5-3. Valuation rolls records of rural sections 3176 and 4133 in 1908 (Archives New Zealand, 1908-1914: 309).

Rural Section	Appellation	Owner/Occupier	Area	Buildings	Age/Date of Construction
3176 and 4133	Rural sections 3176 and 4133, Block 14, Rangiora survey district	No owner listed, just the occupier, David N. Gallagher, Ohoka farmer	100 acres	1x WIR dwelling 1x WIR stable 1x WIR shed/dairy	19 years old (1889) 29 years old (1879) 29 years old (1879)

The likely location of these structures would be on Rural Section 4133. Aerial imagery from 1940 shows a dwelling and outbuildings at 290 Bradleys Road (Lot 1 DP 55849; Figure 5-8). By 1950, the dwelling had been removed and replaced with a new house (Canterbury Maps, 2025). The specific location of the dwelling is located outside the project area, but several of the outbuildings visible in the 1940s aerial are located within the project area, and these may include the pre-1900 stable or shed/dairy. The buildings within the project area had been removed by 1970, based on aerial photographs (Canterbury Maps, 2025).

Figure 5-8. Aerial imagery from 1940. Highlighted in green is Rural Section 4133. The likely location of the pre-1900 structures is circled in yellow and remains outside the proposed area of works. Highlighted in red is Rural Section 3176 with no structures recorded on the section. Image: Canterbury Maps, 2025.

Figure 5-9. Aerial imagery from 1940 showing the extant buildings at this time in the vicinity of the modern Lot 1 DP 55849. Several of these buildings fall within the project area, and may have been built prior to 1900.

5.4 Rural Section 3177, 3182, 3662

All three rural sections, 3177, 3182, and 3662, were granted to William Travis in 1863 (LINZ, 1860c: 3177, 3182, 3362). Travis had taken out a mortgage in the same year with R. Chapman to finance the sale. By 1866, Chapman owned the rural sections and conveyed them to Joseph Senior White, forming part of the Ohoka Estate (LINZ, 1860c: 3177, 3182, 3362). Travis was recorded as living on Rural Section 10281, which is outside the proposed project area (New Zealand Electoral Roll [Ashley] 1875-1884: 18, 23).

5.5 Ohoka Estate

The Ohoka Estate was a vast tract of land located between Kaiapoi and Rangiora. White, who also purchased the Swannanoa Estate, was known by several names, including 'Bully' White and Josiah Senior Woodhouse (Hawkins, 1957: 142-143). Current research indicates that White's past in Australia may have led him to move to New Zealand to start anew as a successful businessman. This he did achieve, owning several businesses, including the 'Beehive Emporiums' (Heritage New Zealand Pouhere Taonga, 1985). The Ohoka homestead was built in local brick between 1870 and 1872 at what is now known as 21 Jacksons Road, Ōhoka, this is outside the proposed project area. By 1879, the Ohoka Estate comprised over 1700 acres, including rural sections 3177, 3182, and 3662, which form part of the proposed development. The estate was offered for sale in 1879 and again in 1880 (*Press*, 15/02/1879: 4; *Lyttelton Times,* 10/11/1880: 7). The relevant rural sections remained part of the estate and did not sell (LINZ, 1860c: 3177, 3182, 3362). In 1905, White died, leaving his estate to his widow, Eliza White (Archives New Zealand, 1905).

5.5.1 Ohoka Subdivision 1908

By 1908, Eliza White had the estate surveyed and subdivided for sale (Figure 5-10). Lots 10, 11, and 12 of this subdivision would form part of the proposed project area. No buildings were recorded on the plan on these sections at the time (Figure 5-10).

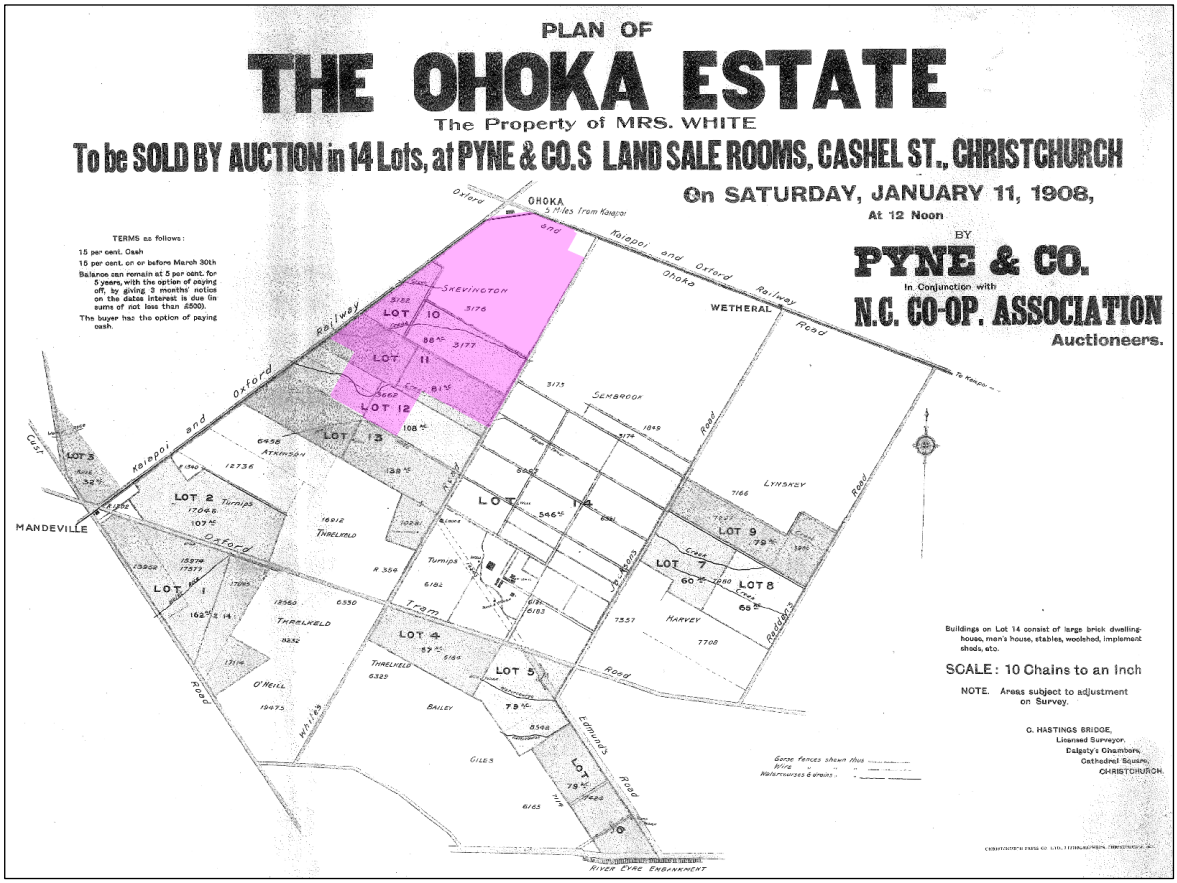


Figure 5-10. Subdivision of the Ohoka Estate in 1908. Lots 10, 11, and part of Lot 12 would form part of the proposed project area, which is highlighted in pink. Image: Rangiora Museum, 1908.

No further information could be found regarding structures on Lots 10 and 11 of the estate subdivision. These lots were resurveyed again in 1908 as DP 8301 for Eliza White and did not sell until 1923 when White died (LINZ, 1860c: 3176, 3177, 3182, 1908; Figure 5-11).

Thomas Skevington was recorded in the valuation rolls as being in the occupation of (not owning) Lots 12 and 13 (comprising Rural Section 3662) of the subdivision. In the 1908 valuation rolls, Lots 12 and 13 were recorded as having a 'new' dwelling, stable, shed and granary. It is not known on which lot the buildings were (Archives New Zealand, 1908-1914: 134). These lots did not sell until 1920 when John Robert Thompson Henderson purchased the property (LINZ, 1860c: 3663).

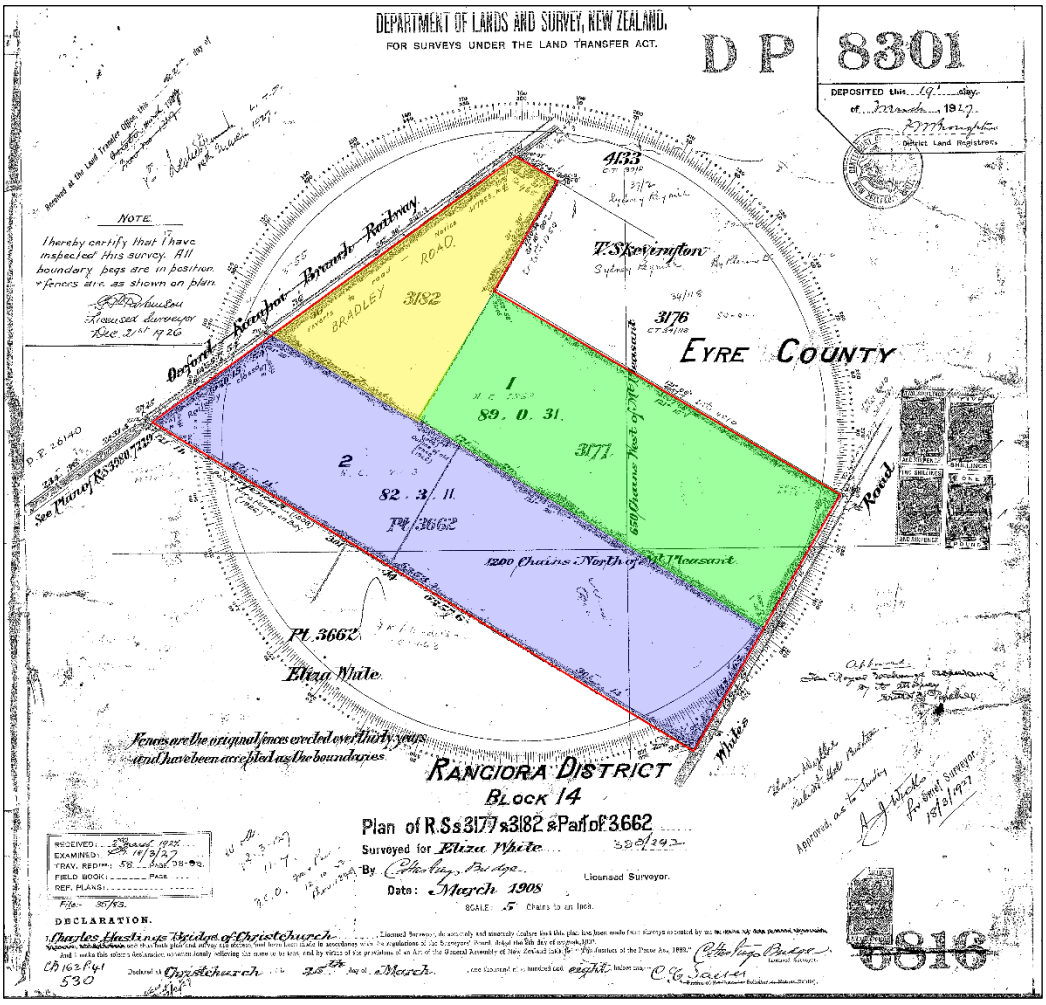


Figure 5-11. Detail from the 1908 survey of Rural sections 3177 (coloured green), 3182 (coloured yellow), and part of 3662 (coloured blue). These were surveyed as Lots 10 and 11 in the Ohoka Estate plan (Figure 5-10). Image: LINZ, 1908.

Aerial imagery from 1940 shows the relevant sections in pasture with a dwelling on Rural Section 3182 and outbuildings on part of Rural Section 3177. These may be the structures that were listed in the valuations (Figure 5-12). By 1960, the stream that runs through the sections had been deepened and straightened (see section 5.7). Further development of farming operations and outbuildings can be seen by 1970. In 1990, the dwelling was heavily modified; it is possible to see an extension and a change in the roofline. In current aerial imagery, the property has been divided into well-established paddocks with hedges as wind breaks. It is not clear from the imagery if the house was replaced entirely or renovated (Canterbury Maps, 2025).

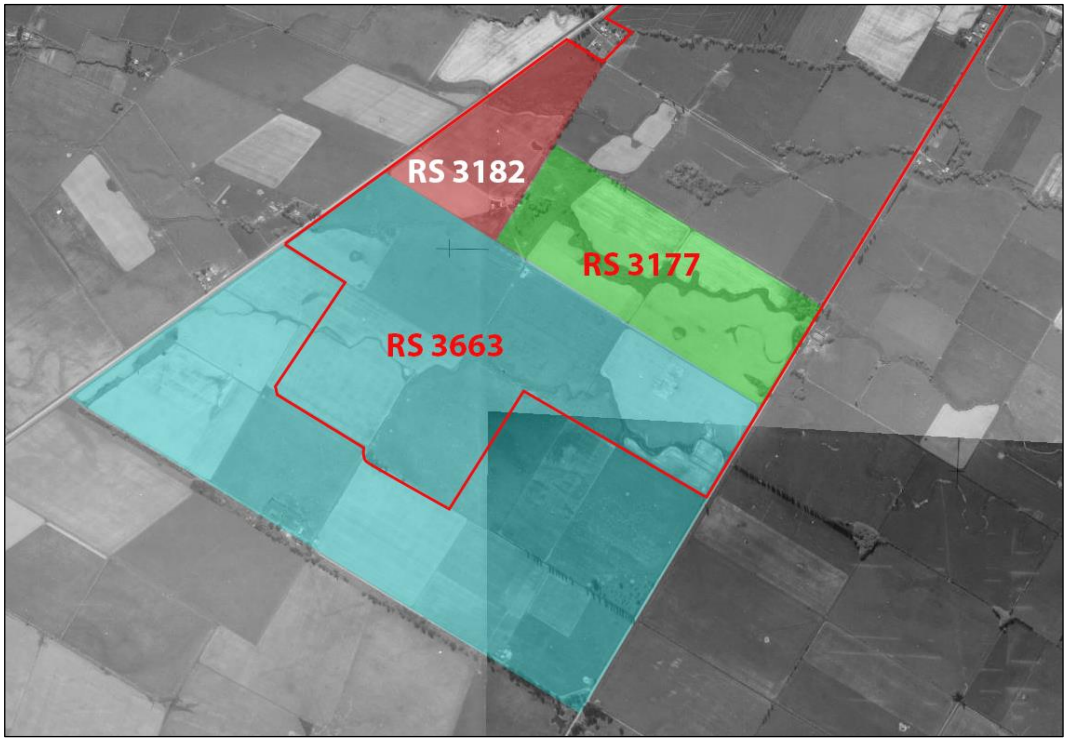


Figure 5-12. Rural Section 3177 (coloured green), 3182 (coloured red), and 3663 (coloured cyan) in aerial imagery from 1940. The red line marks the area of the proposed subdivision. Image: Canterbury Maps, 2025.

5.6 Ōhoka Railway Station and Eyreton Line

Initially, the possibility of a wooden tramway in the Eyre district was tabled in 1867 along the reserve line now known as Tram Road; though nothing immediately came of the proposal. In 1871, transportation in the Eyre district was raised again, this time by the Provincial Government engineer W. B. Bray, who proposed that a horse-drawn tramway be planned. Bray thought better of the idea and recommended a branch railway from Rangiora to Oxford (Wood, 2008: 65-66). This, in turn, became the impetus for Eyre settlers to have their branch line with stations at Ōhoka, Mandeville, and West Eyreton. A petition was drawn up to present to the Provincial Government, indicating that the traffic was at a level that the area could sustain investment in a railway (Wood, 2008: 65-66).

The Eyreton Branch Railway extended 32.41 km from Kaiapoi and was constructed to West Eyreton in 1875. The route ran along the eastern side of Bradleys Road before turning east through part of Rural Section 2220, then continued along the southern side of Mill Road (formerly Oxford and Ohoka Road). This forms part of the proposed project area. Four stations were built in total along the line at Ōhoka (part of the proposed project area), Mandeville North, Swannanoa, and West Eyreton. Trotter's 2017 assessment concluded that the Ohoka Railway Station was likely constructed in 1875 (Trotter, 2017: 5). The station buildings were initially all built the same, oblong, with an area of approximately two-thirds open for seating. The closed area housed an office and a secure location for mail and other goods (Wood, 2008: 68). The station at Ōhoka was regularly mentioned in newspapers from 1875 (*Press*, 6/9/1875: 1). In 1878, the railway was extended to Bennetts Junction, where it connected with the Oxford Branch line.

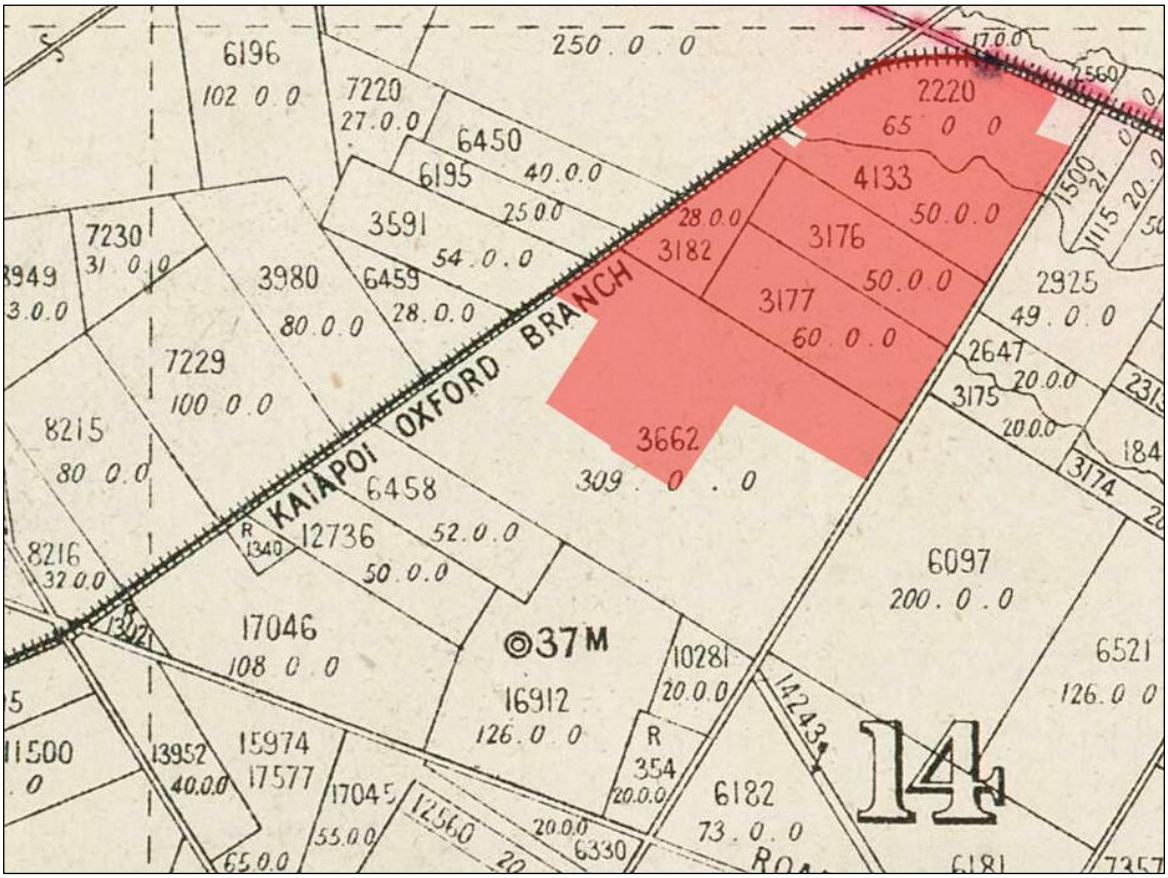


Figure 5-13. Detail from Kemp's 1881 survey of the Rangiora district. It is possible to see the Kaiapoi-Oxford Branch line along Bradleys Road before turning into the Ohoka Railway station, and continuing along Mill Road towards Kaiapoi. Image: Kemp, 1881.

By 1891, the Ohoka Station housed a goods shed, a platform with shelter, a station master's house and a garden. Cattle stops were installed at both ends of the station entrances, and the railway crossed the Mill Road roadside drain by way of a culvert (Figure 5-14 and Figure 5-15). The 1891 plan does not show the standing concrete structure currently on the site, adjacent to the location of the goods shed, which is interpreted as a loading bank (see Section 7).

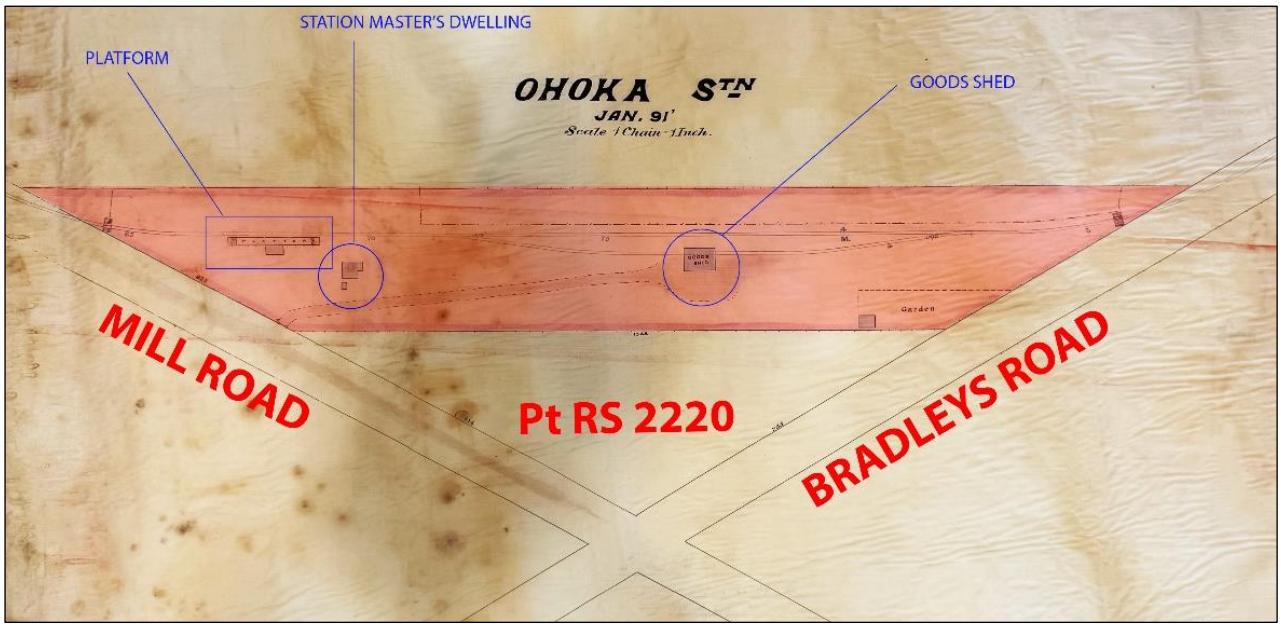


Figure 5-14. Detail from the plan of the Ohoka Railway Station (highlighted in red) in 1891. Outlined in blue are the locations of the platform, station master's house, and the goods shed. North is toward the bottom of the plan Image: Archives New Zealand, 1891.

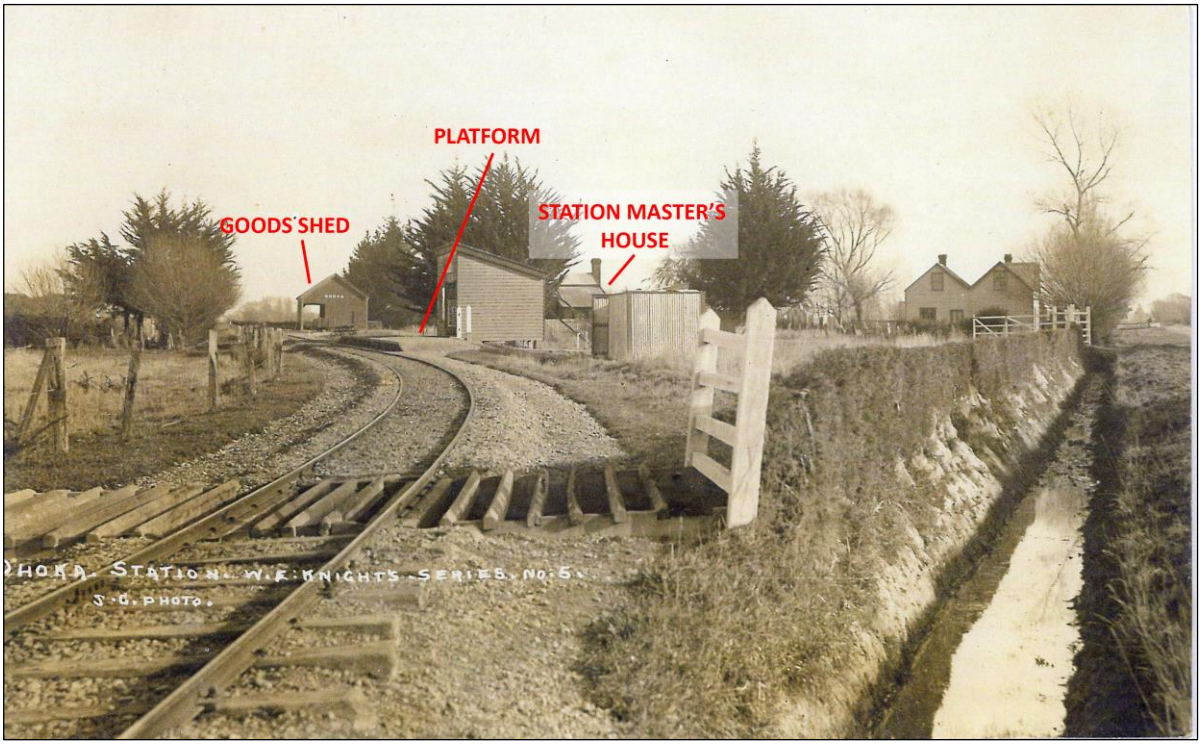


Figure 5-15. View from Mill Road looking west towards the Bradley Road intersection, with no specific date, but likely early 20th century. It is possible to see the drain along Mill Road and the first Methodist parsonage to the right of the railway. The station master's house is visible near the centre of the image behind the station building, and the goods shed to the left. The rail line sits within a low gravel embankment. Image: Knight, n.d.

From 1931, sections of the track were closed due to the services becoming underutilised by passengers. In 1965, the last section of line to be fully closed was from Wetheral Flour Mill to Kaiapoi (Trotter, 2017: 5). On Mill Road, a siding to Isaacs Wilson's flour mill remains and is marked by a plaque. This siding was constructed in 1876 and is outside the proposed project area (Waimakariri Libraries, 2025).

5.7 Ōhoka Stream and drainage

Two branches of the Ōhoka Stream run through the proposed subdivision (Figure 5-16). The stream formed part of a larger wetland area. As mentioned, conversion of this land to European-style farming first required drainage to create productive farmland. This is likely why this area did not get developed by Pākehā settlers until later in the 1850s and early 1860s (Hawkins, 1957: 136; Trotter, 2017). Local individuals such as James Wylde were proactive during this time in clearing out the Ōhoka Stream in exchange for land as payment (Wood, 2008: 43-44). Deep drain channels were also cut along main roads, as shown in the photograph of Mill Road (Figure 5-15).

The stream was subject to ongoing maintenance, with regular tenders for this work, including deepening of the stream, culvert installation and or replacement and the building of bridges over the stream, including the nearby Bradleys Road (*Lyttelton Times*, 05/02/1875: 3, 19/0/1876: 1, 11/11/1911: 5). Roadside drainage 'ditches', which were much needed in the district, were sometimes named for the nearby landowner. Reference was made in 1886 to 'Leatherdale's ditch' in White's Road needing clearing (*Lyttelton Times*, 10/07/1886: 3). Many of these channels and ditches drained into the Ōhoka Stream (Figure 5-16).

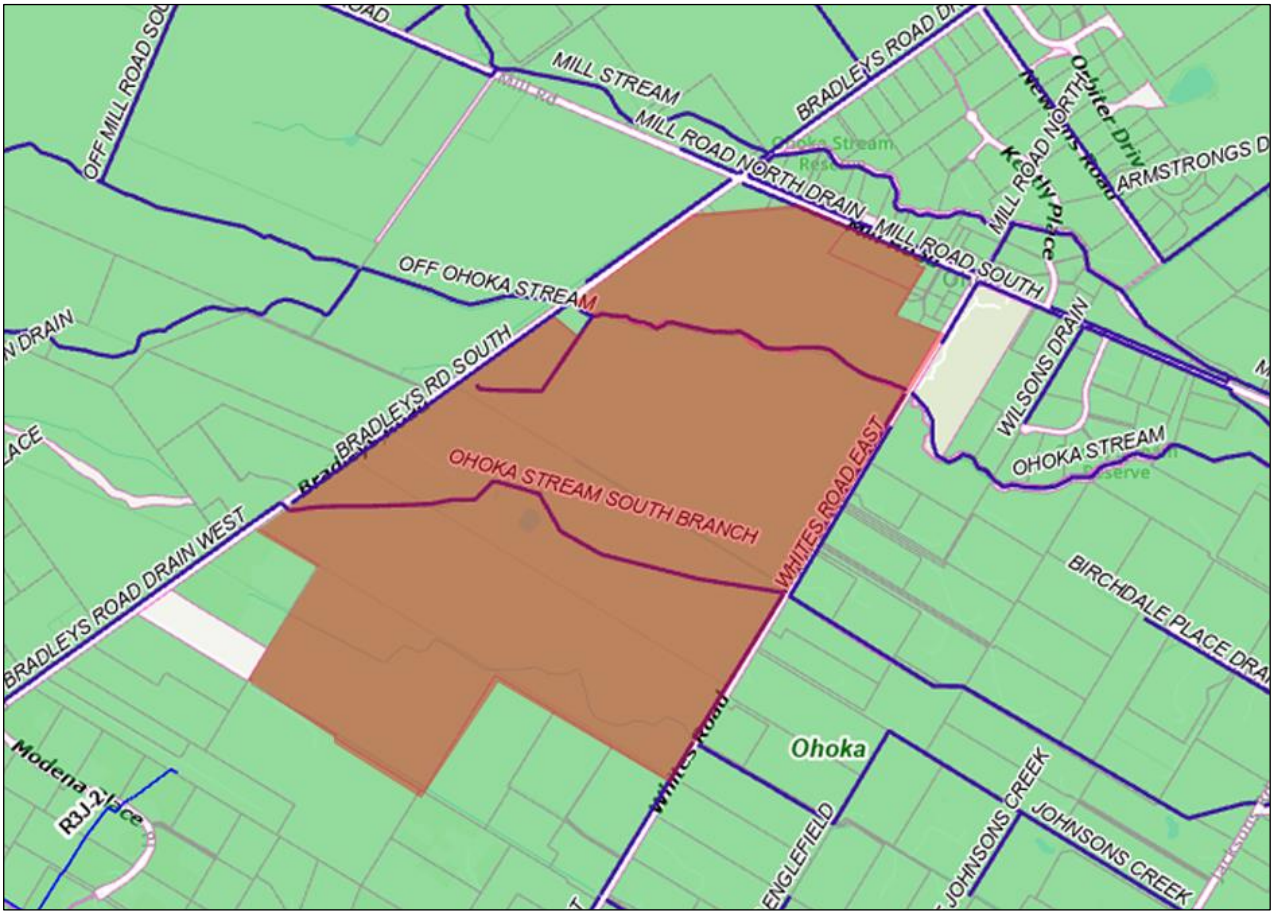


Figure 5-16. Detail from Waimakariri District Council maps showing drainage and water races marked in blue within the proposed project area (highlighted in red). It is possible to see the Ōhoka Stream, and the south branch of the stream marked by the blue lines running through the property. Image: Waimakariri District Council, 2025.

Finding references to the stream and its maintenance within the proposed project has been minimal, and if found, typically involved the nearby drains emptying into the stream. This suggests that the landowners took responsibility for the stream within their property, although there is little written record of this work. Eliza White's subdivision of the Ohoka Estate does show several waterways within the project area marked as 'creek' or 'water race'. Well locations were also noted, but not within the project area (Figure 5-17). The ages of the water races are not known, but are likely to have been formed in the late 19th century and early 20th century to support the broader water race scheme, in the Waimakariri-Ashley Water Supply District (Figure 5-17).

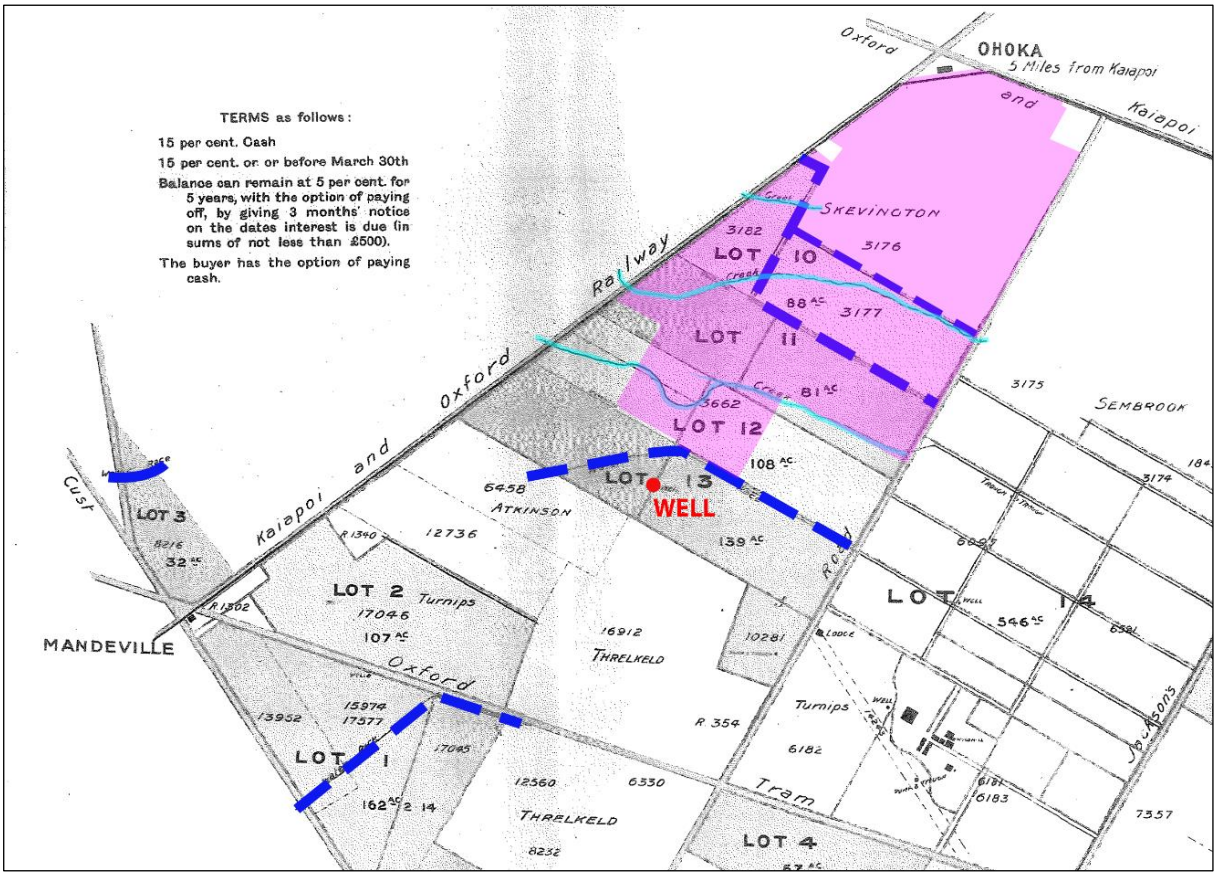


Figure 5-17. Detail from the 1908 subdivision of Eliza White's Ohoka Estate showing the creeks (highlighted in cyan) and water races (highlighted in blue). Highlighted in pink is the proposed project area. Image: Rangiora Museum, 1908.

Work schemes in the 1930s were responsible for deepening parts of the Ōhoka Stream. Still, again, no specific reference was made to the proposed area of works (*North Canterbury Gazette*, 16/03/1934: 3). Aerial imagery from the 1940s to the current day does show the maintenance of the Ōhoka Stream, especially the straightening of the south branch through part of Rural Section 3662 during the 1950s and 1960s, which changed the alignment of the stream around the farm buildings (Figure 5-18 and Figure 5-19). Much of this work can be observed in photographs from the 1950s and 1960s (Canterbury Maps, 2025; Figure 5-19).

Figure 5-18. Detail from aerial imagery in 1940 showing the two branches of the Ohoka stream running through the proposed area of works. Image: Canterbury Maps, 2025.

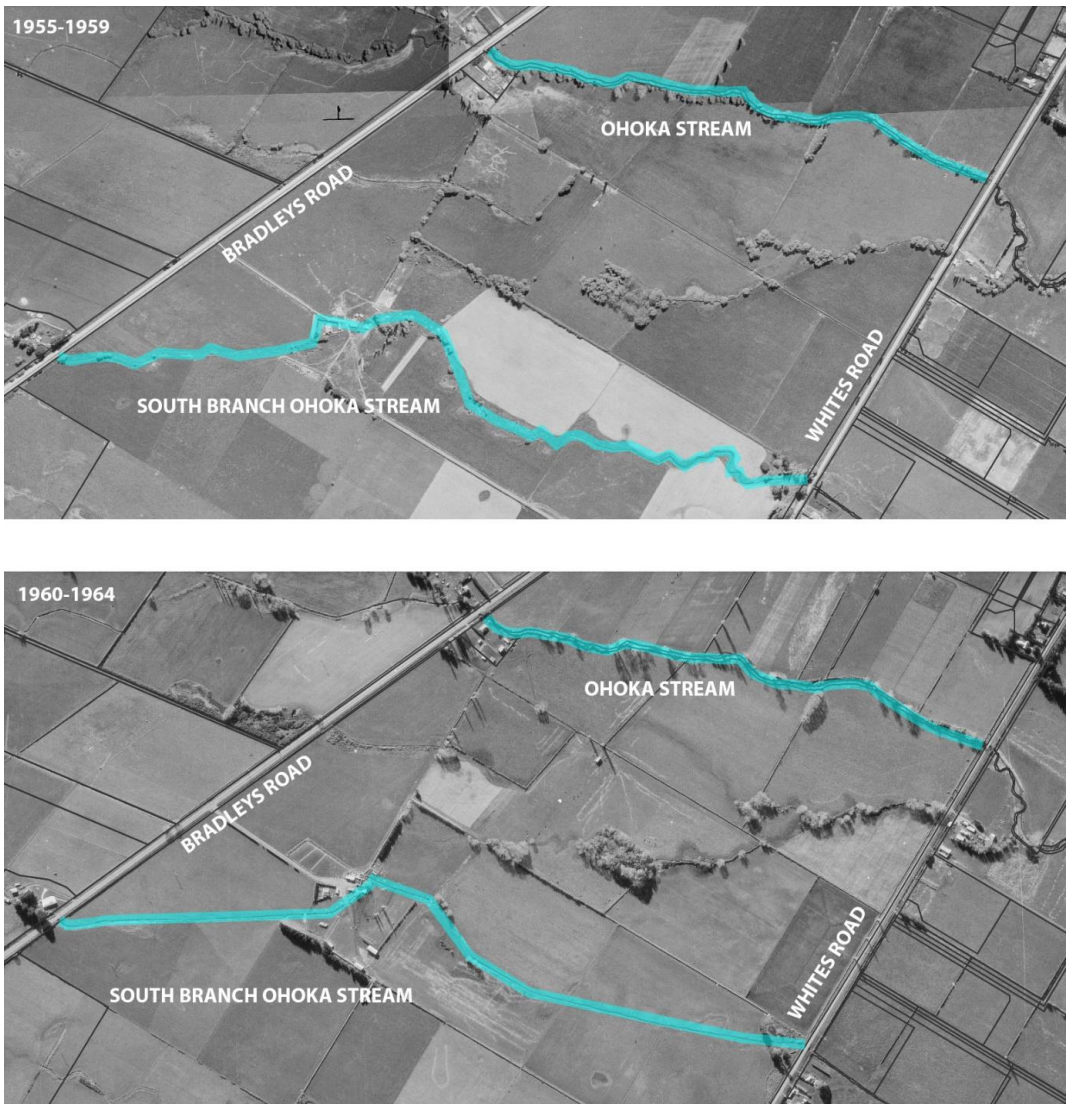


Figure 5-19. Aerial imagery from 1955 until 1964 showing the straightening of the southern branch of the Ohoka Stream (highlighted in cyan). Image: Canterbury Maps, 2025.

6 Previous archaeological investigations and archaeological context[1]

There are few previously recorded archaeological sites within Ōhoka, or within the other small rural towns and extensive plains north of the Waimakariri River, despite the well documented historical occupation of the area (Figure 6-1). This is considered in part to represent limited archaeological survey and recording and the correlation of this with limited development as a driver of archaeological recording, as much as it represents a limited distribution of pre-1900 activity in the area. The previously recorded archaeological sites typically record scattered locations of specific cottages/dwellings, water races, or industrial/agricultural sites associated with farms, mills, and rail.

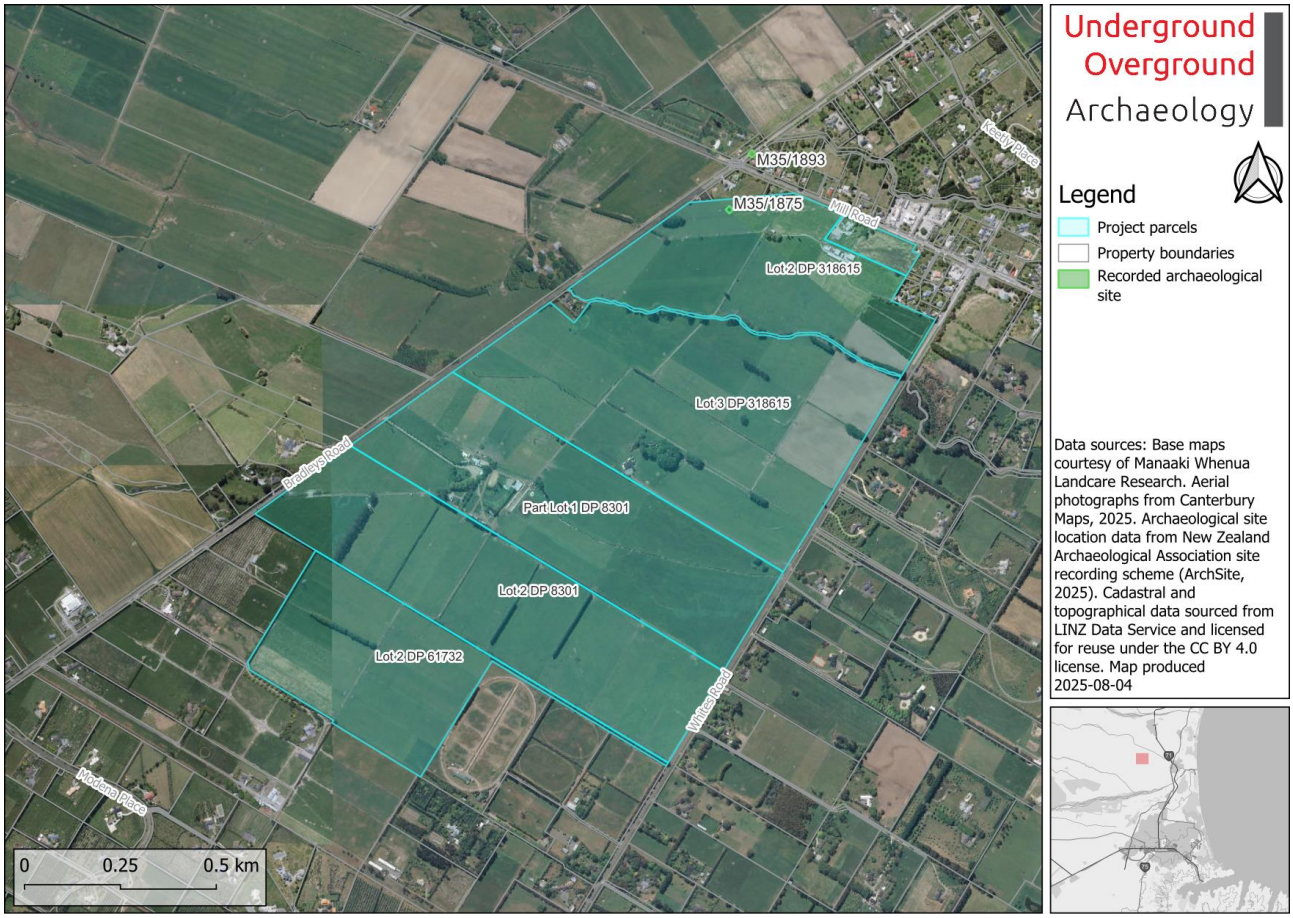


Figure 6-1. Recorded archaeological sites within and in the immediate area of works.

Table 6-1. Table summarising recorded archaeological sites within Ōhoka and surrounds.

NZAA Site ID	Location	Description
M35/1502	261 Jacksons Road	Site of the Flaxton Main School (Ōhoka School) constructed in 1877. The school was destroyed by fire in 1926.
M35/1503	On the southwest corner of the junction of Jacksons Road with Mill Road, Ōhoka.	The site of the Inglewood Flour Mill.
M35/1504	On the southwest side of Mill Road, Ōhoka, near the junction with Jacksons Road.	Site of the Wetheral Railway Station and siding that were probably established in 1878.
M35/1875	Located in a paddock on the southern side of the Mill Road and Bradley Road intersection.	The site of the Ōhoka Railway Station, in operation between 1875 and 1954. Concrete remains relating to a loading ramp are visible.
M35/1893	On both sides of Bradleys Road on the north side of the intersection with Mill Road, Ōhoka.	A variety of items, including horseshoes, railway spikes, bottle glass, wood, bricks, broken crockery and a ceramic marble uncovered in the course of excavation for a new sewer mains and water reticulation.

There is one recorded archaeological site within the project area: M35/1875, the location of the Ōhoka Railway Station and siding (M35/1875). Within the project area, the alignment of the siding and a concrete structure

[1] Adapted from Kelly et al., 2023.

are present within the northwest paddock of the project area. The concrete structure likely represents a loading ramp. Further recorded archaeological sites relating to the Eyreton Branch rail line are recorded within the wider area (Table 6-2). Although not on the Eyreton Branch line, the former Fernside Railway Station is recorded in the Waimakariri District Plan as Historic Heritage Item HH110, and remaining structures include a grain store/goods shed, stockyards, and a loading bank (McEwan, 2019).

Table 6-2. Table summarising recorded archaeological sites relating to the Eyreton Brach rail line.

NZAA Site ID	Location	Description
M35/461	Near northern end of Island Road, west of Kaiapoi, North Canterbury.	Remains of Eyreton Branch Railway. The railway embankment can be seen on either side of the road, and there are also wooden structures which took the line across drainage ditches on either side of the road.
M35/1504	On the southwest side of Mill Road, Ōhoka, near the junction with Jacksons Road.	Site of the Wetheral Railway Station and siding that were probably established in 1878.
M35/1625	The site of the railway junction (no longer extant) is where the Main Trunk Line heading northwest from Kaiapoi curves in to run alongside the Lineside Road after crossing the Kaiapoi River	Eyreton Junction - The site of the junction of the Eyreton Branch Railway, which operated from 1875 until 1965, and the Main Trunk Line north of Kaiapoi. The branch line served farming communities further westwards.
M35/1875	Located in a paddock on the southern side of the Mill Road and Bradley Road intersection.	The site of the Ohoka Railway Station, in operation between 1875 and 1954. Concrete remains relating to a loading ramp are visible

To the north of the project area along Bradleys Road, a range of scattered 19th century and early 20th century artefacts were encountered during previous earthworks (M35/1893). While they did not originate from a secure context (i.e., a rubbish pit) they still represent the potential for further 19th century artefacts to occur within the area. The next closest recorded archaeological sites are over 1 km to the east, at the intersection of Jacksons Road and Mill Road, and include the site of the Flaxton Main School (M35/1502), the site of the Inglewood Flour Mill (M35/1503), and the site of the Wetheral railway station (M35/1504). There are currently no recorded archaeological sites of Māori origin within at least 5 km of the project area and the project earthworks are not expected to impact any archaeological materials of Māori origin.

6.1 Previous archaeological records and reports

A search of the Heritage New Zealand Digital Report Library found two reports relating to works previously completed within Ōhoka. Both sets of works related to sewer main renewals completed in the mid-2010s. In 2016 trenching earthworks for the installation of a new sewer main were completed under archaeological authority 2016/644 along Jacksons Road, to the east of the current project area. These works resulted in the identification of ballast associated with the Eyreton Branch Railway Line (M35/1504) and the recovery of metal artefacts (Trotter, 2016).

Figure 6-2. Exposed stratigraphy with ballast in centre, as exposed during works completed under archaeological authority 2016/644. Trowel included for scale. Image: Trotter, 2016: 7.

The second set of sewer renewal works were completed under archaeological authority 2016/911. The earthworks occurred along parts of Bradleys Road, Mill Road, Whites Road, Keetly Place, and Wilson Drive. During these works scattered 19th and early 20th century artefacts were recovered along Bradleys Road, and Mill Road to the west of the Bradley Road intersection (Trotter, 2017: 9). This included numerous horseshoes, a screw augur, bricks, ceramic fragments, and further metal artefacts (Figure 6-3). The discovery of these artefacts led to the recording of the area as archaeological site M35/1893. The extent of these artefacts did not appear to continue eastward along Mill Road as no further artefacts were noted within the trench in this area.

Figure 6-3. Annotated map showing the location of artefact findspots during works completed under archaeological authority 2016/911. Image: Trotter, 2017: 10.

6.2 Archaeological investigations of railway stations in New Zealand

Several archaeological investigations have been carried out at 19th century railway stations in New Zealand (c.f. Grouden, 2009; Dodd, 2023; Kurmann, 2021; McStay 2020). Structural remains are often a significant aspect of these investigations, but subsurface rubbish deposits have also been encountered, indicating the range of possible archaeological finds. Ongoing works for the WMUP6B upgrade of the Wairarapa Line between Featherston and Masterton have encountered postholes and remnant posts from 19th century platforms, cinder layers relating to station construction and engine clearance, and rubbish pits, all within the relatively limited excavations of a 500 mm wide trench, confirming the potential for subsurface archaeological remains to be encountered (Sarah Phear pers. comm.).

6.3 Waterways and Māori archaeological sites in Canterbury

Although there are no recorded Māori archaeological sites within the project area, or within the general surrounding area in inland North Canterbury, this is considered largely an absence based on limited archaeological survey, investigation, and recording. Recent works under archaeological authority 2024/031 have affirmed the presence of several small oven sites at a similar distance inland to the project area (M35/5, M35/2426, M35/2430 and M35/2431). These are located along relict waterways associated with the Waimakariri River, and reflect a pattern of small-scale temporary occupations associated with use of waterways as transport corridors observed elsewhere in Canterbury (c.f. Wadsworth, 2020). The Ōhoka Stream today is a relatively shallow channel, but presumably would be navigable during periods of high flow, and likely carried more water prior to drainage of the area, though whether the surrounding ground would have been suitable for short-term encampments is not known. Although there is no direct evidence that Māori

archaeological sites would be encountered during works, the possibility that Māori archaeological sites associated with short-term occupations along the Ōhoka waterways could be encountered during works cannot be discounted.

7 Site survey

A site visit was carried out on 6 August 2025 by Tristan Wadsworth to inspect the recorded location of M35/1875, the other building areas on the site, and the drains and waterways. The intent of the site visit was to record the extent and condition of visible archaeology and to identify areas of modification within the project area that may affect the condition of subsurface archaeology. Bruce Van Duyn (Carter Group), and Peter Sherriff (landowner) were met on site, and both provided information about the project area. Peter Sherrif has been the landowner and farmed the area since around 1993.

7.1 Ōhoka Railway Station: M35/1875

The Ōhoka Railway Station embankment remains visible on the surface, in the form of a low raised area up to 200 mm above the surrounding ground and approximately 30 m across at its widest point, and running along the former railway alignment between Mill Road and Bradleys Road at the north of Lot 2 DP 318615 (Figure 7-1, Figure 7-2, Figure 7-3). This embankment appeared to be built largely from small rolled gravels, grown over with and shallow topsoil formed, consistent with early historical photographs of the line (see Section 5.6 Ōhoka Railway Station and Eyreton Line; Figure 5-15). Although somewhat disturbed, deflated, or pocked by cattle movement, the embankment appeared to be in relatively fair condition. The embankment is visible in both aerial photographs and LiDAR (Light Detection and Ranging) imagery of the area (Figure 7-4).

Figure 7-1. View southwest from Mill Road along railway embankment. The approximate boundaries of the embankment are shown with dashed white lines.

Figure 7-2. View southwest along railway embankment. The approximate boundaries of the embankment are shown with dashed white lines.

Figure 7-3. View west across railway embankment. The approximate boundaries of the embankment are shown with dashed white lines.

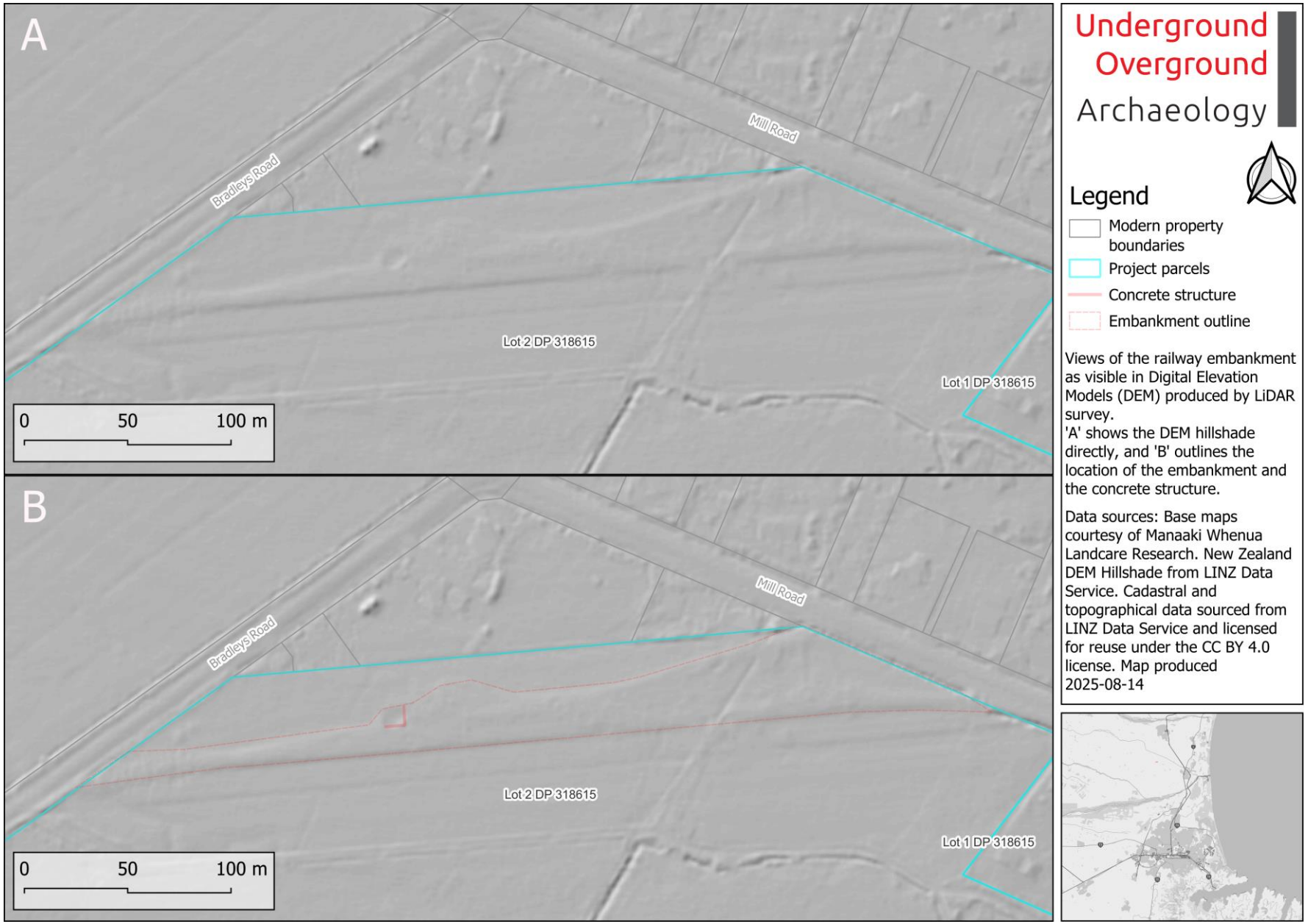


Figure 7-4. View of LiDAR (Light Detection and Ranging) imagery of the Ōhoka Railway Station embankment.

Toward the centre of the embankment area was a two-sided right-angled concrete structure, approximately 8 m on each length, and 300 mm wide (Figure 7-5). The structure was approximately 1m high, with the walls angling down at the east and north ends. Aerial imagery from the 1940s shows this area to be the location of a raised sloping surface at that time, with what looks like a carriage on the railway siding immediately to the south, and the goods shed and yard with further visible walls to the east (Figure 7-6 and Figure 7-7). The standing concrete structure is interpreted as retaining walls for a loading bank to allow for loading carriages or the like. The yards to the east were likely for stock.

Figure 7-5. View of concrete structure within M35/1875.

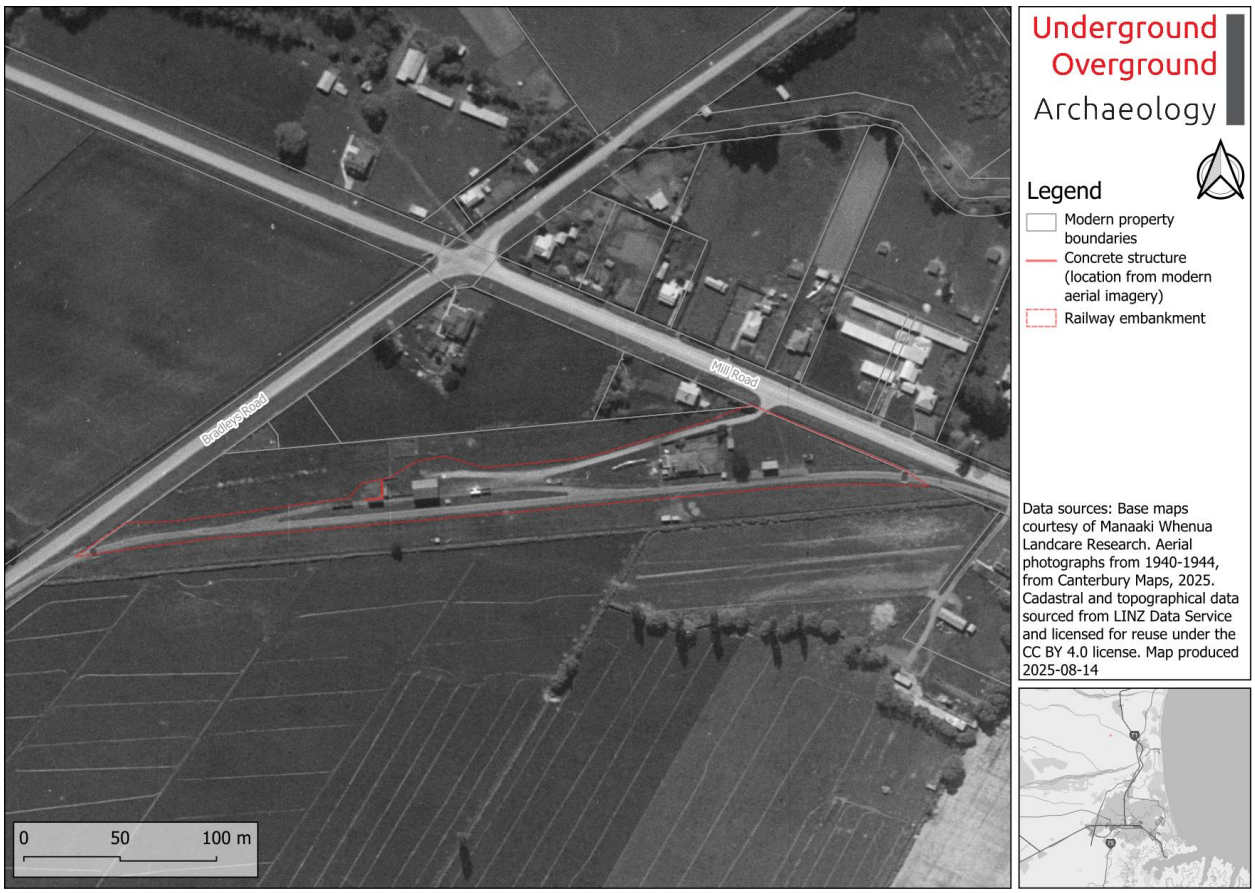


Figure 7-6. Aerial imagery of Ōhoka Railway Station, 1940-1944, showing the location of the standing concrete structure.

Figure 7-7. Detail of aerial imagery of Ōhoka Railway Station, 1940-1944, showing the location of the standing concrete structure in relation to dwellings.

The concrete was cracked vertically in places, notably near the southeast corner, and the south wall has shifted, tilting outward. The internal portion of the structure had a hollow at the centre, and landowner Peter Sherriff had informed me that the gravels within the structure (visible in earlier aerial photographs, and interpreted as forming a ramp up to access carriages and the like (Figure 7-7) had been removed by himself some decades ago. The south side of the structure bore a mark 'M 95', possibly indicating the year of construction (Figure 7-9). The structure is not shown on an 1891 plan of the railway station, which would accord with an 1895 construction (see Section 5.6 Ōhoka Railway Station and Eyreton Line; Figure 5-14). A concrete and earth loading bank was built by railway authorities at the Fernside Station in 1895, and it is possible that this represents a greater program of loading bank construction at Waimakariri stations, and the Ōhoka structure represents this (*Star*, 14/11/1895: 3; McEwan, 2019).

Further markings, possibly later graffiti reading '19_5 / E_ '24' were found on the top surface of the structure near the southeast corner (Figure 7-10). The east side of the structure had visible evidence of formwork/shuttering in the form of both vertical and horizontal corrugations from the use of corrugated iron as the formwork, and impressions of railway iron supports (Figure 7-11). Small fragments of the corrugated iron used as the formwork remained impressed into the concrete walls, and a misaligned in situ rail iron projected from the ground near the north end (Figure 7-12).

Figure 7-8. Internal view of concrete structure.

Figure 7-9. ‘M 95’ marking on concrete structure.

Figure 7-10. Possible marking/graffiti on concrete surface.

Figure 7-11. View of formwork impressions, east side.

Figure 7-12. In situ corrugated iron and railway iron within northeast side.

The southeast corner of the structure had a blocky protrusion on the south east corner, likely a structural buttress (Figure 7-13). This had what appeared to be the tip of a large flat cut or beaten iron nail protruding from it, possibly originating from the formwork of the concrete, and which remained after the formwork was removed, or was intentionally part of the structure, and connecting to other, since removed parts of the structure (Figure 7-14). The 1940s aerials do appear to show a small structure in this area east of the structure (Figure 7-7).

Figure 7-13. Concrete protrusion on southeast corner.

Figure 7-14. Protrusion on southeast corner of structure, showing cut iron nail projection.

Concrete and wood fragments were encountered along the northeast of the structure, likely representing structural remains from this or another structure (Figure 7-15). Further fragments of unclear origin were found around the same area, with ceramic-like appearance yellow-brown colouration, some flat surfaces, but other pitted, slag-like surfaces (Figure 7-16). These are considered remnants of previous railway structures.

Figure 7-15. Concrete (left) and wood (right) fragments.

Figure 7-16. Ceramic or slag fragments.

7.2 547 Mill Road

547 Mill Road was inspected from the street, as local knowledge had suggested the dwelling on that section was the former Ōhoka Railway Station Master's house (Figure 7-17). Based on appearance, this dwelling is early 20th century, and it stands outside the area of the railway reserve from the time of the station's use. The historical research has related that the likely location of the station master's house is indicated on early survey plans and in early aerial photographs (see Section 5.6 Ōhoka Railway Station and Eyreton Line: Figure 5-14). The historical research regarding this building is unclear, though Trotter (2017) suggested it was a 19th century building significantly modified by the removal of a second storey and complete replacement of the roofline.

Figure 7-17. 547 Mill Road.

7.3 Streams and waterways

Drains and waterways were inspected within the project area and around the perimeter (Figure 7-18). The roadside drains were at least 1 m deep and approximately 1 m wide, with relatively steep earthen sides with no lining, and had recently been dug out by mechanical excavator during the week of the site visit. The culvert allowing access to Lot 2 DP 318615 and 531 Mill Road appears to be in the same location of the culvert that would have been present to allow for the drain to pass under the Eyreton Line in this area, but the nature of the culvert could not be determined to identify if it has been replaced or upgraded since this time (Figure 7-18).

Figure 7-18. View east along the drain along the south side of Mill Road (left), and of culvert in area of embankment on Mill Road (right).

The Ōhoka Stream meanders across the north of the project area, with several crossing culverts of 20th century construction based on materials (i.e. tanalised timber), and the stream alignment appears largely unmodified, though the banks have likely been partially modified by mechanical excavator.

Figure 7-19. View along Ōhoka Stream from culvert, west (left), and east (right).

The Ōhoka South Branch stream runs across the project area toward the centre of the section, but has been significantly formalised and straightened in the mid-20th century (see 5.7 Ōhoka Stream and drainage; Canterbury Maps, 2025). The drain in this area is shallow and approximately 3 m wide, and less than 1 m deep, with gradually sloping sides, and often clear banks associated with the spoil from the excavation of these drains to replace the earlier natural alignment of the stream.

Figure 7-20. Views along Ōhoka South Branch. Left: View west from dwelling at 236 Bradleys Road; Right: view east along drain on north side of dairy buildings.

7.4 Dwelling areas

There are three main building areas within the project area: around 531 Mill Road, at the north of the project area, 236 Bradleys Road toward the centre of the project area, and 325 Whites Road, at the east of the project area. Peter Sherriff said the farm was composed of a series of smaller farms, some of which had the farm buildings sectioned off for smaller lifestyle blocks (i.e. 290 Bradleys Road, outside the project area).

7.4.1 531 Mill Road

531 Mill Road was built of Summerhill stone suggesting a mid-20th century construction, and was done up by the landowners, adding a second story in the 1990s (Peter Sherriff, pers. comm.). The dwelling replaced an earlier dwelling visible in the 1940s aerials (Canterbury Maps, 2025). The dairy buildings at the rear of the house, including the outbuilding within Lot 1 DP 318615 all appeared to be of 20th century construction, and the latter building had railway iron rafters, perhaps, but not necessarily obtained directly from the adjacent railway station.

7.4.2 236 Bradleys Road

The largest collection of buildings is located toward the centre of the project area, accessible via 236 Bradleys Road. The house and dairy buildings on this section all appeared to be of 20th century style and materials. Peter Sherriff said that when they purchased the section in the 1990s, there was another derelict house on the section, likely that visible on the section in the early 1940s aerial photographs (Figure 7-21). No historical information was found that would indicate these buildings were constructed in the 19th century.

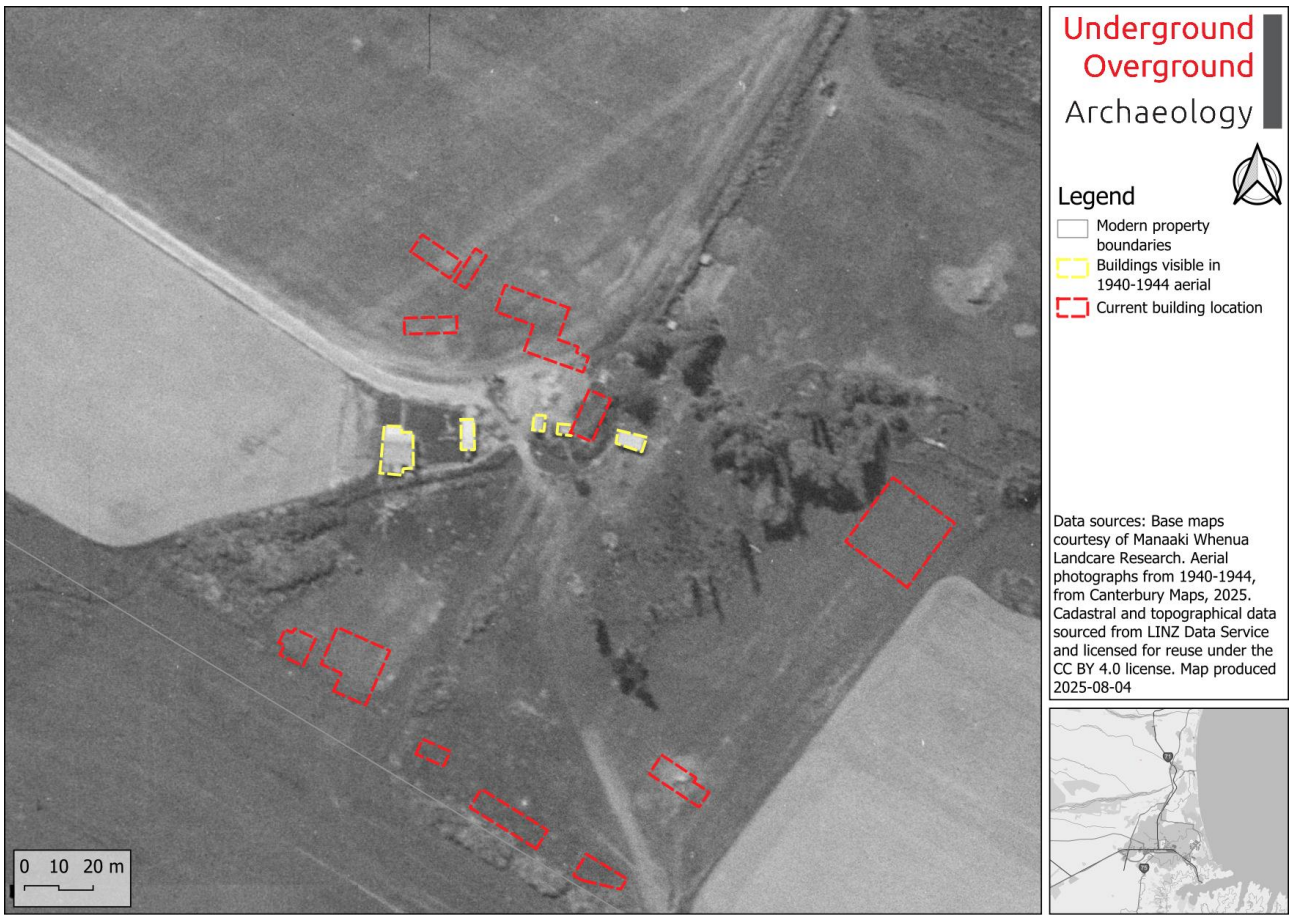


Figure 7-21. Aerial imagery of buildings at 236 Bradleys Road, 1940-1944.

8 Research results

There are no recorded Māori archaeological sites within the immediate area of the project area, and no known traditions of specific use of the project area. Although there is no direct evidence that Māori archaeological sites could be encountered during works, the possibility cannot be discounted. Based on previous archaeological experience in Canterbury, these sites are most likely to be found in the vicinity of natural waterways, and would be most likely to include small oven and midden sites representing temporary occupation (c.f. Wadsworth, 2020)

Historical research has indicated that the project area was part of multiple rural sections used for pastoral agriculture from the mid- to late-19th century. Two locations within the project area were known to be the location of 19th century farm dwellings and buildings: at the northeast of the project area around 543 Mill Road, and at the west around Lot 1 DP 55849 (Figure 8-1). Although the 19th century buildings are no longer present within the project area, it is considered possible that subsurface archaeological features associated with these occupations could be encountered during earthworks. Based on previous archaeological experience in Canterbury, these archaeological features could include building foundations and other structural remains, wells, and rubbish pits. These archaeological features are considered most likely to be found in proximity to the identified 19th century homesteads.

Historical research indicates that the roadside drain on Mill Road was formed in the 19th century, and has been successively cleared and reformed during the 20th and 21st century. Numerous drains or water races were formed for drainage of the area in the 19th century, and a 1908 plan of the area shows several water races across the project area (Figure 5-17). The date of formation of these water races is not precisely known, but there is a strong possibility that these may have been formed prior to 1900. The locations of these races are shown in Figure 8-1. The water races within the project area remain in place, of varying depths. While some of them may have been filled in, subsurface evidence is expected to remain. These features will be infilled in order to complete the project works.

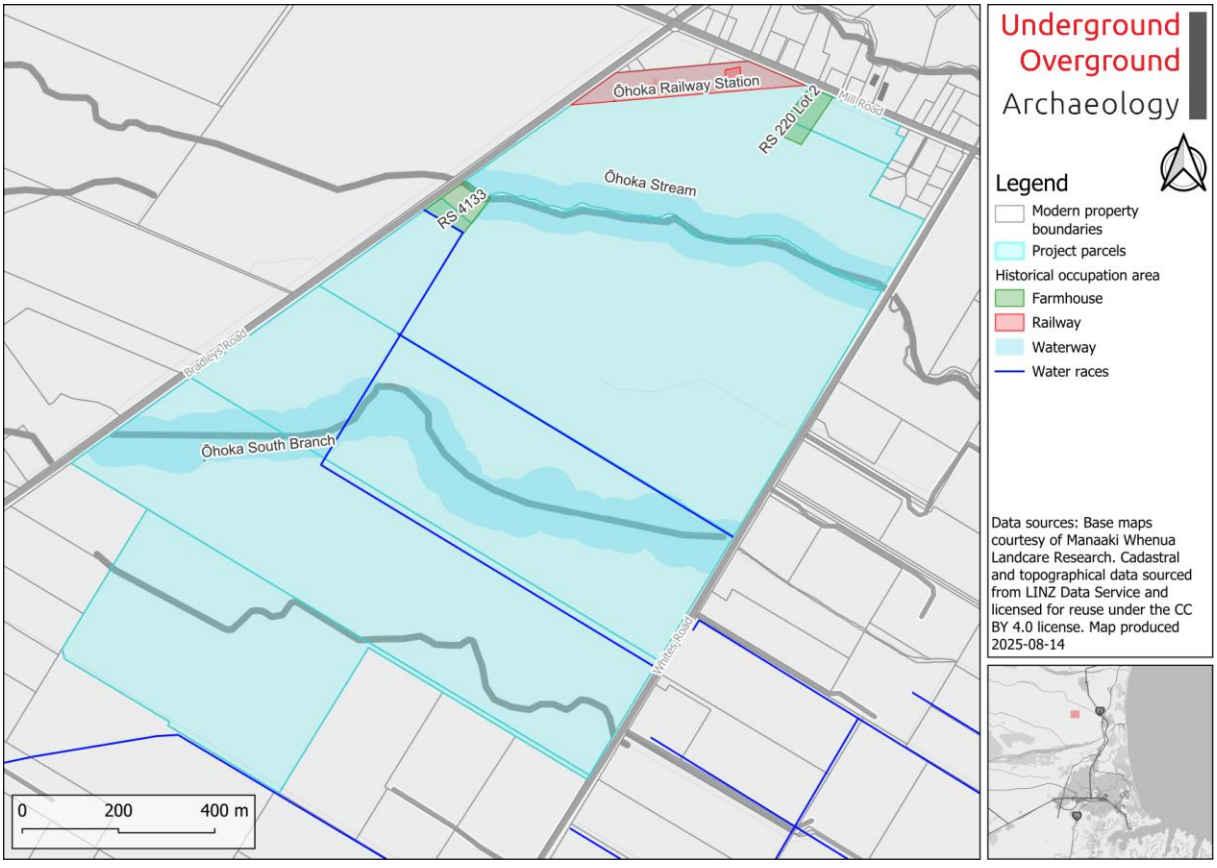


Figure 8-1. Plan of known 19th century historical occupation areas, water races within the project area in 1908.

The northwest of the project area was the location of the Ōhoka Railway Station 1875-1954. Surface evidence of the Ōhoka railway station remains in situ within the north of the project area, in the form of a raised embankment running across the paddock, the site of the former railway line, siding, and the station. A concrete structure also remains in situ within this area. These features were formed prior to 1900, and as such meet the definition of an archaeological site under the Heritage New Zealand Pouhere Taonga Act 2014, and an archaeological authority would be needed to modify or destroy the site. Previous archaeological excavation in the Ōhoka area has found subsurface archaeological evidence associated with the railway, in the form of buried ballast on Jacksons Road, and railways spikes on Bradleys Road north of Mill Road. It is possible that further subsurface archaeological remains could be present in the vicinity of the Ōhoka railway station. This could take the form of building foundations or other structural remains, buried waste deposits, and the like, as well as railway sleepers, spikes, and possibly rails in secondary contexts.

8.1 Constraints and limitations

The historical records for the region are somewhat limited, and valuation records may record the presence of 19th century buildings, but rarely relate their location, making the precise location of subsurface archaeological remains difficult to determine. The historical record for Rural Section 2220 in particular relates the presence of multiple 19th century constructions, but the relationship between these buildings and standing dwellings – such as those at 344 Bradleys Road and 547 Mill Road – in the area remains somewhat unclear based on current evidence.

The historical drainage systems in the area have been difficult to research because some of the field drains were initially natural waterways before being deepened and channelled for agricultural drainage. Location and chronological details in the records of the drains are minimal, particularly within private property, meaning the dates of formation of these features is not precisely known. Much of the subdivision was part of the Ohoka Estate, which was often referred to as a whole estate rather than the individual rural sections.

Although a site visit was undertaken, the extent of subsurface archaeological remains associated with the railway station could not be established, as the remains would be subsurface, and a sufficiently extensive program of test excavation to establish the extent of subsurface remains would be substantially time-consuming.

9 Archaeological and other values

Section 46 of the HNZPTA 2014 requires an assessment of archaeological values as well as Māori and other relevant values to the archaeological site. The criteria for the assessment of values is provided by HNZPT (2019), including the condition of the site, its uniqueness, contextual value, information potential, amenity value, and cultural associations. This is followed by an overall statement of archaeological significance, based on the methods outlined in Section 10.

The archaeological values assessed here are those of the site of the site of the Ōhoka Railway Station (M35/1875), which has visible surface features that will be affected by the proposed works (Table 9-1), as well as those of potential 19th century drains within the area of works (Table 9-2), and potential subsurface archaeological remains associated with 19th century farming occupation of the area (Table 9-3). Although there is no direct evidence that Māori archaeological sites are present within the project area, the values of small Māori midden and oven sites are also assessed in Table 9-4, as the possibility they may be encountered cannot be discounted.

Table 9-1. Summary of archaeological value for M35/1875.

Value	Criteria	Assessment
Condition		The full condition of the site appears to be fair. Surface remains of the railway embankment and at least one structure remains in situ and in fair to good condition above the surface. Based on aerial photographs of the area, following the closure of the station in 1954, the area remained in use as pasture, and has therefore been subject to limited subsurface disturbance. As such, any subsurface archaeological features are likely to remain in relatively good condition.
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	Although many railway stations were built across the country during the 19th century, many of these have since been repurposed or destroyed by redevelopment. This station was unique in serving the Ōhoka community and area, but overall stations are an uncommon site type at a national level.
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Māori occupation sites around a river mouth, or a gold mining complex.	The local context of the site has changed considerably since the use of the station: the Eyreton Branch Line is no longer in use, though other aspects of the line remain in situ along its former length, such as remains of the railway embankment and junction (M35/461 and M35/1625), and the Wetheral Railway station (M35/1504). These sites form part of the context for interpretation of M35/1875. The surrounding area has been subject to some degree of development and residential intensification, particularly to the north of the project area. Several other 19th century buildings remain extant along Mill Road. Overall, the contextual value of the site is considered low-medium.
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	Investigation of the remaining surface features of the railway line could provide information regarding construction methodologies and maintenance of the railway embankment and the associated structures. It is possible that subsurface archaeological features could provide information about the layout and construction methodology of the station buildings, and buried waste deposits could provide information about day-to-day life and operation of the station and its workers and clientele. As such, the information potential of the site is considered medium-high.
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	The presence of the subsurface embankment and standing structure provides the potential for public interpretation and interpretation, although the visible elements of the site are limited and simple. Currently, the amenity value of the site is largely unrealised, but could be realised if appropriate public interpretation and signage were set up alongside public access. Overall, the amenity value is considered low-medium.

Value	Criteria	Assessment
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, Chinese.	The Ōhoka Railway Station has cultural associations for New Zealand rail workers and their descendants, and the broader New Zealand public.
Other Values		The site is not known to have any other values.
Overall Values		Overall, the archaeological values of the Ōhoka Railway Station site (M35/1875) are considered medium, largely based on its information potential and potential amenity values.

Table 9-2. Summary of archaeological values for drainage and water race features.

Value	Criteria	Assessment
Condition		The condition of these sites is **fair**. The original alignments of the drains are preserved although they have been regularly re-excavated and it is unknown whether the original cut of the drain remains intact below the surface. The drains are part of a greater network associated with the Ōhoka Estate, and parts of this network remain in situ to the east, though much of this portion of the former estate has been subdivided for lifestyle blocks, and the remaining extent and condition of the network is not well known.
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	This site type is not rare or unique. There are many 19th century field drains around Canterbury which follow their original alignments and which remain in use today. However, the continued naturalisation of these drains by backfilling and cutting through large sections of the original drain alignments has resulted in 19th century field drains becoming more rare over time.
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Māori occupation sites around a river mouth, or a gold mining complex.	The contextual value of these sites is **medium**. Several drain features remain in their original alignment and are part of a network that was constructed and used during the 19th century. Much of the immediate area has remained farmland to date, however, the surrounding landscape has gradually shifted from the original agricultural farmland to lifestyle block housing.
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	The information potential of this site is **low**. Many 19th century drains have been investigated across Canterbury, yielding similar results. It is unlikely these works will provide any new or unique information.
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	The amenity value is **low-medium**. The drain has little educational value except to inform the public of the location of the original drain, although it can be used to tell part of the story of how Canterbury was drained in order for it to become viable farmland.
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, Chinese.	The site does not have any special cultural associations.
Other values		The site is unlikely to have other values.
Overall Values		Overall, this site is of **low-medium** archaeological value, due to its context, rarity, information potential, cultural associations, and its amenity values.

Table 9-3. Archaeological values for 19th century farming sites.

Value	Criteria	Assessment
Condition		The remains of any subsurface archaeological features within the project area are unknown, but previous experience in similar rural contexts suggests there has been little disturbance beyond shallow ploughing, and subsurface features tend to survive in good condition.
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	19th century farm house sites are not uncommon in Canterbury specifically, or New Zealand generally, but few have been recorded or investigated in Ōhoka and north Canterbury, and artefact assemblages from secure rural farm contexts are also uncommon. As such, the rarity of the site is considered **uncommon**.
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Māori occupation sites around a river mouth, or a gold mining complex.	The site is part of a broader farming landscape, one of a number of farms that made up north Canterbury. Few sites of this type have been investigated in this region that would provide archaeological context for interpretation of these sites. If further 19th century domestic sites in the area and wider region are subject to archaeological investigation, these would form context for interpretation of such sites. The contextual value is currently **medium.**
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	Few 19th century artefact assemblages from farm contexts have been recovered as yet in Canterbury, and any such deposits could provide useful comparative data for urban assemblages which are more common. As such, the information potential of the site is considered **medium-high**.
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	The amenity value of the site would depend on what archaeological material remains in situ, but its information potential and historical background suggest that this is likely to be **low-medium**.
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, Chinese.	The site is not known to have any specific cultural associations.
Other values		The site has no known other values.
Overall values		The overall value of the site is considered **medium**, based primarily on its information potential values.

Table 9-4. Summary of archaeological value for Māori oven and midden sites.

Value	Criteria	Assessment
Condition		The condition of potential oven and midden sites is not precisely known, but based on previous experience in Canterbury, in rural settings these sites typically remain in **good condition**.
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	Oven and midden sites are not generally rare, but few have been recorded in inland North Canterbury, and as such, these are considered uncommon.

Value	Criteria	Assessment
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Māori occupation sites around a river mouth, or a gold mining complex.	Although there are limited surrounding sites, these sites would have contextual value in relation to traditions of use of inland Canterbury, and in relation to similar sites elsewhere in inland Canterbury, and in relation to the large complex of recorded archaeological sites in the vicinity of Kaiapoi Pā. At a cultural level, the site is likely to be part of the broader network of mahinga kai and trails in the area. The site is of **low-medium** contextual value.
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	The information potential of these sites would depend on how much of it remains in situ. Investigation and analysis of the site may provide information through charcoal for radiocarbon dating, as well as information about food harvesting practices, depending on what the site contained. Archaeological sites such as this would contribute to a wider understanding of Māori occupation, transport networks and use of the area. The information potential of the site is **low-medium**.
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	The amenity value of these sites depends on what archaeological material remains in situ. Artefact assemblages could have the potential for public interpretation and education. As such, the amenity value of the site is considered **low-medium**.
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, Chinese.	Ngāi Tūāhuriri are best placed to comment on the cultural values of these sites.
Other Values		These sites have no known other values.
Overall Values		Overall, these sites are of **medium** value, based primarily on their information potential and rarity.

10 Assessment of effects and other considerations

Section 46 (g)(ii) of the HNZPTA requires an assessment of the effects of the proposed works, as detailed in Section 1.2, on archaeological and other values, which were assessed in the previous section. The assessment of effects takes into account the criteria established by HNZPT (2019) as outlined in Section 3.3. Also considered here is a discussion of the methods to avoid, minimise, and mitigate any adverse effects to archaeological values.

10.1 Assessment of effects on archaeological and other values

The earthworks for the subdivision of the project area are to be extensive but the depth of excavation varies across the site and by specific works. Cut and fill works are the most extensive earthworks to be carried out across the site, and will likely involve removal of topsoil across the site in advance of cut and fill works. In previous archaeological experience in Canterbury, archaeological features are most typically exposed immediately at the lower boundary of the topsoil, so topsoil stripping works are likely to expose the vast majority of archaeological features within the project area at this stage. The extent and nature of the effect on archaeological features will be dependent on their location in relation to specific works. Any archaeological features within the deeper cut and fill areas (up to 2 m deep in some locations) or encountered within the deeper excavations required for stream realignment bank reshaping, road formation, or deeper service excavations are likely to significantly affect archaeological features, requiring their outright removal. This will permanently and negatively reduce the archaeological values of potential features in such areas, effectively removing them in entirety.

The specific location of the recorded Ōhoka Railway Station and embankment is within part of the site which is largely to involve filling for levelling of the site, rather than cutting. The location of the standing concrete railway structure is within a parcel to be set aside as a heritage reserve. The concrete structure will be preserved within this reserve and signage presenting the historical context of the feature will be provided on the site. However, it is possible that the embankment and other subsurface archaeological features associated with the railway outside of the reserve will still be removed through topsoil excavation to complete the works, as it may be considered unsuitable ground for subdivision. As the embankment appears to be shallow and not substantially different in material from the surrounding soils, filling of the area with similar soils would effectively make the embankment invisible stratigraphically, effectively destroying it, particularly if the topsoil is first removed, which will likely also remove the majority of the embankment. If the embankment and any subsurface archaeological features are removed in order to complete the works, the archaeological site would be significantly impacted, as there are no archaeological features associated with the Ōhoka Railway Station known to exist outside the project area. This would permanently and negatively affect the archaeological values of the site, though it would not remove them entirely.

Infilling of the potential 19th century drains within the project will involve diversion or undergrounding by pipe of the existing water flow, removal of bank vegetation, and then infilling of the drains themselves. This may not significantly modify the cut of the drains themselves, as these are likely to have been regularly modified through successive and regular maintenance. If the original 19th century drainage cut is still present beyond the extent of past modification, it would be preserved in part by placement of the fill material and may still be investigated by archaeological methods in future. The drain infilling works will have a moderate effect on the archaeological values of the drains, reducing their amenity and contextual values by removing the visible portions, and affecting, at least in part, their condition values. As parts of the drainage network remain in situ outside the project area, these sites will not be destroyed in entirety.

10.2 Recommendations to avoid, minimise and/or mitigate adverse effects

Mitigation methods for the adverse effects on archaeological values shall follow the effects management hierarchy to avoid, minimise, or mitigate effects. The mitigation strategies aimed at preventing or minimising the impact of the proposal are outlined below.

10.2.1 Sites and features to be avoided or protected

The preferred mitigation for adverse effects to archaeological sites is avoidance and preservation of archaeological sites in situ in the first instance. The best opportunities for avoiding damage to archaeology and historic heritage arise when the options for design are being considered. The concrete structure is located roughly within a single lot as per the current design of the project. The applicant is proposing to retain the concrete loading bank structure and make the area surrounding the concrete structure a vested public reserve and provide information signage, planting, seating, small play structure, etc to enhance the area.

Stabilising and correcting the shifted concrete structure, and backfilling the internal portion of the feature would help ensure its long-term survival, and restore the original form of the structure, enhancing its amenity value. The proposal to erect public interpretation panels with details of the Ōhoka Railway Station will help realise the amenity value of the site and impart historical information regarding the site and the area.

While part of the Ōhoka Railway Station site (M35/1875) site will be destroyed by the proposed works, retention, partial restoration and public interpretation of the concrete structure would have a beneficial effect on the values of the site, particularly its amenity value.

Figure 10-1. The standing concrete structure, within proposed Lot 115. Image provided by Carter Group Ltd. Note that since Feb 2025 the boundaries of the lot have been altered slightly so that the entire structure is within the parcel.

Figure 10-2. Rendered landscape plan showing the proposed heritage reserve. Image provided by Carter Group Ltd.

Prior to archaeological recording, vehicle movements in the location of the railway embankment and concrete structure should be excluded, to prevent vehicle damage to the embankment.

It is not possible to avoid effects to subsurface archaeological features ahead of time, as the location of these is not known.

10.2.2 Methods to minimise damage to archaeological sites or features

As the location of any subsurface archaeological features within the area are currently unknown, an avoidance strategy cannot be implemented. Any archaeological features discovered during earthworks are likely to be damaged or completely removed to facilitate the project works. The following methods can be implemented to minimise the damage to subsurface archaeological features.

An archaeological briefing by a qualified archaeologist should take place prior to any earthworks starting to help prevent any accidental damage to in situ and subsurface archaeological features. The briefing should detail the archaeological requirements and procedures for the project, explain the archaeological setting of the project area and provide examples of what the expected archaeological features and materials may look like.

Due to the potential for subsurface archaeological features and materials within the site, an archaeologist should be on site to monitor all excavation earthworks within the area of the former Ōhoka Railway Station and railway embankment, and the areas of the identified 19th century homesteads. This will minimise damage to archaeological sites, as stand-over archaeological monitoring will facilitate the identification of subsurface archaeological features and materials and reduce accidental damage or over-excavation. An archaeological management plan should be prepared for the project works to outline the archaeological monitoring requirements and investigation methodologies. It should outline what earthworks will require stand-over archaeological monitoring, and which works can proceed with regular site visits or do not require monitoring.

The archaeological methodologies for the investigation of archaeological features, and the potential time frames for investigations, should also be outlined to inform the construction crew on potential stand down periods.

Due to the unknown age of the culvert on Mill Road, it is recommended that any excavation for upgrade or removal of this culvert be subject to archaeological monitoring.

Wherever possible, the mechanical excavator should use a flat edged bucket. This will help to ensure that any subsurface archaeological features have minimal damage upon exposure and do not become obscured. A toothed bucket will unequally dig into an archaeological feature, damaging the feature and its contents before it can be visually identified by the archaeologist. Minimising earthworks in wet weather conditions should also be considered, as this also obscures the ground and hinders the identification of subsurface archaeological features.

10.2.3 Mitigation for information loss

If damage, modification, or destruction of archaeological features by the project works is not able to be avoided in the first instance, then the loss of archaeological information may be mitigated by investigation, recording, analysis, and interpretation using accepted and current archaeological methods. It should be noted that “the recovery of information is a method of mitigating the loss of archaeological information, not for the loss of the site itself" (Heritage New Zealand Pouhere Taonga, 2019: 10). Despite recording and investigation, the archaeological works will still likely result in the permanent removal of an archaeological feature(s) and deposits, and possibly all archaeological evidence for the site. If the latter, this will result in the permanent removal of archaeological values related to the site(s).

It is proposed that the potential loss of archaeological information be mitigated by recording any archaeological remains prior to destruction. Standard archaeological techniques should be used for this. These include, but are not limited to, the following:

- mapping the location;
- stratigraphic drawing;
- photography of any archaeological features;
- measurements of any archaeological features;
- recovery of archaeological samples;
- analysis and investigation of any archaeological samples recovered, in line with standard archaeological practice.
- Production of a final report on the archaeological sites investigated during the project.

If archaeological remains are exposed during topsoil stripping in areas that are to be subject to filling for relevelling, it could be possible – depending on the depth of fill and potential future earthworks or vehicle movements – for features to be left in situ. However, any archaeological features that are exposed during topsoil stripping and left in situ may be subsequently affected by future construction or other excavation on individual sections, even if the initial stripping works would leave the features in situ. Subsequent vehicle movement, construction and service placement within the subdivision would be likely to damage or destroy any archaeological remains left in situ, possibly in a piecemeal fashion with limited recording or mitigation as a result, and potentially without an archaeological authority or monitoring. As such, rather than leave archaeological features in situ for future damage, the archaeological investigation of which will likely be piecemeal, it is considered more appropriate in most cases to record and wholly excavate any features during the initial stages of the project, so as to gain the fullest possible understanding of the remains. The location of archaeological features as they are exposed will be assessed in relation to potential future works and disturbance to determine whether features would be best served by protection in situ or investigation.

The potential 19th century drains should be recorded by limited photography, the production of cross-section drawings prior to infilling, and recording the drains in the New Zealand Archaeological Association site recording scheme.

Any archaeological remains should be recorded within the New Zealand Archaeological Association site recording scheme, including an outline of their modification and excavation as appropriate. A full report of the archaeological investigations that are undertaken should be prepared and submitted to Heritage New Zealand Pouhere Taonga for inclusion within the digital reporting library. This will ensure that the information collected during the investigation is not lost and becomes part of the formal archaeological record, and that it is accessible to the public. Due to the long-term nature of the project, regular reporting should be carried out, in order to maintain an understanding of archaeological investigations concurrent with the operation of the project, either annually or by stage.

If the embankment is to be destroyed but cutting or filling, the embankment should be mapped with a GPS to record its extent. If the concrete structure is, for some reason, unable to be protected, it should be recorded to a Level II standard, as outlined in Investigation and Recording of Buildings and Standing (HNZPT, 2018) prior to modification, including photography, measured drawings, and written descriptions as described below. Measured drawings should be produced of the east and south elevations of the structure.

The standing concrete structure is located roughly within a single lot as per the current design of the project, on a proposed road alignment that runs closely parallel to the railway embankment. Naming this proposed road after the former Ōhoka Railway Station could help mitigate the loss of heritage and amenity values from loss of the archaeological site. Further mitigation measures could include production of public interpretation panels for the former Ōhoka Railway Station. The placement of these in the vicinity of the loading bank would best enhance the amenity value of the site. As mentioned above, retention, partial restoration and public interpretation of the concrete structure will have a beneficial effect on the values of the site, particularly its amenity value, which will partly mitigate the adverse effects of the project.

10.3 Summary of effects on archaeological values

The proposed works for the Ōhoka subdivision will have a negative and permanent impact to the recorded site of the former Ōhoka Railway Station (M35/1875). Although retention of the concrete loading bank within a heritage reserve will help to minimise these impacts, the majority of the archaeological site is expected to be destroyed, resulting in the permanent reduction of the archaeological values of site. The overall magnitude of the adverse effects on this site will be moderate, subject to the implementation of additional mitigation measures, including archaeological monitoring and recording of subsurface archaeological features.

As the location of any subsurface archaeological features is unknown, the project works cannot be planned to avoid them, and other methodologies will have to be utilised to mitigate the adverse effects on these sites. This includes the monitoring of earthworks by an archaeologist, the use of a flat edged digger bucket, avoiding working in wet weather, and investigating all archaeological features and materials as per current archaeological methodologies. Archaeological site record forms will require creation following works, and a final report that outlines the archaeological investigations completed and interpretations made will need to be prepared to be made publicly accessible through the HNZPT digital library. These mitigation strategies will help reduce potential for accidental damage to archaeological features and will aid in the recovery of archaeological information prior to the damage of the site. Despite these mitigation strategies the project works could still result in the partial damage and destruction of archaeological sites. This would have a moderate adverse effect on the archaeological values associated with the site.

11 Conclusions and recommendations

This archaeological assessment has identified that the works will affect the recorded site of the Ōhoka Railway Station founded in 1875 (M35/1875; Table 11-1). The site is assessed as having medium archaeological value, and under the current design, the development is expected to destroy the majority of the site, which will result in a moderate adverse effect. While the retention of the existing concrete loading bank within a designated heritage reserve will help minimise the loss of archaeological values and enhance its public amenity, the archaeological values of the site will ultimately be reduced to low.

In addition, the works will infill portions of likely 19th century drains and water races, and have the potential to affect unrecorded subsurface archaeological remains associated with 19th century domestic and agricultural occupation of the area, concentrated around identified dwelling areas near the modern 543 Mill Road and Lot 1 DP 55849 on Bradleys Road. No direct evidence was found that Māori archaeological sites would be encountered during within the project area, but the possibility cannot be discounted. Pre-1900 archaeological sites are protected under the Heritage New Zealand Pouhere Taonga Act 2014, and modification of these archaeological sites would require an archaeological authority under the HNZPT Act 2014 or the FTA Act 2024. Archaeological monitoring, recording, investigation, interpretation, and reporting will partially mitigate the effects of the proposed redevelopment works on archaeological sites.

Table 11-1. Sites affected by the proposed Ōhoka subdivision.

NZAA site ID	Site name	Site location	Brief description
M35/1875	Ōhoka Railway Station	Near junction of Mill Road and Bradleys Road, Ōhoka	Remains of Ōhoka Railway Station 1875-1954. Surface remains of the railway include a low earth embankment, and standing concrete structure.
n/a	-	Approx. location of 543 Mill Road, Ōhoka	19th century farming occupation of RS 2220, the farmstead of which was likely located on Bradleys Road near the modern 543 Mill Road.
n/a	-	Approx. location of Lot 1 DP 55849, Bradleys Road, Ōhoka	19th century farming occupation of RS 4133, the farmstead of which was likely located on Bradleys Road near the modern Lot 1 DP 55849.
n/a	-	Former Ōhoka estate	Network of open drains and water races within the former Ōhoka estate, Ōhoka.

On the basis of this assessment, UOA makes the following recommendations:

1. Further assessments: Although the assessment has found no evidence that Māori archaeological sites would be encountered by the proposed works, local rūnanga may still wish to be consulted regarding the overall cultural aspects of the project.

2. Authority application: As the proposed works described in Section 1.2 will affect M35/1875, and unrecorded archaeological sites, an archaeological authority under Section 44 of the HNZPTA 2014 or the FTA Act 2024 must be obtained prior to any modification of any archaeological site.
    a. If development plans are altered from those reviewed for this assessment (Appendix A), then HNZPT and UOA must be alerted, as any changes may alter the assessment of effects or invalidate the authority.

3. Protection of sites/features: As a first principle, every practical effort must be made to avoid damage to any archaeological site, whether known, or discovered during any redevelopment of the site. Possibilities for avoiding subsurface archaeological features encountered during works – including slight deviations to alignment or depth – will be discussed with the contractors as and when these sites encountered.
    a. The applicant has committed to preserving the standing concrete loading bank associated with the railway within a heritage reserve.
        i. Public interpretation panels that are to be installed at the site should outline the history of the former station and Eyreton Railway Line,
        ii. Naming the parallel street for the Ōhoka Railway Station should be considered.
        iii. The concrete structure should be stabilised and the internal portion backfilled to both match its original function, and stabilise it against future collapse.

4. Archaeological management plan (AMP): All works must be carried out in accordance with and AMP. Any amendments to the AMP will require prior written approval from HNZPT.
    a. Risk areas: Stand-over archaeological monitoring and regular site visits should be undertaken in proximity to the potential archaeological sites identified during this assessment. These areas are to be identified within the AMP.

5. Contractor briefing: All contractors working on the project must be briefed by the s45 approved person (or person nominated on their behalf) on the possibility of encountering archaeological evidence, how to identify possible archaeological sites/features during works, the archaeological work required by the conditions of the authority, and contractors' responsibilities with regard to notification of the discovery of archaeological evidence to ensure that the authority conditions are complied with.

6. Embankment recording: the railway embankment should be mapped with a GNSS prior to modification by excavation or vehicle movements.

7. Archaeological monitoring: All earthworks that may affect an archaeological site – such as those within the extent of the former railway station and the areas of the 19th century homesteads – must be monitored by the s45 approved person (or person nominated on their behalf) in accordance with the risk areas identified within the AMP.
    a. All archaeological features and material encountered shall be recorded, analysed, and interpreted in accordance with current archaeological practice and as outlined in the AMP.

8. Archaeology of Māori origin: If archaeological material of Māori origin is discovered at any stage, all work must stop within 20 m of the find. UOA will assist the authority holder in contacting all relevant parties including Te Ngāi Tūāhuriri Runanga in accordance with the AMP.
    a. Any taonga tūturu are *prima facie* the property of the Crown who will be notified of the find. Taonga tūturu will be registered with the Ministry for Culture and Heritage. UOA, in collaboration with mana whenua, shall notify the Ministry of Culture Heritage and establish the most appropriate temporary storage, management and care for taonga tūturu, until such time as traditional or actual ownership is determined, with an appropriate institution or kaitiaki.
    b. In the event of finds of Māori archaeological material, the AMP should be modified to include archaeological monitoring in the surroundings of the find, and in similar geomorphological areas (i.e. along waterways).

9. Kōiwi (human remains): Should kōiwi be encountered, all work must stop on the site to ensure the cultural safety of those working on the site. UOA will assist the authority holder in contacting all affected parties as soon as practicable, including Ngāi Tūāhuriri, HNZPT, and the police. The Ngāi Tahu policy for kōiwi tangata shall also be followed (Te Rūnanga o Ngāi Tahu, 2019).

10. Annual and regular reporting:
    a. Archaeological site record form updates: Within 20 working days of the completion of on-site archaeological work on a specific archaeological site, the site record forms must be updated or submitted to ArchSite.
    b. Annual reporting: at the end of each year after the authority is issued annual reports must be prepared in accordance with *ASG12 Archaeological Report Guideline* (HNZPT, 2023) and submitted to HNZPT for inclusion in the digital library and to Waimakariri District Council and Canterbury Museum. If Māori archaeological remains are encountered during works, these reports should also be provided to Ngāi Tūāhuriri Rūnanga. The creation and publication of the report will allow this information to become part of the archaeological record.
        i. During annual phases where no archaeological remains are encountered or reported, HNZPT be notified via email

11. Final reporting:

a. Within 12 months of the completion of all on-site archaeological work, a final report summarizing previous annual reporting must be prepared in accordance with *ASG12 Archaeological Report Guideline* (HNZPT, 2023) and submitted to HNZPT for inclusion in the digital library and to Waimakariri District Council and Canterbury Museum. The creation and publication of the report will allow this information to become part of the archaeological record.

12 References

Acland, L.G.D., 1975. *The Early Canterbury Runs*. Whitcoulls Publishers, Christchurch.

Anderson, A., 1998. *The welcome of strangers: an ethnohistory of southern Maori A.D. 1650-1850*. Otago University Press.

Archives New Zealand, 1891. *Ohoka Station. January 1891*. R26224958, CCE 6242. Available at Archives New Zealand Christchurch repository. Accessed August 2025.

Archives New Zealand, 1895. Probate, George Clist. Archives New Zealand, Christchurch Regional Office, R22386659. Available at <https://familysearch.org/> Accessed August 2025.

Archives New Zealand, 1905. Probate, Joseph Senior White. Archives New Zealand, Christchurch Regional Office, R22389333. Available at <https://familysearch.org/> Accessed August 2025.

ArchSite, 2017. *M35/1875*. New Zealand Archaeological Association. Available at: <https://archsite.eaglegis.co.nz/NZAA/> Accessed June 2025.

ArchSite, 2025. New Zealand Archaeological Association. Available at: <https://archsite.eaglegis.co.nz/NZAA/> Accessed August 2025.

Canterbury Maps, 2025. Canterbury Maps Viewer. [online] Available at: <https://canterburymaps.govt.nz/> Accessed August 2025.

Canterbury, New Zealand, Provincial Rolls, 1868-1874 [online]. Available at <http://home.ancestry.com.au/> Accessed August 2023.

Cass, T., 1864. *Mandeville and Rangiora Road District*. Lithographed by Ward and Reeves, Christchurch. [online] National Library of New Zealand. Available: <https://natlib.govt.nz/records/21912890> Accessed August 2025.

Department of Transport (DoT)., 2008. Design Manual for Roads and Bridges. Volume 11, Environmental Assets; Section 3, Environmental Topics; Part 2 HA 208/7 Cultural Heritage. Department for Transport and Highways England.

Dodd, A. 2023. Archaeological report, Shannon Railway Station: Capital connection platform raise archaeological authority 2023-563.

Environment Canterbury. 2007. "Waitaha Wai - Water of Canterbury. Section 4: Discovering Your Local Waterway - The Kaiapoi Catchment." *Waitaha Wai - Water of Canterbury*.

Grouden, V. 2009. Otaki Railway Station. Archaeological Investigation Report. NZHPT Authority 2008/244.

Hawkins, D. N., 1957. *Beyond the Waimakariri - A regional history*. Christchurch: Whitcombe and Tombs Ltd. on behalf of the Ashley, Eyre, Kowai, Oxford and Rangiora County Councils and the Kaiapoi and Rangiora Borough Councils, with the assistance of the Canterbury Centennial Association.

Heritage New Zealand Pouhere Taonga (HNZPT), 1985. *Ohoka Homestead*. List no. 274 [online]. Available at: <https://www.heritage.org.nz/list-details/274/Ohoka%20Homestead#details> Accessed August 2025.

Heritage New Zealand Pouhere Taonga (HNZPT), 2018. Archaeological Guidelines Series No. 1: Investigation and recording of buildings and standing structures. Heritage New Zealand Pouhere Taonga.

Heritage New Zealand Pouhere Taonga (HNZPT), 2019. *Archaeological Guidelines Series No. 2: Writing Archaeological Assessments*. Heritage New Zealand Pouhere Taonga.

Heritage New Zealand Pouhere Taonga (HNZPT), 2023. *Archaeological Guidelines Series No. 12: Archaeological Report Guideline*. Heritage New Zealand Pouhere Taonga.

International Council on Monuments and Sites (ICOMOS), 2011. Guidance on Heritage Impact Assessments for Cultural World Heritage Properties.

Jarman, A., n.d. Map of the Province of Canterbury, New Zealand showing the pasturage runs. National Library of New Zealand [online]. Available at: <https://ndhadeliver.natlib.govt.nz/delivery/DeliveryManagerServlet?dps_pid=IE4507425> Accessed August 2025.

Jolly, D., and Ngā Papatipu Rūnanga Working Group, 2013. Mahaanui Iwi Management Plan. Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke (Rāpaki), Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, Te Taumutu Rūnanga.

Kelly, A., Gibson, A., and Mearns, L., 2023. Ohoka Power Pole Renewals. Archaeological assessment. Report prepared for MainPower New Zealand Limited.

Kemp, J. M., 1881. *Rangiora Survey Districts*. National Library of New Zealand [online]. Available at: <https://natlib.govt.nz/records/22098746> Accessed August 2023.

Kerr, J. S., 2013. *The Conservation Plan. A guide to the preparation of conservation plans for places of European Cultural Significance* (Seventh Ed). James Semple Kerr. http://australia.icomos.org/wp-content/uploads/The-Conservation-Plan-7th-Edition.pdf

Knight, W. E., n.d.a. Contributed by Laurence Eagle, *Ohoka Station* [online]. Available at Waimakariri Heritage, Recollect <https://waimakariri.recollect.co.nz/nodes/view/1167 Accessed August 2025.

Knight, W. E., n.d.b. Contributed by Laurence Eagle, *Ohoka Station* [online]. Available at Waimakariri Heritage, Recollect <https://waimakariri.recollect.co.nz/nodes/view/1169> Accessed August 2025.

Kurmann, S., 2021. Archaeological Authority Final Report 2020/415: Greymouth Railway Station Platform Upgrade.

LINZ, 1860a. Canterbury Land District Deeds Index – C3 – 1485-2238 – Rural sections register. Archives New Zealand, Christchurch office, R227653178.

LINZ, 1860b. Canterbury Land District Deeds Index – C/S 7 – Subdivisions of rural sections register. Archives New Zealand, Christchurch office, R22765337.

LINZ, 1860c. Canterbury Land District Deeds Index – C5 – 3005-3766 – Rural sections register. Archives New Zealand, Christchurch office, R22765320.

LINZ, 1860d. Canterbury Land District Deeds Index – C6 – 3767-4532 – Rural sections register. Archives New Zealand, Christchurch office, R22765321.

LINZ, 1878. Certificate of title 34/118, Canterbury. Landonline

LINZ, 1879, *Certificate of title 39/2*, Canterbury. Landonline

LINZ, 1906. *DP 2267, Canterbury.* Landonline.

LINZ, 1908. *DP 8301, Canterbury.* Landonline.

Logan, R., 1987. Waimakariri - The Story of Canterbury's "River of Cold Rushing Water". Christchurch: Logan Publishing.

Lyttelton Times, 1851-1920. [online] Available at: <https://paperspast.natlib.govt.nz/> Accessed August 2023.

MacDonald, G.R., 1952-1964. *Macdonald Dictionary of Canterbury Biography project*. [online] Canterbury Museum. Available at: <https://collection.canterburymuseum.com/objects> Accessed August 2025.

McEwan, A., 2019. Waimakariri District Council Historic Heritage Item Record Form: 2021 District Plan Item No. HH110. Former Fernside Railway Station grain store/goods shed, stockyards & loading bank. Waimakariri District Council.

McStay, A., 2020. Athol Railway Heritage Project. Final Report for Works Undertaken under Archaeological Authority 2020/094. Report Prepared for Southland District Council.

New Zealand Historic Places Trust (NZHPT), 2012. Sustainable Management of Historic Heritage Guidance Series: Iwi Management Plans. New Zealand Historic Places Trust Pouhere Taonga.

New Zealand Ministry for Culture and Heritage, 2017. *Treaty of Waitangi*. New Zealand History, New Zealand Government. [online] Available at: <https://nzhistory.govt.nz/politics/treaty-of-waitangi> Accessed August 2025.

North Canterbury Gazette, 1932-1939. [online] Available at: <https://paperspast.natlib.govt.nz/> Accessed August 2025.

Press, 1861-1979. [online] Available at: <https://paperspast.natlib.govt.nz/> Accessed August 2023.

Rangiora Museum, 1908. *Ohoka Estate Sale Plan*. Pyne & Co. and N.C. Co-op Association. Rangiora Museum, 5100.1.13B.

Stack, J. 1893. *Kaiapohia: The Story of a Siege*. Christchurch: Whitcombe & Tombs.

Tau, T. M. and Anderson, A. eds., 2008. *Ngāi Tahu: a migration history: the Carrington text*. Wellington: Bridget Williams Books.

Taylor, W.A., 1952. *Lore and History of the South Island Māori.* Christchurch: Bascands Ltd.

Te Rūnanga o Ngāi Tahu, 2019. Kōiwi Tangata. Te Wawata o Ngāi Tahu e pa ana ki Ngā Tāonga Kōiwi o Ngā Tūpuna The Policy of Ngāi Tahu Concerning the Human Remains of our Ancestors. Unpublished report prepared by Te Rūnanga o Ngāi Tahu.

Te Rūnanga o Ngāi Tahu, 2025. *The Ngāi Tahu Atlas*. [online] Kā Huru Manu. Available at: <http://www.kahurumanu.co.nz/atlas> Accessed August 2025.

Trotter, M. 2016. *Archaeological Report on Jacksons Road Sewer Main, Ohoka*. Unpublished report for Waimakariri District Council.

Trotter, M. 2017. *Archaeological Report on a New Pressure Sewer System at Ohoka*. Unpublished report for Waimakariri District Council.

Wadsworth, T., 2020. Spring Grove subdivision, Stages 1-4, Belfast, Christchurch: Final report on archaeological monitoring, HNZPT authority 2016/918. Report prepared for Spring Grove Land Ltd, HNZPT.

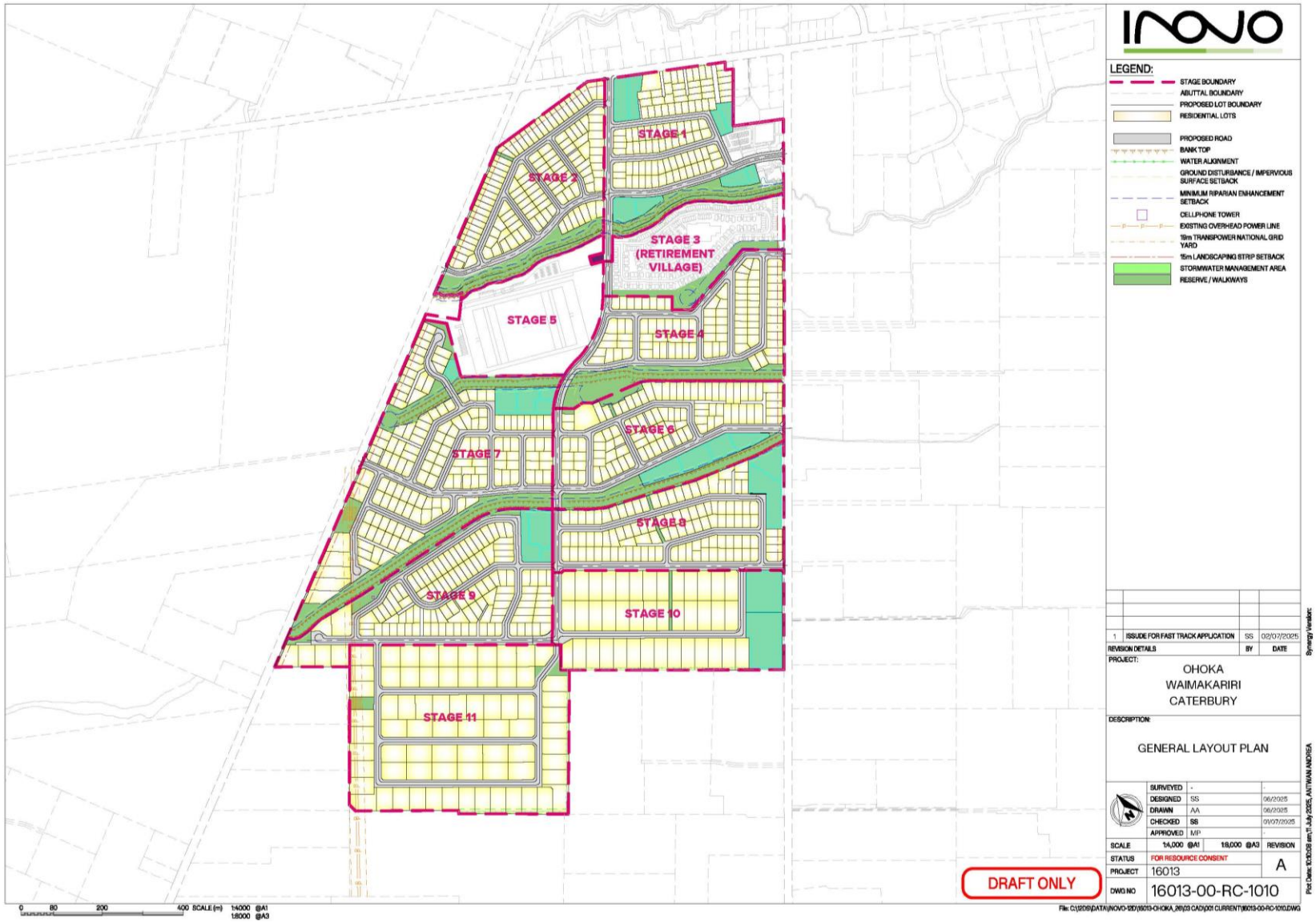
Waimakariri District Council, 2025. Drainage Areas and Water Races in Waimakariri District. Available at: <https://www.arcgis.com/apps/dashboards/f1de10a8fd7f4ff5a6a6e18411397ce5> Accessed August 2025.

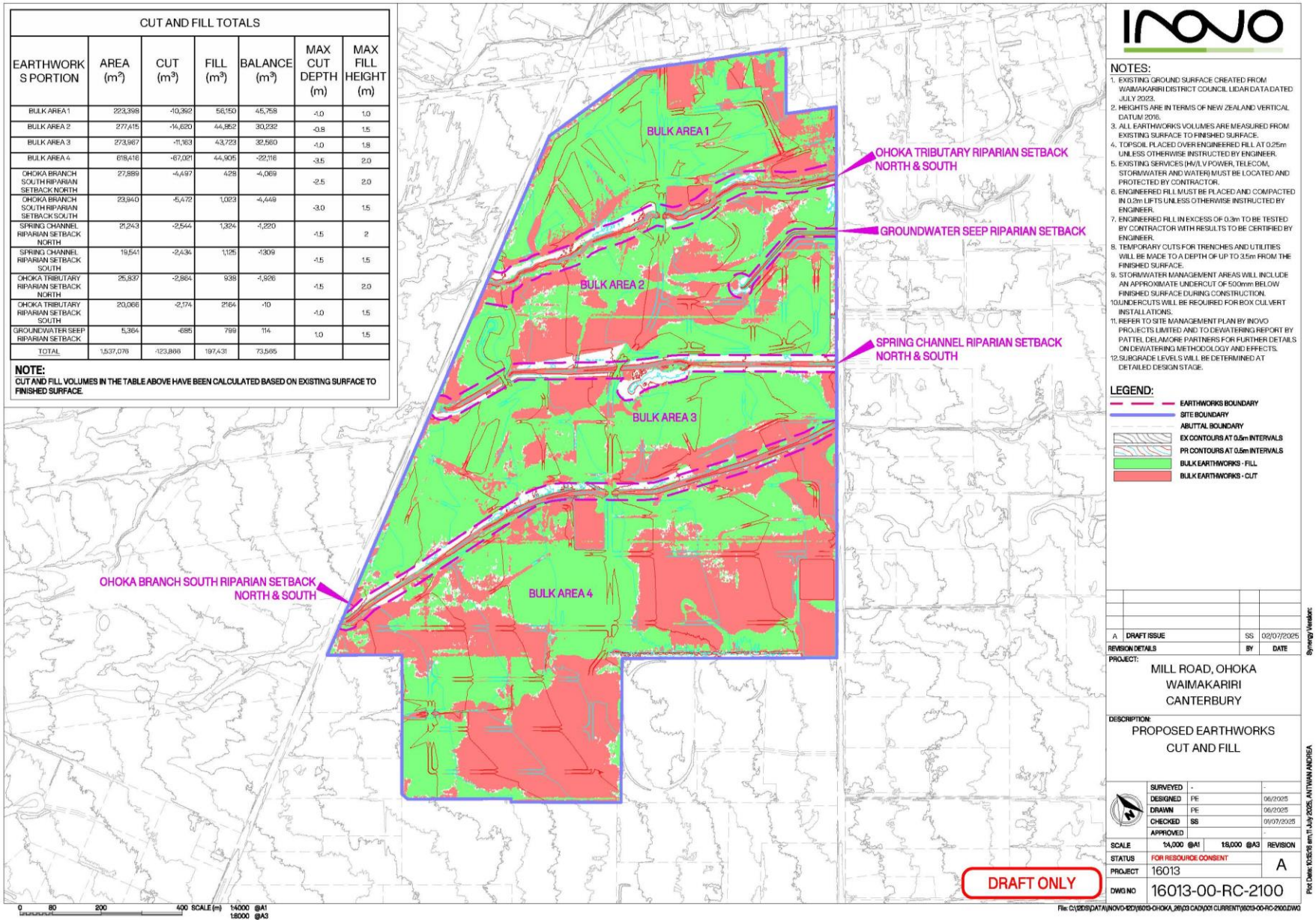
Waimakariri Libraries, 2023. *History of the Eyreton Railway Line*. [online] Available at: <https://waimakaririlibraries.com/heritage/local-history/places-of-the-waimakariri/surrounding-areas/history-of-the-eyreton-railway-line> Accessed August 2023.

Waimakariri Libraries, 2025. *History of the Eyreton Railway Line*. [online] Available at: <https://waimakaririlibraries.com/heritage/local-history/places-of-the-waimakariri/surrounding-areas/history-of-the-eyreton-railway-line> Accessed August 2025.

Wood, P., 2008. *Eyre Wind and Water - A History of Eyre District*. Rangiora: Eyre Towards 2000 Historical Committee with the Waimakariri District Council. Verve Digital Limited, Christchurch, N.Z.

Appendix A Development plans





CUT AND FILL TOTALS

EARTHWORKS PORTION	AREA (m^2)	CUT (m^3)	FILL (m^3)	BALANCE (m^3)	MAX CUT DEPTH (m)	MAX FILL HEIGHT (m)
BULK AREA 1	223,398	-10,392	56,150	45,758	-1.0	1.0
BULK AREA 2	277,415	-14,620	44,852	30,232	-0.8	1.5
BULK AREA 3	273,967	-11,163	43,723	32,560	-1.0	1.8
BULK AREA 4	618,416	-67,021	44,905	-22,116	-3.5	2.0
OHOKA BRANCH SOUTH RIPARIAN SETBACK NORTH	27,889	-4,497	428	-4,069	-2.5	2.0
OHOKA BRANCH SOUTH RIPARIAN SETBACK SOUTH	23,940	-5,472	1,023	-4,449	-3.0	1.5
SPRING CHANNEL RIPARIAN SETBACK NORTH	21,243	-2,544	1,324	-1,220	-1.5	2
SPRING CHANNEL RIPARIAN SETBACK SOUTH	19,541	-2,434	1,125	-1309	-1.5	1.5
OHOKA TRIBUTARY RIPARIAN SETBACK NORTH	25,837	-2,864	938	-1,926	-1.5	2.0
OHOKA TRIBUTARY RIPARIAN SETBACK SOUTH	20,066	-2,174	2164	-10	-1.0	1.5
GROUNDWATER SEEP RIPARIAN SETBACK	5,364	-685	799	114	1.0	1.5
TOTAL	1,537,076	-123,866	197,431	73,565		

NOTE:
CUT AND FILL VOLUMES IN THE TABLE ABOVE HAVE BEEN CALCULATED BASED ON EXISTING SURFACE TO FINISHED SURFACE.

INOVO

NOTES:
1. EXISTING GROUND SURFACE CREATED FROM WAIMAKARIRI DISTRICT COUNCIL LIDAR DATA DATED JULY 2023.
2. HEIGHTS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
3. ALL EARTHWORKS VOLUMES ARE MEASURED FROM EXISTING SURFACE TO FINISHED SURFACE.
4. TOPSOIL PLACED OVER ENGINEERED FILL AT 0.25m UNLESS OTHERWISE INSTRUCTED BY ENGINEER.
5. EXISTING SERVICES (HV/LV POWER, TELECOM, STORMWATER AND WATER) MUST BE LOCATED AND PROTECTED BY CONTRACTOR.
6. ENGINEERED FILL MUST BE PLACED AND COMPACTED IN 0.3m LIFTS UNLESS OTHERWISE INSTRUCTED BY ENGINEER.
7. ENGINEERED FILL IN EXCESS OF 0.3m TO BE TESTED BY CONTRACTOR WITH RESULTS TO BE CERTIFIED BY ENGINEER.
8. TEMPORARY CUTS FOR TRENCHES AND UTILITIES WILL BE MADE TO A DEPTH OF UP TO 3.5m FROM THE FINISHED SURFACE.
9. STORMWATER MANAGEMENT AREAS WILL INCLUDE AN APPROXIMATE UNDERCUT OF 500mm BELOW FINISHED SURFACE DURING CONSTRUCTION.
10. UNDERCUTS WILL BE REQUIRED FOR BOX CULVERT INSTALLATIONS.
11. REFER TO SITE MANAGEMENT PLAN BY INOVO PROJECTS LIMITED AND TO DEWATERING REPORT BY PATTEL DELAMORE PARTNERS FOR FURTHER DETAILS ON DEWATERING METHODOLOGY AND EFFECTS.
12. SUBGRADE LEVELS WILL BE DETERMINED AT DETAILED DESIGN STAGE.

LEGEND:
- EARTHWORKS BOUNDARY
- SITE BOUNDARY
- ABUTTAL BOUNDARY
- EX CONTOURS AT 0.5m INTERVALS
- PR CONTOURS AT 0.5m INTERVALS
- BULK EARTHWORKS - FILL
- BULK EARTHWORKS - CUT

REVISION	DETAILS	BY	DATE
A	DRAFT ISSUE	SS	02/07/2025

PROJECT:
MILL ROAD, OHOKA
WAIMAKARIRI
CANTERBURY

DESCRIPTION:
PROPOSED EARTHWORKS
CUT AND FILL

SURVEYED	-	-
DESIGNED	PE	06/2025
DRAWN	PE	06/2025
CHECKED	SS	01/07/2025
APPROVED		-

SCALE	1:4,000 @A1	1:8,000 @A3	REVISION
STATUS	FOR RESOURCE CONSENT		A
PROJECT	16013		
DWG NO	16013-00-RC-2100		

File: C:\2DS\DATA\INOVO-2D\16013-OHOKA_26\03 CAD\001 CURRENT\16013-00-RC-2100.DWG
Plot Date: 10:35:18 am, 1 July 2025, ANTWAN ANDREA
Synergy Version:

Appendix B Site record forms

List of site record forms attached for sites that will be affected by the proposed works.

NZAA site ID	Site name	Site location	Brief description
M35/1875	Ōhoka Railway Station	Near junction of Mill Road and Bradleys Road, Ōhoka	Remains of Ōhoka Railway Station 1875-1954. Surface remains of the railway include a low earth embankment, and standing concrete structure.

NEW ZEALAND ARCHEOLOGICAL ASSOCIATION INCORPORATED

Site Record Form

ARCHSITE archaeological site recording scheme

NZAA Site Number:	M35/1875	**Site Coordinates (NZTM)**	
Imperial Site Number:		**Easting:**	1565121
Site Type:	Transport/	**Northing:**	5198876
Site Name(s):	Ohoka Station	**Source:**	On Screen

Finding Aids to the Location of the Site:

The site is marked by a concrete structure in a paddock south of the intersection of Bradleys Road with Mill Road, Ohoka.

Brief Description:

Concrete walls of a probable loading ramp mark the site of the railway station on the Eyreton branch line at Ohoka (between 1875 and 1954)

Condition of Site when last visited:

Poor

Printed by: NZHP_AnnthalineGibson_ArchSite

Date Report Created: 05/08/2025

Site Periods:

Colonial 1840-1900, Modern 1900-

Ethnicity:

Non Maori

Site Features:

Building, Railway

Associated Sites:

Description:

Updated 08/07/2017 (Field visit), submitted by michaeltrotter , visited 20/07/2016 by Trotter, Michael
Grid reference (E1565121 / N5198876)

From 1875 to about 1954 there was a railway station on the Eyreton Branch Railway line at the north-west end of the village of Ohoka. 1940s aerial mapping photographs indicate that it comprised a 180 metre long siding, a station building and the low concrete walls of a probable loading ramp – only the last feature still exists on the surface.

Condition Notes:

Updated 08/07/2017 (Field visit), submitted by michaeltrotter , visited 20/07/2016 by Trotter, Michael

Low concrete walls of the probable loading ramp are still extant, but the railway lines and station building have been removed. Other remains may occur beneath the surface.

Date Report Created: 05/08/2025

ARCHSITE archaeological site recording scheme

NZAA Site Record Number: M35/1875

SITE TYPE: Railway Station
SITE NAME: Ohoka Station
RECORD DATE: 8 July 2017

SITE COORDINATES (NZTM): Easting: 1565121 Northing: 5198876

Source of location data: Canterbury Maps GIS

Field visit date: 20 July 2016 Visited by: Michael Trotter

Finding aids to the location of the site:

The site is marked by a concrete structure at GPS co-ordinates 1565094 by 5198876 which is centred about 26 metres west of where the railway station building stood. The site is in a paddock and the structure is visible from near the Mill Road/Bradleys Road intersection. See next page.

Site description:

From 1875 to about 1954 there was a railway station on the Eyreton Branch Railway line at the northwest end of the village of Ohoka. 1940s aerial mapping photographs indicate that it comprised a 180 metre long siding, a station building and a probable loading ramp (see next page).

Today a concrete structure that appears to be the remains of a loading ramp is all that is visible on the surface as in the above photograph, looking southwards (the cattle are standing some distance behind the structure). The station building was centred about 26 metres east of this structure.

List of visible archaeological features:

Concrete structure as described above.

Condition of site:

Low concrete walls of the probable loading ramp are still extant, but the railway lines and station building have been removed. Other remains may occur beneath the surface.

Associated sites:

M35/1504 (Wetheral Station), M35/461 (road crossing) and M35/1625 (Eyreton Junction) are all sites on the Eyreton Branch railway line.

Record submitted by:

Michael Trotter, Tuahiwi, North Canterbury.

The yellow arrow on the left of the above photograph points to the concrete remnant of the Station.

The Eyreton Branch Railway was officially opened on 27 December 1875 and the line initially ran from Eyreton Junction just north of Kaiapoi to West Eyreton, a distance of about fifteen or sixteen miles (25 kilometres) stopping at the intermediate stations of Ohoka, Mandeville and Swannanoa as required. In 1878 the branch line was extended to Bennetts Junction to meet the Rangiora-Oxford branch line. With the increasing use of road transport in the twentieth century the section from Bennetts to Horrelville was closed in February 1931 and the section from Horrelville back to Wetheral on the eastern side of Ohoka (site M35/1504) in May 1954. The remaining section of line was closed in April 1965. (Summarised from *Archaeological Report on Jacksons Road Sewer Main, Ohoka*, by Michael Trotter, 2016, a report for the Waimakariri District Council and Heritage New Zealand, where full references are given.)

1940s aerial mapping photograph showing the Ohoka railway station.
The concrete structure is to the left of the station building.

(Photographs on this page are from Canterbury Maps.)