

IDENTIFY

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## Preliminary site investigation

14 Banks Road, Rongotea

Te Kapiti Trust

THE CONTAMINATED SITE CONSULTANCY

## RECORD OF REVIEW

<b><i>Roles</i></b>	<b><i>Person responsible</i></b>	<b><i>Position</i></b>	<b><i>Relevant experience</i></b>	<b><i>Signature</i></b>
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Reviewer	Reagan Knapp CEnvP-SC	Site Contamination Specialist	13 years	 

This preliminary site investigation meets the requirements of the Resource Management (National Environmental Standard for assessing and managing contaminants in soil to protect human health) Regulations 2011 because it has been:

- a. done by a suitably qualified and experienced practitioner, and
- b. reported on in accordance with the current edition of Contaminated land management guidelines No 1 – Reporting on contaminated sites in New Zealand, and
- c. certified by a suitably qualified and experienced practitioner.

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## SUMMARY

Te Kapiti Trust is proposing to apply for a private plan change to the Manawatū District Plan to rezone land at and adjacent to 14 Banks Road Rongotea (the 'site').

The site is currently zoned 'rural' and used for pastoral grazing. The private plan change proposes to rezone the site to 'village', in doing so providing a viable area for new housing to support the growth of Rongotea township.

The site is not identified on the Manawatū-Whanganui Regional Council (Horizons) Sites Associated with Hazardous Substances register, however the landowner commissioned HAIL Environmental Limited (HAIL Environmental) to undertake a preliminary site investigation as one of a suite of technical investigations to support the proposed private plan change. The objectives of the investigation were to:

- Determine if the site has, more likely than not, been subject to land uses identified on the Ministry for the Environment's Hazardous Activities and Industries List (HAIL, Ref: MfE1).
- If so, determine whether the proposed activity could pose a risk to human health and/or the environment.
- If there is a significant risk, identify potential consenting requirements under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS), contaminated land rules of regional and district plans and/or the need for further investigation.

Based on the information presented, the site has not been subject to HAIL uses.

Soils at the site are considered likely to contain residual cadmium and dichlorodiphenyltrichloroethane (DDT) concentrations, associated with application of superphosphate fertilisers, similar to those of the wider Manawatū-Whanganui Region. Research suggests this would be well below the soil contaminant standards for a rural residential/lifestyle block (including homegrown produce consumption of up to 25%) outlined in the NES-CS. Residual cadmium and DDT concentrations in soils (if present) are therefore considered highly unlikely to pose a risk to human health.

HAIL Environmental recommends that an asbestos survey of the garage and pump shed is carried out prior to demolition to determine if and what management may be required under Regulations 22 and 27 of the Health and Safety at Work (Asbestos) Regulations 2016.

HAIL Environmental also recommends that the stockpiles of waste, and any waste resulting from the demolition of the remaining buildings, is disposed of at an appropriately licenced facility. This material should not be burnt, as doing so may potentially result in soil contamination.

Based on the information reviewed, the site is not considered to meet the definition of a 'piece of land' under Regulation 5(7) of the NES-CS. Accordingly, the test of Regulation 5(7) is no longer met, and the NES-CS does not apply to a future change of land use and/or subdivision. Given the above, contaminated land rules of the regional plan do not apply to the site.

## 1. INTRODUCTION

### 1.1. Investigation objectives

Te Kapiti Trust (the landowner) is proposing to apply for a private plan change to the Manawatū District Plan to rezone land at and adjacent to 14 Banks Road, Rongotea (the 'site').

The site is currently zoned 'rural' and used for pastoral grazing. The private plan change proposes to rezone the site to 'village', in doing so providing a viable area for new housing to support the growth of Rongotea township.

The site is not identified on the Manawatū-Whanganui Regional Council (Horizons) Sites Associated with Hazardous Substances (SAHS) register, however the landowner commissioned HAIL Environmental Limited (HAIL Environmental) to undertake a preliminary site investigation (PSI) as one of a suite of technical investigations to support the proposed private plan change. The objectives of the investigation were to:

- Determine if the site has, more likely than not, been subject to land uses identified on the Ministry for the Environment's (MfE) Hazardous Activities and Industries List (HAIL, Ref: MfE1).
- If so, determine whether the proposed activity could pose a risk to human health and/or the environment.
- If there is a significant risk, identify potential consenting requirements under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS), contaminated land rules of regional and district plans and/or the need for further investigation.

HAIL Environmental's work comprised:

- Reviewing client-supplied information.
- Reviewing Manawatū District Council (MDC) information relating to the site, including district plans and property files.
- Reviewing Horizons information relating to the site, including SAHS entries, regional plans, selected technical reports, resource consents and bore records.
- Reviewing readily available historic aerial photographs.
- Reviewing certificates of title.
- Reviewing national soil and geological maps.
- A site walkover inspection.

### 1.2. Site identification

The site is located in Rongotea, approximately 17.5 km northwest of Palmerston North city centre. The geographic coordinates for the centre of the site (or thereabouts) are 5536722 N, 1805647 E (NZTM).

The site comprises two land parcels, both generally rectangular in shape, with a combined area of approximately 31.5 ha. The legal descriptions and areas of the individual land parcels are presented in Table .

**Table 1: Site identification details**

Street address	Legal description	Area (approx)
14 Banks Road	Section 36 Block II Douglas District	21 ha
No street address	Lot 15 Deposited Plan 565962	10.5 ha

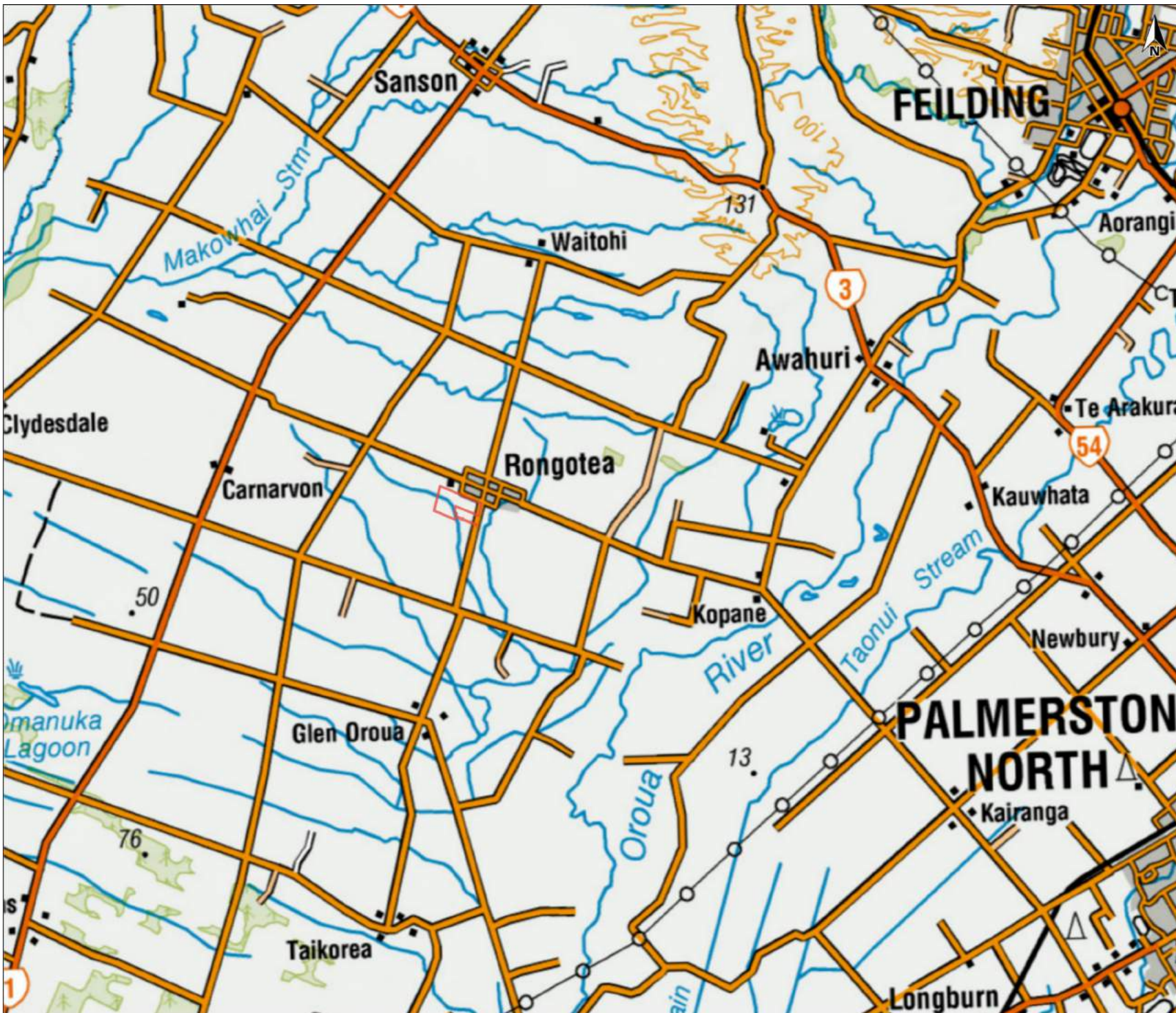
For simplicity, the land parcels will be referred to in this report as '14 Banks Road' and 'the southwest lot', respectively.

The site is currently zoned Rural (operative Manawatū District Plan) and used for pastoral grazing. The general location and layout of the site is presented in Figures 1 and 2 and a current certificate of title is included in Appendix A.

The site is located within the rohe of Ngāti Apa, which extends to the Whanganui River in the northwest and Manawatū River in the southeast.

### 1.3. Proposed site use

Rezoning the site will allow it to be used for residential development, with associated infrastructure such as stormwater management.



**Legend**

- Site Boundary

0 1 km 2 km

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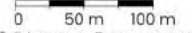
Title: Site Location Plan		
Client: Te Kapiti Trust		Figure No: 1 Size: A4
Project: 14 Banks Road, Rongotea	Drawn: AC	
Date: 27-05-2022	Checked: SN	Version: draft
Proj No: 5028	Scale: 1:100000	





**Legend**

□ Site Boundary



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Title: Site Layout Plan		
Client: Te Kapiti Trust		Figure No: 2 Size: A4
Project: 14 Banks Road, Rongotea	Drawn: AC	
Date: 27-05-2022	Checked: SN	
Proj No: 5028	Scale: 1:5500	Version: draft

## 2. SITE DESCRIPTION

### 2.1. Environmental setting

#### 2.1.1. Soils

The site is not yet mapped on the national S-Map soils database. However, the New Zealand Soil Classification (NZSC) which pre-dates the S-Map soils database describes the soils at the site as perch-gley pallic soils.

Pallic soils occur predominantly in the seasonally dry eastern part of the North and South Islands, including Manawatū, and are derived from loess of schist or greywacke. They have pale coloured subsoils, due to low iron oxide concentrations, weak structure and medium to high bulk density.

Pallic soils are dry in summer and wet in winter. In addition, perch-gley pallic soils are subject to periodic wetness caused by a perched water table. These soils are susceptible to erosion through slaking and dispersion (Ref: Landcare1).

#### 2.1.2. Geology

The site is mapped as underlain by Holocene-age beach deposits consisting of marine gravel with sand, commonly underlying loess and fan deposits (Ref: GNS1).

The active, reverse, Mt Stewart-Halcombe and Himatangi Faults are approximately 2.5 km southeast and 3.5 km west of the site, respectively (Ref: GNS2).

#### 2.1.3. Hydrogeology

The site is located within the Manawatū Plains which extend from Marton in the north to Levin in the south, and to the Ruahine / Taranaki Ranges in the east. Alluvial depositional processes have been occurring for at least the last million years, driven by tectonic uplift of the ranges and subsequent erosion. Overall, there has been limited research on the hydrogeology of this area, mainly due to limited data including bore log information (Ref: GNS3).

Groundwater flow at the site is likely to follow surface drainage patterns, flowing in a southerly direction towards the Ōroua River. However, regional groundwater is likely to flow in a south-westerly direction towards the South Taranaki Bight, following the overall direction of the Rangitikei and Manawatū Rivers.

According to Horizons' online database, the site is located within the Manawatū groundwater management zone, which extends from the Ruahine / Taranaki Ranges in the east across the Manawatū Plains. Groundwater is understood to be abstracted for municipal, industrial and agricultural water supply.

According to Horizons' online database, there are twenty groundwater bores within a 1 km radius of the site. Of these bores, one is recorded as used for public supply, one for industrial purposes (associated with the former Rongotea Co-op Dairy Co. Limited) and one for farm supply. No uses are recorded for the remaining 17 bores.

The bore used for public supply is located approximately 360 m east of the northeast corner of the site. The site is located outside the groundwater protection zone for this bore.

Three of the twenty bores are located within the site. Although no uses are recorded, it is likely they are / were used for farm supply. The three bores are recorded as being drilled to depths between 27 – 46 m below ground level (bgl).

The remaining 17 bores are recorded as being drilled to depths between 6 – 239 m bgl and, where recorded, screened to depths between 64 – 236.5 m bgl. Six of the 17 bores are recorded as having initial static water levels (SWLs) between 0.1 – 15 m bgl and as being artesian.

#### **2.1.4. Hydrology**

According to Horizons' online mapping, the site is within the catchment of the Ōroua River, which is approximately 4.5 km southeast of the site at its closest point.

The Ōroua River begins in the Ruahine Ranges, near the township of Āpiti, and flows in a southwest direction for approximately 70 km before discharging into the Manawatū River approximately 16 km south of the site.

Two man-made drainage channels, associated with the Te Kawau Drainage Scheme, are within the site. One, known as Walsh Drain, transects the northwest corner of the site in a north-south orientation before discharging into second, known as Campbells Drain, which transects the centre of the site in a southeast / southerly orientation. Campbells Drain discharges into Sluggish Creek approximately 5 km south of the site, which itself ultimately discharges into the Ōroua River approximately 14 km south of the site (Ref: MDC).

#### **2.1.5. Meteorology**

According to Horizons' online database, the closest environmental monitoring location to the site is 'Mangaone at Milson Line', approximately 16 km east of the site. Rainfall recorded at this location in the 12 months prior to June 2022 was 1,249 mm.

Additional monitoring data is recorded at 'Raumai Climate Station', approximately 20 km northwest of the site. At this location, the predominant wind direction for the same period was southeast to south-southeast, with an average speed of 4.8 m/s. The average temperature, day and night combined, was 12.6°C.

#### **2.1.6. Horizons' SAHS**

The site is not currently listed on Horizons' SAHS. However, there are three sites listed on Horizons' SAHS within a 500 m radius of the site:

- 5 Douglas Square is understood to have operated as a service station (HAIL category F7). An investigation completed as part of underground petroleum storage system (UPSS) decommissioning (dated 2005) showed soil remaining at the site complied with the applicable MfE tier 1 soil acceptance criteria for commercial / industrial land use. At its closest point, the boundary of 5 Douglas Square is located approximately 140 m north of the site.
- 62 Thames Street (W. Amey & Co. Limited) is understood to have operated as a service station (HAIL category F7). An investigation completed as part of UPSS decommissioning (dated 2006) showed soil remaining at the site complied with applicable MfE tier 1 soil acceptance criteria for commercial / industrial land use. At its closest point, the boundary of 62 Thames Street is located approximately 250 m north of the site.

- 8 Ouse Street is reported to have been used for the manufacturing of illicit drugs (HAIL category A14). No site investigation reports are held by Horizons' and the extent of contamination, if any, is therefore unknown. At its closest point, the boundary of 8 Ouse Street is located approximately 135 m north of the site.

Based on the nature of the contaminants, topography and distance from the site, it is considered unlikely that these sites are having, or have had, an impact on the site.

Although not on the SAHS, the Rongotea wastewater treatment plant (WWTP), which includes oxidation ponds and treatment wetlands, is immediately to the west of the site. Wastewater treatment is a HAIL land use: category G6.

The Manawatū WWTP upgrade and centralisation project is currently underway, which will result in wastewater from Rongotea (along with wastewater from other townships in the area) being piped directly to the Manawatū WWTP in Feilding for treatment and disposal. It is understood that the pipeline between Rongotea and Feilding will be completed by 2023 (Ref: MDC).

According to Horizons online information, discharge from the WWTP is to Campbells Drain, which runs southeast / south through the site. The discharge was permitted by resource consent ATH-2002009784.01, although this expired in 2017. The ongoing discharge is permitted under s.124 of the Resource Management Act 1991 (RMA). It is possible that renewal of the consent was not sought, as the WWTP will likely be decommissioned when the Manawatū WWTP upgrade project is complete.

## 2.2. Surrounding land uses

Land uses adjacent to the site are:

<b>North</b>	Residential properties, followed by Severn and Trent Streets
<b>East</b>	Banks Road and rural land
<b>South</b>	New rural residential properties, and rural land
<b>West</b>	Rongotea WWTP and rural land

Overall, the site is on the southern side of Rongotea township in a historically rural area which is intended for rural residential development.

## 3. SITE HISTORY

### 3.1. Ngā rā o mua

The earliest inhabitants of the Manawatū Region are understood to be descendants of people who arrived on the Kurahaupō and Aotea canoes, who established settlements in the area around 600 years ago, before being joined by descendants of people who arrived on the Tākitimu, Arawa and Tainui canoes from Hawke's Bay, Taupō and Waikato, respectively.

In the 1840s, the banks of the Manawatū River were occupied by people of Ngāti Rangitāne, Ngāti Raukawa and Ngāti Kauwhata (Ref: Te Ara).

### 3.2. European settlement

In the 1840s, Europeans began to arrive and establish settlements in the Manawatū Region, beginning with the lower reaches of the Manawatū and Rangitikei Rivers before moving further inland.

In the late 1860s, 'Ōroua Downs Estate', comprising present-day Rongotea, was sold to two businessmen from Otago: Robert Campbell and John Douglas. Settlement of at least 70 families was included as part of the sale. The resulting settlement was known as 'Campbelltown' and was established around Douglas Square of present-day Rongotea.

In 1887, Campbelltown was renamed Rongotea as a result of the number of other settlements within New Zealand with the same name. By the 1900s, Rongotea had become a service centre for the surrounding sheep and dairy farms (Ref: Te Ara).

### 3.3. Farmland

#### 14 Banks Road

The earliest available CT (WN37/256, dated 17 December 1884) shows the site as owned by settler John Richard Harper. Ownership was transferred multiple times within the following 50 years, largely to individuals with occupations recorded as farmers.

The earliest available aerial photograph, dated 1949, shows the site in pasture, with a paddock on the northern boundary used for feed-cropping and/or break feeding. A dwelling and associated outbuildings are present towards the eastern boundary. The property file suggests that the dwelling was constructed in the 1930s.

To the northwest of the dwelling and outbuildings, a small area is separated from the remainder of the pastoral grazing area by hedgerows. Several small shelters are present, which may have been for keeping pigs.

The Walsh and Campbells drains are observed in their current locations and a small stream is also observed to transect the centre of the site in a north-south orientation.

CT WN37/256 shows that ownership of the site was transferred to Alice Fyfe of Rongotea, widow, in 1957.

An aerial photograph from 1968 shows few changes, although the hedgerows and (potential) pig shelters have been removed. A paddock on the southeast corner of the site appears to be used for feed-cropping and stock (likely dairy cows, based on proximity to milking sheds on adjacent properties) are observed grazing in paddocks on the southwest corner.

CT WN37/256 shows that ownership of the site was transferred to Robert Mervyn Cocker of Rongotea, farmer in 1971. The property file includes building consent applications for an implement shed (dated 18 May 1976), a garage with workshop (dated 28 February 1977) and an extension to the garage to be used as a car shed (undated, but presumably after 1977).

The site was transferred to Kevin John Mossop and Annette Margaret Mossop of Rongotea, farmers, in 1982. An aerial photograph from 1982 shows that the site remained largely unchanged with the exception of the garage construction west of the dwelling.

The property file includes a building consent application for an extension to the dwelling (dated 31 August 1984). The extension is shown in a 2005 aerial image.

The 2005 image also shows a farm race connecting the grazing area to a milking shed on an adjacent property to the south of the site, suggesting that the site was part of a larger dairy farm.

The 2015 aerial image shows that the site remained largely unchanged, although one of the outbuildings to the west of the dwelling had been removed.

CT WN37/256 shows that the ownership the site was transferred to Bruce James Cheetham and Ngaire Alexandra Cheetham (current owners) in 2020.

A recent aerial image shows that the dwelling has been removed. A small set of stockyards are observed to the northeast of the implement shed.

### **Southwest lot**

The earliest available CT (WN32/241, dated 16 April 1883) shows the southwest lot was originally part of a larger land parcel, owned by settler Jens Larsen of the 'Douglas Special Settlement'. Ownership was transferred multiple times within the following 50 years, largely to individuals with occupations recorded as farmers.

In 1933, the ownership was transferred to Charles Edward Taylor of Fielding, solicitor, Leela Doris Targett of Papatoetoe, dairy farmer, and (Mrs Targett's sister) Edna Florence McNally of Rongotea, wife of Donald Fraser McNally, sharemilker, suggesting the lot was part of a larger dairy farm.

The earliest available aerial photograph, dated 1949, shows the site in pasture. A small structure (possibly a hayshed) is observed on the western side of a small hedgerow near the centre. Several small shelters are observed in a small area intersecting the existing Sterling Lane, suggesting pigs may also have been raised in this area.

CT WN32/241 shows that the ownership was transferred to John Evan Mossop of Rongotea, farmer, on 24 July 1950.

An aerial photograph from 1968 shows few changes, with the exception of the hayshed and shelters which appear to have been removed. The WWTP maturation ponds have been established to the west.

Aerial photographs from 1982 and 2005 show few changes. The 2005 image shows a farm race along the west and south boundaries, connecting to the milking shed to the southeast of the lot, suggesting the lot was part of the same dairy farm as 14 Banks Road.

CT WN32/241 shows that ownership was transferred to Duncan Bruce Cheetham and Susan Jane Cheetham (current owners) in 2019 and subdivided to create nine rural residential lots of approximately 0.5 ha each and one balance lot of approximately 15 ha. The balance lot was subsequently subdivided to create a further eight rural residential lots of approximately 0.5 ha and one balance lot of approximately 10.5 ha (i.e. the existing southwest lot).

An aerial photograph from 2022 (refer Figure 2) shows Sterling Lane and several dwellings established within the newly created rural residential subdivisions. A stockpile of soil (possibly topsoil from earthworks associated with the subdivisions) is observed along the western boundary.

Historical CTs, relevant property file information, and selected aerial photographs are included in Appendices A through C, respectively.

## 4. CURRENT SITE CONDITIONS

### 4.1. Site inspection

HAIL Environmental completed a site inspection on 27 May 2022. Photographs taken during the inspection are included in Appendix D.

In general, the topography of the site was observed to be flat to gently undulating. The surrounding land uses were consistent with those identified in Section 2.2.

#### **14 Banks Road**

The dwelling had been removed, but the following buildings and features remained in the vicinity of the former dwelling location:

- a timber framed, iron clad and roofed garage with a concrete floor. This was being used to store miscellaneous items, including alkathene pipe and timber. Information on the property file suggests that the external gable ends of the garage were constructed from 'HardieFlex'. Although unconfirmed, it is possible that this may contain asbestos, however the gable ends and the rest of the shed were observed to be in good condition.
- two concrete water tanks, at the west end of the garage.
- a timber framed, iron clad and roofed pump shed with a concrete floor.
- a three-bay implement shed constructed from timber poles and iron cladding, with a concrete floor. This was observed to be in good condition and was being used to store farming machinery and equipment, including a tractor and mower.
- a small set of stockyards to the north of the implement shed.
- two stockpiles, containing tree branches, silage wrap and alkathene pipe.

No evidence of fuel storage, offal pits, sheep dips or workshops were observed.

The remainder of 14 Banks Road was being used for pastoral grazing, with stock observed in several paddocks. Concrete pipes and small stockpiles of gravel were observed in a paddock near the boundary with Trent Street, possibly a lay-down area for the Manawātū WWTP upgrade and centralisation project (refer section 2.1.6).

Towards the northwest corner of the site, Walsh Drain appeared to have been recently dug out (excavated material was observed alongside the drain) and fenced.

#### **Southwest lot**

The southwest lot was being used for pastoral grazing, with cattle observed in several paddocks. The lot was observed to be lower in elevation than the remainder of the site and the ground surface was waterlogged and pugged in the vicinity of Campbells Drain. Stockpiles of new drainage pipe and timber posts were observed on the southern boundary near Campbells Drain, likely associated with the new subdivision to the southeast. A stockpile of soil was observed adjacent to the northwest boundary, the source and purpose of this material was not obvious, however it was possibly used for surfacing of the stock race.



## 5. RISK ASSESSMENT

### 5.1. Sources of contamination

This PSI has confirmed that the site has comprised pastoral grazing land since the early 1900s. No historic or current sources of contamination associated with pastoral grazing were identified.

Aerial imagery suggests that the small set of stock yards observed near the implement shed were constructed in 2021, well after the use of persistent pesticides in animal treatments were phased out. There was no evidence of livestock dipping or spray race operations in the yards, therefore, it is highly unlikely that the stockyards meet the criteria of HAIL category A8: Livestock dip or spray race operations.

It is possible that soils at the site contain residual cadmium concentrations associated with the historic application of super phosphate fertiliser to pastoral grazing soils. However, available research suggests that the Manawatū-Whanganui Region has the lowest average soil cadmium concentration of any region in New Zealand (alongside Canterbury) which, at 0.17 mg/kg, is only marginally above the national baseline (i.e. background concentration) of 0.16 mg/kg (Ref: MAF) and well below the soil contaminant standard for a rural residential land use (including homegrown produce consumption of up to 25%) of 0.8 mg/kg outlined in the NES-CS. Soil cadmium concentrations are therefore considered unlikely to pose a risk to human health.

It is also possible that shallow soils at the site contain the organochlorine dichlorodiphenyltrichloroethane (DDT), which is understood to have been added to fertilisers prior to application to control grass grub and porina moth. Although DDT was restricted in the 1970s and banned in 1989, residues of the pesticide are ubiquitous.

Available research suggests that the average soil concentration of total DDT (including isomers) in pastoral grazing soils in provincial New Zealand is in the order of 0.25 mg/kg (Ref: Landcare2) and well below the SCS for a rural residential land use of 45 mg/kg. Soil DDT concentrations are therefore considered unlikely to pose a risk to human health.

It is possible that the exterior of the pump shed may contain lead-based paint, and given its age, asbestos-containing materials (ACM) may be present in the electrical distribution board inside the shed. If present, both would be in small quantities and not of a scale that would be considered HAIL. Nevertheless, if it the pump shed is to be removed, the waste materials should be disposed of appropriately.

It is also possible that the external gable ends of the garage may contain asbestos, however this material was observed to be in good condition and not deteriorated, meaning it does not fit the criteria of HAIL category E1: Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition.

Stockpiles of waste materials including silage wrap and alkathene pipe were observed in two locations, however these appeared to be recent and were not of the scale or nature that would be considered to fall under a HAIL category.

## 5.2. Conceptual site model

In contaminated land practice, a 'contaminant linkage' is said to be present if a sensitive receptor could be exposed to a contaminant discharged from a source. If there are no complete contaminant linkages, the site is highly unlikely to pose a threat to health or the environment.

Based on the above assessment, there are no potentially complete source-pathway-receptor contaminant linkages at the site, and it is unlikely there will be any in a future rural residential land use scenario.

## 5.3. Planning implications

As set out in Section 5.1, HAIL Environmental considers that the site has likely not had HAIL land uses. Accordingly, the test of Regulation 5(7) is no longer met, and the NES-CS does not apply to future change of land use and/or subdivision.

Given the above, the contaminated land rules of the Horizons regional plan do not apply to the site.

## 5.4. Management recommendations

HAIL Environmental recommends that an asbestos survey of the garage and pump shed is carried out prior to demolition to determine if and what management may be required under Regulations 22 and 27 of the Health and Safety at Work (Asbestos) Regulations 2016 (Ref: HSW Asbestos).

HAIL Environmental also recommends that the stockpiles of waste, and any waste resulting from the demolition of the remaining buildings, is disposed of at an appropriately licenced facility. This material should not be burnt, as doing so may potentially result in soil contamination.

## 6. CONCLUSIONS

Based on information presented, HAIL Environmental considers that the site has likely not had HAIL uses. NES-CS consent is not required.

## LIMITATIONS

This PSI is the property of Te Kapiti Trust and HAIL Environmental. It was produced for the purpose stated above in accordance with the conditions of the contract executed 6 May 2022. It does not purport to provide legal or financial advice. HAIL Environmental accepts no liability to any other party or for any other purpose.

HAIL Environmental cannot reach unqualified conclusions about soil contamination at the site, because:

- We have only reviewed readily available information. This information may contain errors and omissions, for which we cannot be responsible: we have not validated any information unless specifically stated.

- Conclusions based on review of representative regional land uses and their impacts cannot ensure that impacts from the site fall within regional norms.

This report is current as of 27 May 2022. Site conditions may change in future, as may regulations and guidance. Readers must make their own judgements as to whether this report remains current at the time of reading, and/or seek further advice from HAIL Environmental.

## REFERENCES

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- HSW Asbestos: Health and Safety at Work (Asbestos) Regulations 2016. Ministry of Business, Innovation, and Employment. Wellington. 2016.
- Landcare1: Perch-Gley Pallic Soils. Information obtained from New Zealand Soil Classification at [soils.landcareresearch.co.nz](http://soils.landcareresearch.co.nz), accessed 27 May 2022. Landcare Research New Zealand Limited.
- Landcare2: Background soil concentrations of selected trace elements and organic contaminants in New Zealand. Cavanagh, J., McNeill, S., Arienti, C., Rattenbury, M. authors. Landcare Research, Lincoln. 2015.
- MAF: Report one: Cadmium in New Zealand agriculture (Cadmium Working Group). Ministry of Agriculture and Forestry. 2008.
- MDC: Manawatū Wastewater Treatment Plant Upgrade and Centralisation. Information obtained from [mdc.govt.nz](http://mdc.govt.nz), accessed 27 May 2022.
- MfE1: Hazardous activities and industries list (HAIL). Revised edition. Ministry for the Environment, Wellington. 2011.
- MfE2: Methodology for deriving standards for contaminants in soil to protect human health. Ministry for the Environment, Wellington. 2011.
- NES:CS: Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.
- Te Ara: Manawatū and Horowhenua region. Information obtained from [TeAra.govt.nz](http://TeAra.govt.nz), accessed 27 May 2022.

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## **Appendix A: Certificates of Title**



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** 974846  
**Land Registration District** Wellington  
**Date Issued** 19 March 2021

**Cancelled**

**Prior References**  
WN32/241

---

**Estate** Fee Simple  
**Area** 15.1359 hectares more or less  
**Legal Description** Lot 501 Deposited Plan 557144  
**Original Registered Owners**  
Duncan Bruce Cheetham and Susan Jane Cheetham

---

**Interests**

11996073.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 19.3.2021 at 11:50 am  
Subject to a right (in gross) to convey electricity over part marked C on DP 557144 in favour of Powerco Limited created by Easement Instrument 11996073.4 - 19.3.2021 at 11:50 am  
12273015.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 26.11.2021 at 10:51 am  
12273015.2 Records of Title issued - 26.11.2021 at 10:51 am

<b>Legal Description</b>	<b>Title</b>
Lot 3 Deposited Plan 565962	1011931
Lot 4 Deposited Plan 565962	1011932
Lot 12 Deposited Plan 565962	1011933
Lot 13 Deposited Plan 565962	1011934
Lot 14 Deposited Plan 565962	1011935
Lot 15 Deposited Plan 565962	1011936
Lot 16 Deposited Plan 565962	1011937
Lot 17 Deposited Plan 565962	1011938
Lot 18 Deposited Plan 565962	1011939

CANCELLED



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** **1011936**  
**Land Registration District** **Wellington**  
**Date Issued** 26 November 2021

**Prior References**  
974846

---

**Estate** Fee Simple  
**Area** 10.4834 hectares more or less  
**Legal Description** Lot 15 Deposited Plan 565962

**Original Registered Owners**

Duncan Bruce Cheetham and Susan Jane Cheetham

---

**Interests**

11996073.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 19.3.2021 at 11:50 am

12273015.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 26.11.2021 at 10:51 am

Subject to a right of way, right to drain water, right to convey electricity and telecommunications over part marked A on DP 565962 created by Easement Instrument 12273015.3 - 26.11.2021 at 10:51 am

The easements created by Easement Instrument 12273015.3 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right (in gross) to convey electricity over part marked A on DP 565962 in favour of Powerco Limited created by Easement Instrument 12273015.4 - 26.11.2021 at 10:51 am





**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

**Identifier**                      **WN32/241**                      **Cancelled**  
**Land Registration District** **Wellington**  
**Date Issued**                      06 April 1883  
**Prior References**  
WA 44

---

**Estate**                      Fee Simple  
**Area**                      20.8767 hectares more or less  
**Legal Description**              Section 35 Block II Douglas Block

**Original Registered Owners**  
John Evan Mossop, Hazel Isabella Mossop and Brian Anthony Clarke

---

**Interests**  
5778925.1 Transmission to Hazel Isabella Mossop and Brian Anthony Clarke - 28.10.2003 at 9:00 am  
5876707.1 Transfer to Hazel Isabella Mossop, Brian Anthony Clarke and Allan Harold Mossop - 26.1.2004 at 9:00 am  
11226349.1 Transmission to Brian Anthony Clarke and Allan Harold Mossop as survivor(s) - 23.10.2018 at 9:01 am  
11226349.2 Transfer to Allan Harold Mossop, Brian Anthony Clarke, Kevin John Mossop and Yvonne Hazel McIntyre - 23.10.2018 at 9:01 am  
11594599.1 Transfer to Duncan Bruce Cheetham and Susan Jane Cheetham - 13.11.2019 at 3:49 pm  
11996073.1 Records of Title issued - 19.3.2021 at 11:50 am

<b>Legal Description</b>	<b>Title</b>
Lot 1 Deposited Plan 557144	974837
Lot 2 Deposited Plan 557144	974838
Lot 5 Deposited Plan 557144	974839
Lot 6 Deposited Plan 557144	974840
Lot 7 Deposited Plan 557144	974841
Lot 8 Deposited Plan 557144	974842
Lot 9 Deposited Plan 557144	974843
Lot 10 Deposited Plan 557144	974844
Lot 11 Deposited Plan 557144	974845
Lot 501 Deposited Plan 557144	974846



NEW ZEALAND.

(CERTIFICATE OF TITLE)



Register Book Vol. 32 Folio 241



W. H. M. J. R. 670

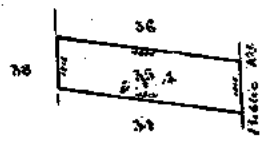
C. 71  
1-2  
1-4  
1-3

Jens Larsen of The Douglas Special Settlement Title is now seized of an Estate in fee simple subject nevertheless to such encumbrances liens and interests as are indicated by Memorial Indentment or otherwise herein in that piece of land containing fifty one (51) more or less acres and four (4) perches more or less (1/2) the area of the said land is the Section number thirty five of Section Block II as the public map of the Douglas Block deposited in the office of the Surveyor General Wellington respectively acquired by the said Jens Larsen under the Douglas Special Settlement Act 1896 In witness whereof I have signed my name and affixed my seal to this Certificate in lieu of Grant this twelfth day of April 1899

Signed in the presence of  
J. H. M. J. R. 670  
(6th day of April 1899)

Deputy Surveyor General  
of the District of Wellington

Image Quality due to Condition of Original



Scale - 2000' to an inch

CONTINUED

- Mortgage # 5225 - Produced 23<sup>rd</sup> June 1883, at 11:20 A.M. - Jens Larsen to The Northern Land Loan and Building Company of Wellington Limited. D.P.R.
- Transfer # 9372 - Produced 26<sup>th</sup> March 1884, at 10:15 A.M. - Jens Larsen to Charles Stahl of Commerce etc. D.P.R.
- Mortgage # 6351 - Produced 10<sup>th</sup> February 1885, at 2:11 P.M. - Charles Stahl to R. Compton and Colonial Milk Corporation Limited. D.P.R.
- Discharge of Mortgage # 5225 - Produced 19<sup>th</sup> February 1885 at 10:45 A.M. - D.P.R.
- Discharge of mortgage # 6351 - Produced 25<sup>th</sup> February 1888 at 11:11 A.M. - D.P.R.
- Mortgage # 8887 - Produced 28<sup>th</sup> February 1888 at 11:11 A.M. - Charles Stahl to Elizabeth Lynn Rolston. D.P.R.
- Transfer # 1067 - Produced 28<sup>th</sup> March 1889 at 11:40 A.M. - Charles Stahl to Elizabeth Lynn Rolston. D.P.R.
- Transfer # 2018 - Produced 28<sup>th</sup> September 1891, at 3 pm - Charles Stahl to Nathaniel Hill of Campbelltown. D.P.R.
- Discharge of Mortgage # 8887 - Produced 28<sup>th</sup> January 1892 at 11:11 A.M. - D.P.R.
- Transfer # 2018 - Produced 28<sup>th</sup> January 1895 at 11:11 A.M. - Nathaniel Hill to William Hill of Campbelltown. D.P.R.

EQUIVALENT METRIC AREA IS 20.8767 ha

Mortgage 15562 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 15562 Produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 1907 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 1907 Produced at 12.10 pm 1975 at 12.10 pm  
 X. Gaviat 17.12.44 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 17.12.44 Produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 29965 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 29965 Produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 26254 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 26254 Produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 29917 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 29917 Produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 18945 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 18945 Produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 20997 Produced at 12.10 pm 1975 at 12.10 pm  
 National Bank to the Colonial Bank of New Zealand  
 Discharge of Mortgage 20997 Produced at 12.10 pm 1975 at 12.10 pm  
 Transmission 26964 to Charles Edward Taylor of Building Solicitor, Stella Doris Tregate of Paparua Dairy Farmer and to Mrs Florence McHally wife of Donald Fraser McHally of Rongotea Chamberlain as Executors. Entered 17.5.1970 at 11.50 am  
 Mortgage 226380 the registered proprietors to Lady Christina Miles Produced at 12.10 pm 1975 at 12.10 pm  
 Transmission 28835 to Kala Evison and Mrs Florence McHally as survivors entered 22.7.1970 at 11.5 pm

Transfer 330174 the registered proprietors to John Evan Mossop of Rongotea Farmer produced at 12.10 pm 1970 at 12.10 pm  
 Mortgage 295641 produced at 12.10 pm 1975 at 12.10 pm  
 State Advances Corporation of New Zealand produced at 12.10 pm 1975 at 12.10 pm  
 Mortgage 670804 to Eastern and Central Savings Bank - entered 23.12.1966 at 11.05 pm  
 Variation of Mortgage 670804 to Eastern and Central Savings Bank - entered 23.12.1966 at 11.05 pm  
 THIS REPRODUCTION ON A REDUCED SCALE CERTIFIED TO BE A TRUE COPY OF THE ORIGINAL REGISTER FOR THE PURPOSES OF SECTION 153A AND TRANSFER ACT 1952  
 950920 - evidence that the mortgage under mortgage No. 670804 is now named Eastern and Central Savings Bank - entered 7.12.1972 at 9.00 pm  
 No 220178 - Evidence that Mortgage 295641 is vested in the Rural Banking and Finance Corporation of New Zealand pursuant to Section 41 of the Rural Banking and Finance Corporation Act 1974 entered 23.12.1977 at 3.19 pm  
 648374.1 Transfer of an undivided one half share to Hazel Isabella Mossop of Rongotea Farmer - 2.10.1984 at 2.05 p.m.  
 8700323.1 Transfer to John Evan Mossop, Hazel Isabella Mossop and Brian Anthony Clarke 23.12.1998 at 11.03  
 for DLR

DISCHARGED  
 WITHDRAWN  
 30-9-1897

THIS REPRODUCTION ON A REDUCED SCALE CERTIFIED TO BE A TRUE COPY OF THE ORIGINAL REGISTER FOR THE PURPOSES OF SECTION 153A AND TRANSFER ACT 1952  
 Atkinson D.L.R.





**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

**Identifier** **WN37/256**  
**Land Registration District** **Wellington**  
**Date Issued** 17 December 1884

**Prior References**  
WA 70

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**Estate** Fee Simple  
**Area** 20.8767 hectares more or less  
**Legal Description** Section 36 Block II Douglas District

**Original Registered Owners**  
Allan Harold Mossop

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**Interests**

B604168.5 Mortgage to Bank of New Zealand - 25.6.1997 at 2:06 pm  
11025073.1 Mortgage to Bank of New Zealand - 21.2.2018 at 3:12 pm  
11025073.2 Mortgage to Semper Finance Limited - 21.2.2018 at 3:12 pm  
11684925.1 Discharge of Mortgage B604168.5 - 21.2.2020 at 3:34 pm  
11684925.2 Discharge of Mortgage 11025073.1 - 21.2.2020 at 3:34 pm  
11684925.3 Discharge of Mortgage 11025073.2 - 21.2.2020 at 3:34 pm  
11684925.4 Transfer to Bruce James Cheetham and Ngaire Alexandra Cheetham - 21.2.2020 at 3:34 pm

NEW ZEALAND



[CERTIFICATE OF TITLE]

Register Book Vol. 37 Folio 256

W. 70  
S. A. 670

John Richard Harper of the Douglas Block Settler is now seized of an Estate in fee simple subject nevertheless to such encumbrances liens and interests as are notified by marginal indention or otherwise herein in that piece of land containing fifty one acres five roods and four tenths more or less the same is delineated hereon bordered with the several requirements as little more or less which said land is the Section number thirty six of Section Block II in the public map of the Douglas Block deposited in the Office of the Chief Surveyor at Wellington originally acquired by the said John Richard Harper under the Douglas Special Settlement Act 1876 In Witness Whereof I have signed my name and affixed my Seal to this Certificate in lieu of Grant this seventeenth day of December one thousand eight hundred and eighty four

Witness my hand and seal in the presence of  
John H. Taylor the  
17<sup>th</sup> day of December 1884

James D. J. [Signature]  
District Land Registrar  
Office District of Wellington



Transfer N 10,007. Produced 24 Dec 1884 at 10.10 AM  
John Richard Harper to John Chilton of Rangitikei Farmer  
D.S.R.

Transfer N 11,556 Produced 15 May 1886 at 12.10 PM  
John Richard Harper of Campbellton Stockkeeper  
to John Richard Harper of Campbellton Stockkeeper  
D.S.R.

Transfer N 14,512 Produced 19 December 1885 at 2.55 PM  
John Richard Harper to Thomas Masters of Danvers, Farmer  
and Mary Ann Duke of Danvers Widow - No Surveyors  
D.S.R.

Transfer N 16,774 produced 10th June 1922 at 2 PM  
Thomas Masters and Mary Ann Duke to John Tyffe & George Summers  
D.S.R.

Transfer N 19,257 produced 14th June 1922 at 2 PM  
John Tyffe to Thomas Masters and Mary Ann Duke  
D.S.R.

Transmission N 20,922 of Mortgage N 19,157 to Thomas Masters as  
Security Entered 7<sup>th</sup> February 1927 at 11.20 AM  
D.S.R.

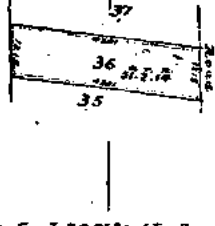
Transmission N 60,328 to Alice Tyffe of Rangitikei, Widow as  
Executrix. Entered 22/7/57 at 10.58 AM  
D.S.R.

Transfer N 60,114 Alice Tyffe to the said Alice Tyffe  
Produced 22/7/57 at 10.59 AM  
D.S.R.

CONTINUED

EQUIVALENT METRIC  
AREA IS 20.923 ha

Image Quality due to Condition of Original



Scale 20 Ch<sup>2</sup> to 1 Inch

DISCHARGED

DISCHARGED

2/256

Transmission 863082 to Alfred [unclear] of Wellington, Company Director & Lawyer - 15.3.1971 at 9.07 a.m.  
 Transfer 900620 to Robert Mervyn Coker of Rongotea Farmer - 17.12.1971 at 10.17 a.m.  
 Mortgage 900621 to The National Bank of New Zealand Limited - 17.12.1971 at 10.18 a.m. *H. Hunsell*

DISCHARGED  
 THIS REPRODUCED COPY (ON A REDUCED SCALE) CERTIFIED TO BE A TRUE COPY OF THE ORIGINAL REGISTER FOR THE PURPOSES OF SECTION 215A LAND TRANSFER ACT 1952  
*Stinson*  
 D.L.R.

498351.3 Transfer to Kevin John Mossop and Annette Margaret Mossop both of Rongotea farmers - 25.6.1982 at 12.10 o'clock  
*B604168.2*  
 DISCHARGED  
*A.L.R.*

498351.5 Mortgage to The Rural Banking and Finance Corporation of New Zealand - 25.6.1982 at 12.10 o'clock  
*Red*  
 DISCHARGED  
*A.L.R.*

498351.7 Mortgage to The Rural Banking and Finance Corporation of New Zealand - 25.6.1982 at 12.10 o'clock  
*Red*  
 DISCHARGED  
*A.L.R.*

637903.1 Notice of Statutory Land Charge under the Land Transfer Act 1939 - 2.27.1989  
 DISCHARGED  
*B604168*  
 DISCHARGED  
*A.L.R.*

B.027475.3 Mortgage to John Evan Mossop and Hazel Isabella Mossop - 11.9.1989 at 9.34 a.m.  
 DISCHARGED  
*A.L.R.*

B.271928.1 Variation of the terms of Mortgage 498351.5 - 13.1.1993 at 9.08 a.m.  
*A.L.R.*

B.604168.4 Transfer to Allan Harold Mossop, of Rongotea, Farmer - 25.6.1997 at 2.06 p.m.  
*A.L.R.*

B.604168.5 Mortgage to Bank of New Zealand - 25.6.1997 at 2.06 p.m.  
*A.L.R.*



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## **Appendix B: Council information**

MANAWATU COUNTY COUNCIL

(OFFICE USE ONLY)

Valuation Roll No. \_\_\_\_\_  
Receipt No. \_\_\_\_\_  
Permit No. 878  
Building Permit No. \_\_\_\_\_

APPLICATION FOR PERMIT FOR PLUMBING AND DRAINAGE

To: The Health Inspector

I, the undersigned KEVIN JOHN MOSSOP hereby apply for  
(full name)

a permit for the work described herein, and set out in the plans attached hereto,  
to be carried out in the premises situated in RONGOTEA-RANGITU RD. RONGOTEA  
(street and place)

Lot No. \_\_\_\_\_ Sec. No. 36 D.P. BLK II DOUGLAS BLK S.D. TE KAWAU  
BLK III

OWNERS : Mr. & MRS K.J. & A.M. MOSSOP of R.D. 3 PALM NTH

PLUMBER : Mr. A.G. KELLY of 7 GEMINI AVE. PALM NTH

DRAINLAYER: Mr. " " of " " "

DESCRIPTION OF WORK (Tick as applicable):

- The installation of:  
Bath  Basin  Shower  Sink  Tub  W.C.   
Urinal \_\_\_\_\_ H.W. Cylinder  Dual H.W. System
- The Construction of:  
Septic Tank  Foulwater drainage  stormwater drainage \_\_\_\_\_  
Effluent disposal system \_\_\_\_\_
- Connection to:  
Local Authority Water Supply \_\_\_\_\_ Local Authority Sewerage System \_\_\_\_\_
- Miscellaneous Work \_\_\_\_\_

Total labour cost \$ 1000 Fee Payable \$ \_\_\_\_\_

Dated this 10th day of April 1984

Signature OK J Mossop Builder  
Owner  
Plumber  
Drainlayer

PERMIT FEES (Based on labour value only)

- Up to first \$1,000 - \$5 per \$100 or part thereof.
- Thereafter - \$1 per \$100 or part thereof.
- Minimum Fee in All Cases - \$ 10

SEE OVER.

APPLICATION FOR BUILDING PERMIT

3178/84

To: The Building Inspector,  
Manawatu County Council,  
P.O. Box 1,  
SANSON.

(Office Use Only)

Valuation Roll No. 14250 98  
Receipt No. 5001  
Permit No. B081420  
Health Inspector CMY 878

I KEVIN JOHN MOSSOP hereby apply for a permit to erect  
(full name)

add to/alter FAMILY HOME  
(description of building)

LOCATION OF BUILDING RONGOTEA-RANGIOTU RD. RONGOTEA  
(Street or Road) (Township or Locality)

LEGAL DESCRIPTION Lot No. \_\_\_\_\_ D.P. DOUGLAS BLK BLK VII  
Section 36 Block II Survey District TE KAWAU

Floor area of Proposed Building (square metres) \_\_\_\_\_

Name of Owners KEVIN JOHN & ANNETTE MARGARET MOSSOP

Address of Owner R.D.3 PALMERSTON NORTH

Name of Builder KEVIN JOHN MOSSOP

Address of Builder R.D.3 PALM. NTH.

Name of Plumber/Drainlayer A.G. KELLY

Address of Plumber/Drainlayer 7 GEMINI AVE. PALM. NTH

Estimated Values

Building \$ 12,000  
Plumbing/Drainage \$ 3,000  
Total Values \$ 15,000

Permit Fees

Building \$ 40-00  
Plumbing/Drainage \$ 50-00  
Building Research Levy \$ 15-00  
Total Fees \$ 105-00

SCALE OF BUILDING PERMIT FEES

Estimated value of building work

Up to but not exceeding ..\$ 1000	-\$ 5.00	Up to but not exceeding ..\$ 18000	-\$ 52.00
" .. 1200	- 6.00	" .. 20000	- 56.00
" .. 1400	- 7.00	" .. 25000	- 64.00
" .. 1600	- 8.00	" .. 30000	- 72.00
" .. 1800	- 9.00	" .. 35000	- 80.00
" .. 2000	- 10.00	" .. 40000	- 88.00
" .. 2500	- 12.00	" .. 50000	- 98.00
" .. 3000	- 14.00	" .. 60000	- 108.00
" .. 3500	- 16.00	" .. 70000	- 118.00
" .. 4000	- 18.00	" .. 80000	- 128.00
" .. 5000	- 21.00	" .. 90000	- 138.00
" .. 6000	- 24.00	" .. 100000	- 148.00
" .. 7000	- 27.00	" .. 120000	- 158.00
" .. 8000	- 30.00	" .. 140000	- 168.00
" .. 9000	- 33.00	" .. 160000	- 178.00
" .. 10000	- 36.00	" .. 180000	- 188.00
" .. 12000	- 40.00	" .. 200000	- 198.00
" .. 14000	- 44.00	" .. 240000	- 210.00
" .. 16000	- 48.00	" .. 280000	- 220.00

For every \$40,000 or part thereof in excess of \$280,000, an additional fee of -\$10-00.

BUILDING RESEARCH LEVY

On all construction over a total permit value of \$3000 (including plumbing and drainage value) a levy of \$1.00 per \$1000 value is payable.

The following extra information must accompany this application;

- 1.) Scale site plan showing proposed and existing building/s with special reference as to distance from boundaries.
  - 2.) Floor plan showing room layout with exterior and interior dimensions.
  - 3.) Crosssection plan showing construction details.
  - 4.) Elevation plans showing front, rear and side elevations.
  - 5.) Detailed specifications of work to be completed and materials to be used.
- (for minor buildings the reverse side of this form can be used for plan drawing etc.)

Dated this 10th day of April 1984

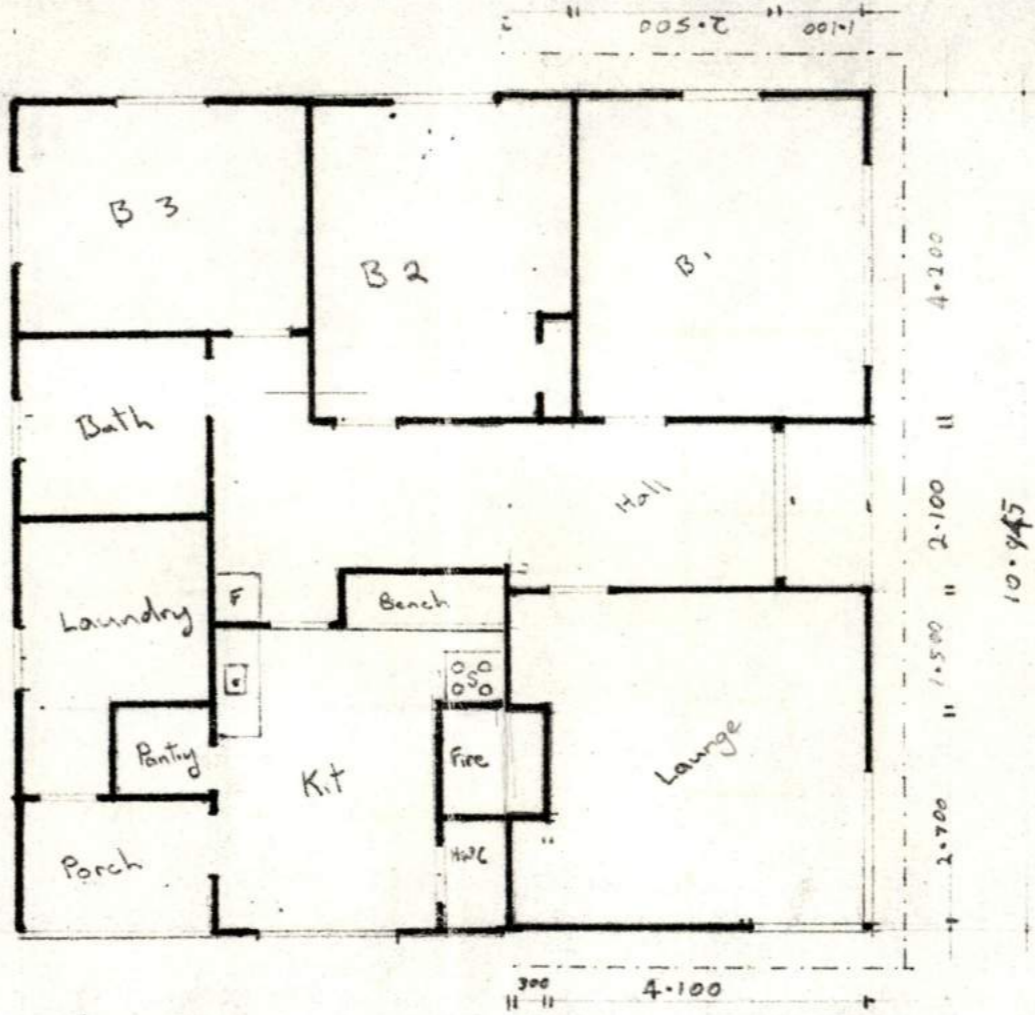
Signature of

Kevin John Mossop

Builder  
Owner.  
Agent.



Existing Home

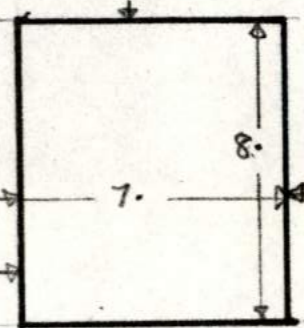
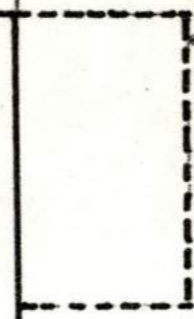
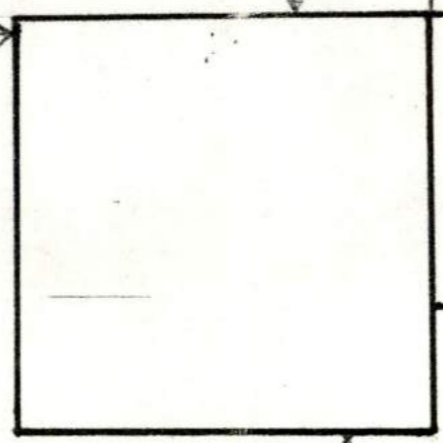




Road



27.5



8.0

8.3

7.0

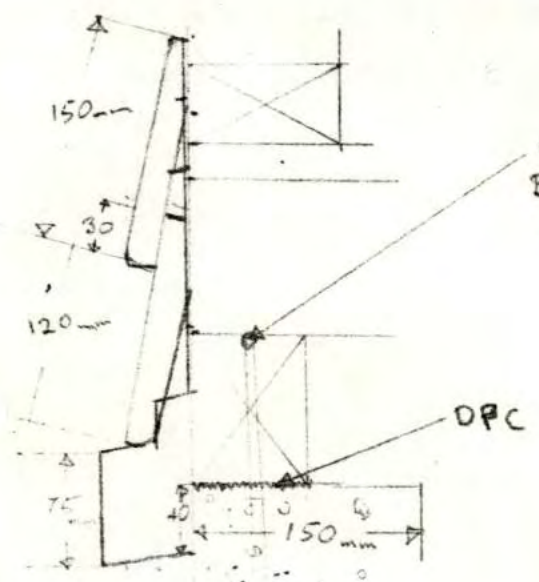
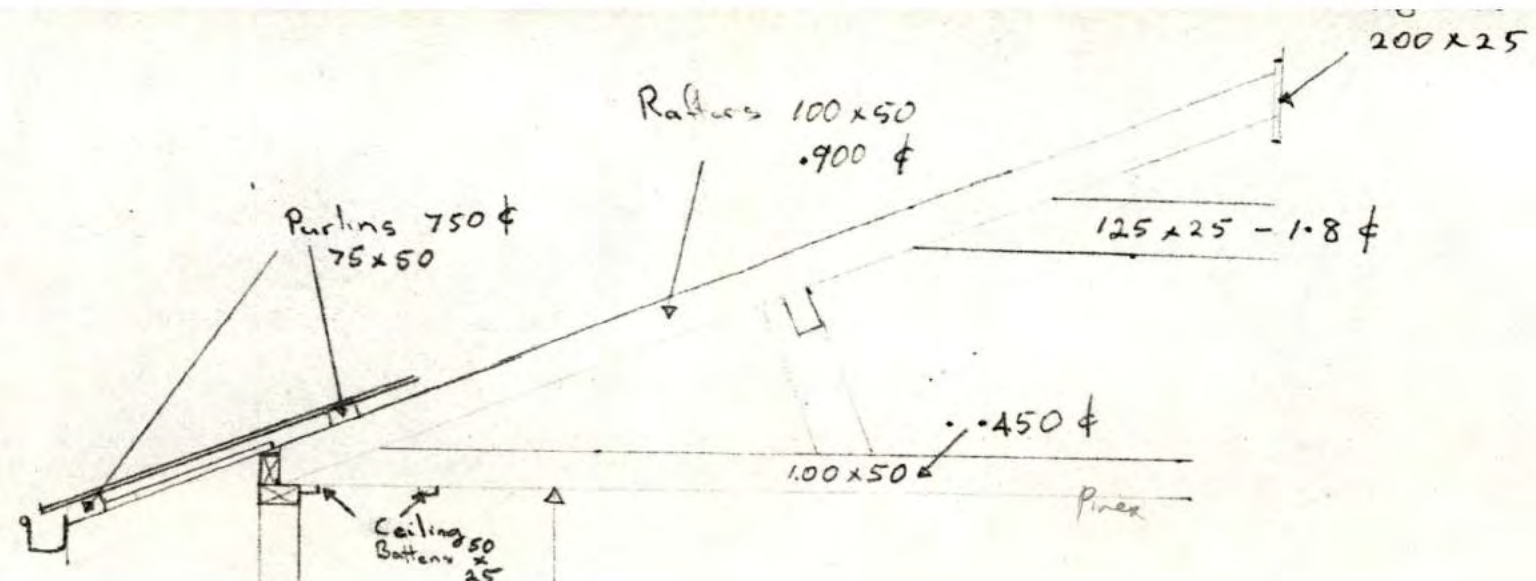
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2.0

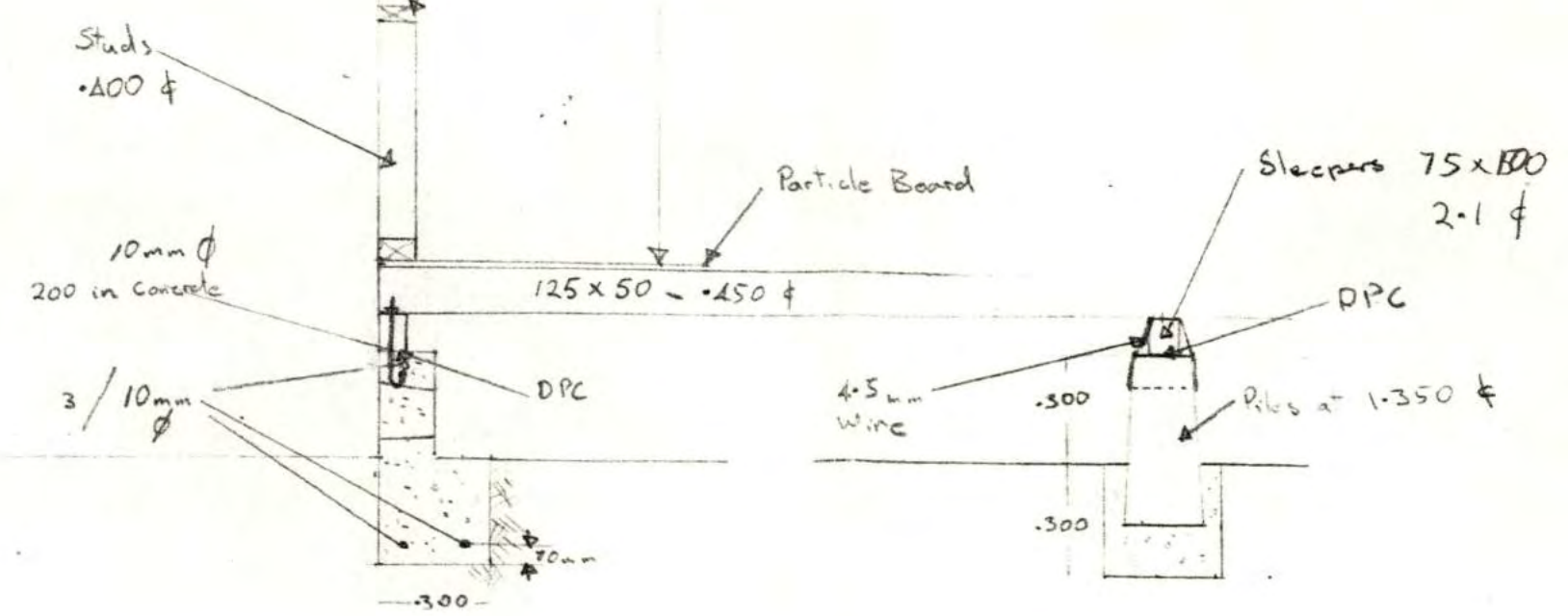
5.8

4.0

N

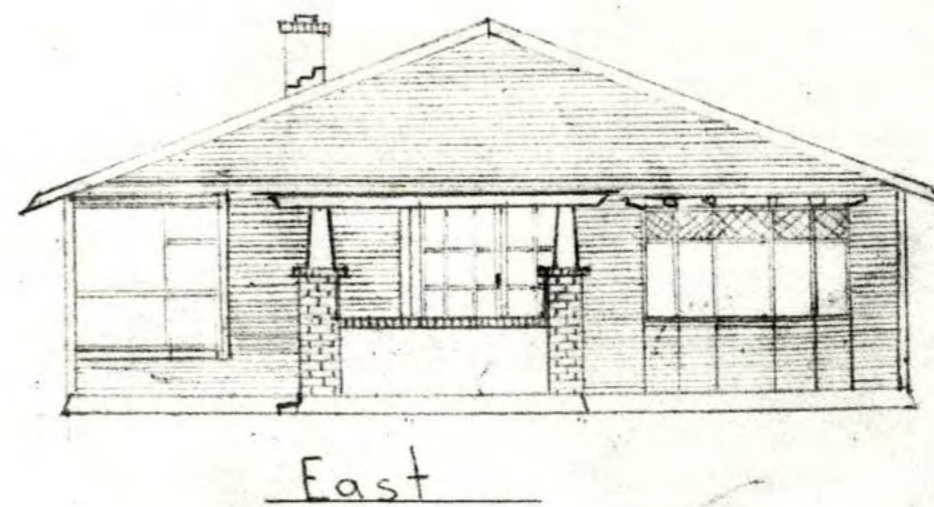
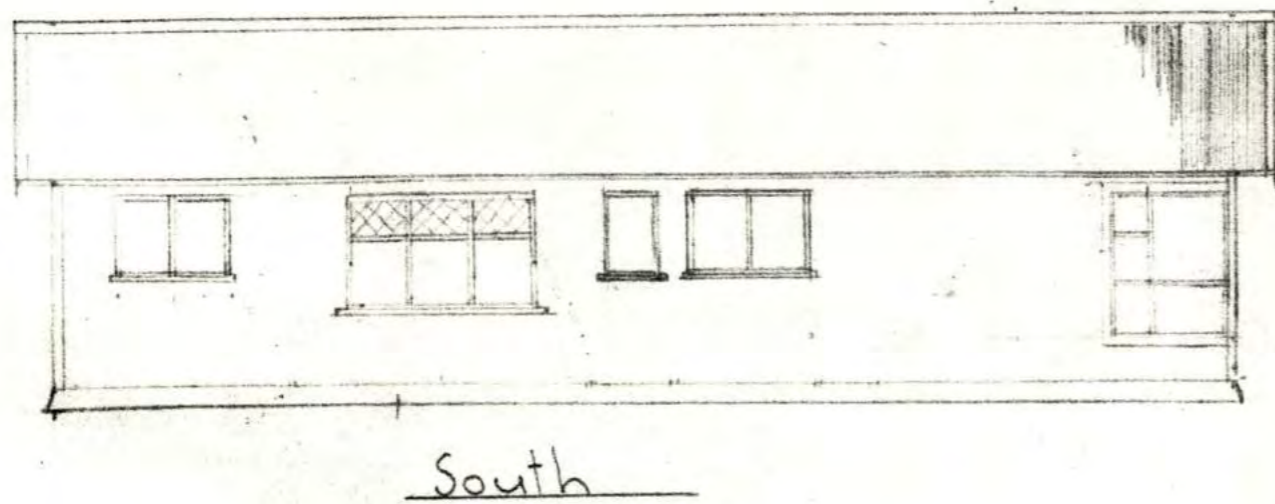
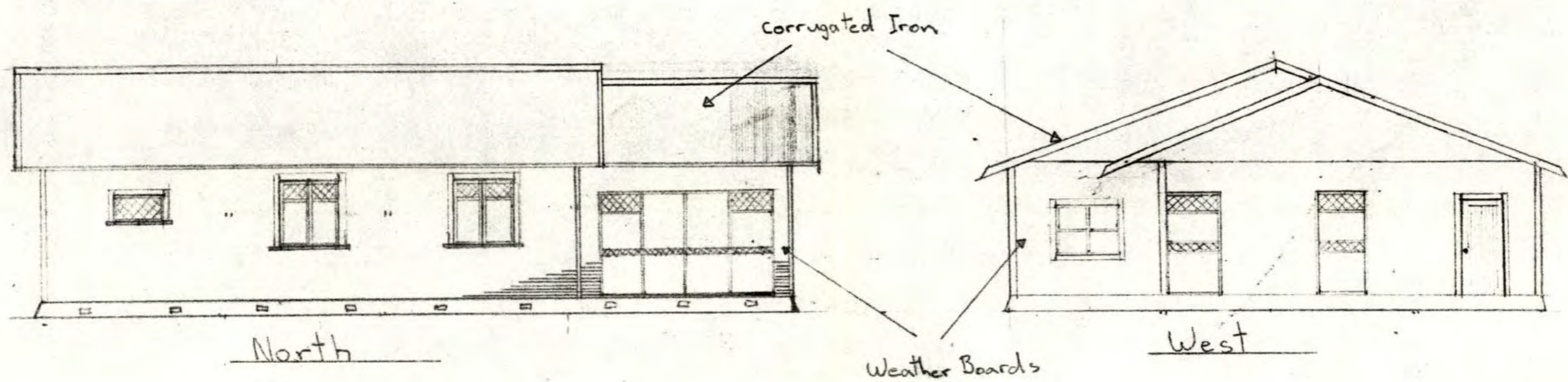


100mm Bent & Stapled



2.7

.300



SPECIFICATION

Specification of the work to be done and the materials to be used in the erection and completion of a residence as per the accompanying drawings

for

Mr and Mrs ... *K J Mossop* [ *H. J. Mossop* ] .....

at

Lot Number ..... *Rangotea - Rangiotu* } .. *Road*  
..... *Rangotea* ..... } .. *Street*

This specification is to be read in conjunction with the accompanying drawings and any other drawing which may be issued during the currency of the contract.

Any item in this specification and not shown on the drawings and vice versa shall be equally binding as though included in both.

The Contractor shall provide a form of contract which is to be completed by all parties before the commencement of any work on the site.

Any additions, omissions or variations to the contract shall be authorised in writing and an agreed price stated.

The Owners are to ensure that all boundary marker pegs are in place and exposed for inspection.

Owners ..... *H. J. Mossop* .....

Contractor .....

Owner's Solicitor .....

Loan Company .....

City, Borough or County .....

Contract documents

1. The accompanying drawings.
2. This specification.
3. Concrete work N. Z. S. S. No. 1900 Chapter 9.3A
4. Block work N. Z. S. S. No. 1900 Chapter 6.2
5. Construction - 'New Zealand Constructional Details' by R. J. Willson
6. Finish - 'Timber Framed Construction' by R. J. Willson

## PRELIMINARY AND GENERAL (ALL TRADES)

1. Permits.

The Contractors shall arrange to obtain all permits to build etc., arrange all inspections and pay all fees as required by the local authorities.

2. Protection of work.

All parts of the work liable to injury and all adjoining property, existing work, footways, trees etc., are to be protected until completion of the contract.

3. P. C. Sums. (Nett sums).

The P. C. Sums quoted in this specification are nett and the ~~contractor or~~ sub-contractor concerned must add any cartage, fixing charges and profit he requires to all such items.

4. Site.

The site of the works will be pointed out to Tenderers who are advised to visit same and check the slope of the ground, quality of the soil etc., as no extras will be paid for foundation work, site drainage and levelling not detailed or specified.

5. By-laws.

The whole of the work in this contract is to be carried out in strict accordance with the local authorities' regulations, and to be of a standard as approved by the loan company.

6. Extent of work.

This contract comprises the erection and completion in the soundest and most workmanlike manner of all the work shown or reasonably implied on the accompanying drawings and in accordance with this specification and the supply of all plant, tools, labour, materials, fixtures and fittings required for the due completion of the work.

7. Insurance.

The Contractor shall at all times, keep the whole of the works fully covered by insurance. Fire. Public liability. Workers' Compensation etc.

8. Temporary Services.

The Contractor shall arrange for all temporary services, pay all fees in connection therewith and remove same on completion of the contract. Sheds, toilet, power, water, access to the building site, scaffolding.

9. Maintenance.

The Contractors shall maintain the property for a period of 30 days after completion, and any damage done, arising during that time through faulty workmanship or materials shall be made good at the Contractor's expense.

~~10. Completion.~~

~~On completion all trade debris is to be removed from the site and the building left clean and ready for occupancy, with all services and mechanical parts in good working order.~~

~~11. Contingencies.~~

~~Allow the sum of \$ . for contingencies. The whole, or any amount remaining unspent at the completion of the contract shall be credited to the Owners.~~

~~12. Termite Stops.~~

~~Provision is to be made in all parts required by the Government Regulations for the fixing of termite stops should this building be erected in a gazetted termite area.~~

## 1. Generally

Remove all turf or other vegetation, including trees, stumps etc., from the area to be built on.

Bulldoze the site to the levels shown on the drawings.  
(Check original conditions).

Excavate as required for all wall footings, pile footings, steps etc., as shown on the drawings.

Footing excavations are to be taken down to a solid bearing and to be not less than 300 mm deep.

Excavations are to be stepped to suit the slope of the ground, and kept level at the bottom, maintained free from water or fallen material and shall be firm before placing reinforcing or concrete.

Backfill and ram the earth around the foundations after concrete work has firmly set.

Deposit the surplus spoil on the site as directed by the Owners.

## CONCRETOR

### 1. Materials

Concrete to be pre-mixed with a test of 17,500 kPa after 28 days.

Reinforcement to be round mild steel rods or reinforcing mesh, as detailed, free from scale, loose rust, paint, grease, dirt etc.

Formwork shall be erected and braced in such a manner that the concrete shall finish to the dimensions shown or specified. The formwork is to be hosed out and kept wet before and while the concrete is being placed.

### 2. Concrete Work

Construct the various footings as detailed on the drawings and reinforced as shown.

Construct the various concrete corners, base walls, steps and porch slabs, chimney foundations etc. as indicated on the drawings and reinforced as shown. Steps to have 150 mm risers and 300 mm treads.

Hard filling to be 75 mm down scoria or 'run of the pit' metal compacted in layers of 150 mm depth maximum. Blind with 25 mm of sand and overlay with black polythene damp proof course with taped joints.

All floor slabs to be laid to true and straight surfaces, screeded, wood floated and finished with a steel float or power float to a fine finish. Thickness and reinforcing as detailed on the drawings.

Allow to build in all holding down bolts, pipes, wires etc., as required, prior to the pouring of the concrete. Holding down bolts to be 375 mm maximum from corners and at 1.2 m centres maximum.

All exposed concrete work (except floors) to be roughened or scratched for subsequent plastering.

Piles to be pre-cast, 600 x 200 x 200 mm set out as shown on the foundation plan and supported on 300 x 300 x 100 mm thick concrete footings.



1. Materials Schedule

Material	Size	Grade	Remarks
Sub-floor jack studs	100x75mm	Rad P. P. T.	
Sub-floor bracing	100x75mm	Rad P. P. T.	
Bearers	100x75mm	Rad P. P. T.	Wired down
Wall plates	100x50mm	Rad P. P. T.	Bolted down
Floor Joists	150x50mm	Rad P. P. T.	At 400mm centres
Herringbone strutting	50x40mm	Rad P. P. T.	At 2.4m crs.
Solid bridging	pth x 2"	Rad P. B. T.	At 2.4m crs.
Top and bottom plates	100x50mm		
Studs	75 x 50mm	Rad P. B. T.	Long lengths
	100 x 50mm		
	75 x 50mm	Rad P. B. T.	At max. 450mm
Trimmer studs		Rad P. B. T.	See table below.
Lintels		Rad P. B. T.	See table below.
Nogging (Dwangs)	100 x 50mm		3 rows to walls
	75 x 50mm	Rad P. B. T.	4 rows to vert. boards
Bracing	150 x 25mm		
	100 x 25mm	Rad P. B. T.	Checked in flush
Ceiling joists	100 x 50mm	Rad P. B. T.	At 500mm crs max.
Ceiling bracing	150 x 25mm	Rad P. B. T.	
	100 x 50mm	Rad P. B. T.	Diagonal
Ceiling nogging	75 x 50mm	Rad P. B. T.	At 1.8m crs max.
Rafters	100 x 50mm	Rad P. B. T.	At 450mm crs (tiles) At 750mm crs (iron)
Ridges and Hip rafters	200 x 25mm	Rad P. B. T.	
Valley rafters	150 x 40mm	Rad P. B. T.	
Valley boards	150 x 25mm	Rad P. B. T.	
Underpurlins	100 x 75mm	Rad P. B. T.	As detailed
Roof struts	100 x 50mm	Rad P. B. T.	max. 1.5m
Collar ties	150 x 25mm	Rad P. B. T.	1.5m crs max.
Purlins (Iron roof)	75 x 50mm	Rad P. B. T.	750mm crs max.
Roof trusses	Gangnail or similar		At centres 750mm
Eaves framing	75 x 40mm	Rad P. B. T.	
Fascia boards	ex 200 x 25mm	Rad P. P. T.	Huttloc Grooved.
Barge boards	ex 200 x 25mm	Rad P. P. T.	Huttloc Grooved.
Weatherboards	ex 150 x 25mm	Rad P. P. T.	Huttloc B.B.
Vertical boards	ex 200 x 25mm	Rad P. P. T.	Huttloc
Exterior facings	ex 75 x 25mm	Rad P. P. T.	Huttloc
Scribers	Standard	Cedar	Primed
Flooring	3.6m x 1.8m	high density	particle board
Interior door jambs	ex 25mm	D. A. Rimu	13mm bevelled stops
Architraves	1 40 x 13mm	D. A. Rimu	Bevelled two edges
Skirtings	2 65 x 13mm	D. A. Rimu	Bevelled one edge
Sill boards	ex 25mm	D. A. Rimu	Sanded
Cornices	30mm	D. A. Rimu	Bevelled
Splash boards	ex 25mm	Rad P. P. T.	Primed
Shelving	ex 25mm	Rad P.	Dressing grade
Exterior trim	Mouldings as required	Rad P. P. T.	
Interior trim	Mouldings as required	Rad D. A. Rimu	

5m) or 10 storey

Openings up to 4'6" (1.3m) wide 4" x 2" (100 x 50mm)  
Openings 4'6" (1.3m) to 9'0" (2.6m) wide 4" x 3" (100 x 75mm) Solid or built up  
Openings 9'0" (2.6m) to 13'0" (3.9m) wide 4" x 4" (100 x 100mm) Solid or built up

Bottom of two stories

Openings up to 3'6" (1.05m) wide 4" x 2" (100 x 50mm)  
Openings 3'6" (1.05m) to 7'0" (2.1m) wide 4" x 3" (100 x 75mm) Solid or built up  
Openings 7'0" (2.1m) to 10'6" (3.15m) wide 4" x 4" (100 x 100mm) Solid or built up

Lintels

Opening Width	Lintel Size
Up to 1.35m	100 x 75mm
1.35m to 1.8m	100 x 100mm
1.8m to 2.4m	150 x 100mm
2.4m to 3m	200 x 100mm
3m to 3.6m	250 x 100mm
3.6m to 4.2m	300 x 100mm

2: Construction

All materials are to be the best of their respective kinds and grades, laid true to their various lines and levels and constructed in a proper tradesmanlike manner, to make the whole of the works a sound construction in accordance with the local by-laws.

All timber work abutting or resting on masonry units, concrete or brickwork is to be protected with a bitumen-fabric damp proof course.

Sub-floor jack studs are to be wired to foundation piles with 4mm galv. wire ties passed through the piles and well stapled to the jack studs.

Bearers to be in long lengths, halved over jack studs or piles where joined.

Sub-floor bracing to be diagonal, in both directions, as required and as directed by the local authority inspector.

Floor joists to be on edge, set out to suit the flooring sheets, nailed with one 100mm and one 75mm nail at every crossing and trimmed as required for stairwell openings, slabs etc. Double the floor joists at each end of the building and under the bearing partition. Floor joists spanning more than 2.4m are to be stiffened with herringbone strutting or solid bridging in rows at 8'0" (2.4m) centres maximum.

Plates to be in long straight lengths. Bottom plates and wall plates to be butt jointed over continuous support, top plates to be halve jointed or butt jointed and fastened with 4n. nail plates.

Studs are to be set out to accommodate 2.440m high wall lining sheets, and are to be held to the plates with two 100mm flat headed nails at each end. Bowed studs are to be straightened with saw cuts, wedges and 100 x 25mm strapping.

Lintels are to be checked 15mm minimum into solid trimmer studs. Where built up trimmer studs are used one 100 x 50mm stud is to be run up past the trimmer to the top plate and the

Nogging (Dwangs) shall be wall thickness x 50mm spaced in rows at 800mm centres maximum, set out to accommodate the wall lining sheets and drilled or notched for ventilation. To be nailed with two 65mm nails at each end.

Ceiling nogging (dwangs) to be set out to accommodate the ceiling lining sheets and cornices. Around the perimeter of each room and in rows at 1.8m centres maximum.

Bracing to be let in flush with the face of the wall frames and raked as nearly as practicable to 45 degrees and dog-legged as required.

Walls up to 4.5m long -	1 brace
Walls 4.5m to 10.5m long -	2 braces in opposite direction
Walls 10.5m to 18m long -	3 braces
Walls 18m to 25.5m long -	4 braces (2 each way)

The wall frames are to be assembled, squared, braced and erected. The bottom plates are to be straightened and fastened down, the corners are to be plumbed both ways using a plumb bob and line and the top plates are to be held straight with temporary bracing until the ceiling and roof framing and bracing has been completed.

Ceiling joists to be on edge and spiked to the wall plates with one 100mm and one 75mm nail at each end. Where practicable, the ceiling joists are to come alongside rafters and to be spiked thereto.

Ceiling joists spanning more than 2.4m are to be stiffened with ceiling runners well spiked at every crossing.

150 x 50mm runners will span up to	3.6m
200 x 50mm runners will span up to	4.8m

Ceiling bracing is required at all gable ends, 1.8m each way from each corner, diagonally fixed.

Rafters to be plumb cut to ridges and hip rafters and to be birdsmouthed to plates and fastened with one 100mm and one 75mm nail to the plates.

Supply and fix the necessary ridge boards, hip rafters, valley rafters, valley boards, underpurlins and roof struts and collar ties as required to complete the roof framing and as detailed on the drawings.

Alternatively, where detailed, the roof framing is to be constructed with Engineer designed 'Gangnail' roof trusses fixed plumb, fastened to the plates with framing anchors, stiffened with runners and braced at each end of the building. The trusses are to be positioned directly over studs or supporting nogging is to be fixed between the studs directly under the top plate.

Purlins (iron roof) to be spaced to accommodate the roof covering and ridding and fastened to the rafters with one 100mm nail and one 75mm skew nail at every crossing.

Eaves runner to be nailed to the outside of the wall frames.

Eaves bearers to be nailed securely to each rafter overhang.

All exterior joinery, exterior timber linings or trim and all end grain joints are to be given a coat of primer or stain prior to fixing.

Behind all asbestos-cement wall linings and as detailed on the drawings, fit a breather type building paper, lapped 100mm.

Grooved fascia and barge boards are to be fixed to level and straight lines, mitred where joined and fastened with galvanised nails.

Wall areas are to be covered with exterior lining as shown on the drawings. Weatherboards are to have scribed internal corner joints and mitred external corners without soakers. Fix with 65mm galv. nails.

Vertical boards are to be fixed over breather type building paper, plumb, and in single lengths with 60mm galv. nails.

Soffits, verges and porch ceilings to be lined with flat asbestos-cement sheets with plastic jointer moulds.

Build in the various exterior Joinery frames as supplied under "Joiner". Fit sill trays, head capping and flashing, trim at sides with scribes and under the sill with a quadrant mould, all as required.

Exterior doors to be fitted on one and a half pairs of 100mm galvanised loose pin (brass) latts.

Provide and fix a ledge and brace type foundation, access door and frame, positioned as directed.

#### 4. Interior Finish

Flooring to be laid in large single sheets of high density particle board with joints in alignment both ways. All joints and edges to be continuously supported by floor joists or nogging cut between the floor joists.

Check with the Owners regarding the laying of flooring before the wall framing is erected.

Nail the flooring with 60mm galv. brad head nails at 125mm centres on the joints and at 200mm centres on intermediate floor joists.

On completion of the contract the floor nails are to be punched and the floor machine sanded with two papers to a fine finish.

Care must be taken that the flooring is not stained by rust marks, tea or coffee etc.

Interior wall linings generally to be 10mm gibraltar board sheets fixed with vertical joints and nailed with flat headed galvanised clouts, double nailed to studs and nogging. Sheets to service rooms may be glue fixed with horizontal joints.

All joints, nail holes and other imperfections are to be stopped flush and left ready for the paperhanger.

Shower linings to be selected Lamiwall sheet with plastic jointer and corner mouldings.

Ceiling linings to be fibrous plaster sheets, well glued or wadded to ceiling framing and with all joints, nail holes and other imperfections stopped flush and left ready for the painter.

Nog for and build in the various joinery fitments as supplied under "Joiner" and trim to walls, floor and ceiling with quadrant and bevelled mouldings as required.

and trim around with splash boards primed and set in plastic and other finishing trim and mouldings as required.

Interior doors are to be fitted with 1½ pairs of 90mm A.C. or F.B. loose pin butts.

Architraves to be fitted in single lengths, with glued mitred joints.

Skirtings to be scribed to the floor and internal corners and mitred at external angles.

Sill boards to be housed to jambs and mullions and bevel scribed to sashes. To finish flush with the inside of the jambs and to be finished with a returned architrave.

Coat cupboard and wardrobes to be fitted with one shelf each (300mm wide fixed 1.750m above the floor and with a 20mm galv. pipe hanger rail under.

Linen, hot water and other cupboards to be shelved with slatted shelves each 100 x 25mm as directed.

Allow the P.C. sum of \$ ..... for all hardware, and allow to order, take delivery of and fix same.

Form a ceiling access door in a convenient and inconspicuous place (wardrobe

Co-operate with the Electrician in the building in of a meter box and the building of a switchboard recess lined with fire resisting material and trimmed around as required.

Supply and fix the sundry internal finishing mouldings and trim as required. 15mm quadrants to internal corners of service rooms etc.

Cut for, attend on, and make good after all trades and provide and fix all necessary blocks for securing the work of all other trades.

All internal finishing timbers shall be sanded to remove machine marks and on completion, shall be free from all hammer marks, splits or other defects.

All nails in exposed work (interior and exterior) are to be punched.

### SOLID PLASTERER

#### 1. Materials

Cement to be ordinary Portland cement.

Sand to be clean river sand free from saline, vegetable or earthy matter.

Mortar to consist of sand, cement and a liquid lime based plasticiser, mixed according to the lime manufacturer's directions.

#### 2. Chimney

Supply and erect one precast concrete chimney as indicated on the drawings.

All units to be well bedded in mortar.

The corners are to be plumbed both ways and reinforced with No. 4 rods, well grouted in.

#### 3. Plastering

All exposed concrete steps and slabs, concrete base walls, precast concrete chimney, reinforced concrete columns and beams etc. as indicated on the accompanying drawings shall be solid plastered to a fine finish.

All sharp exposed edges are to be rounded. Steps and slabs to fall slightly away from the building and not to hold water. Slabs to be coved up against the residence, under door sills etc.

### 1. Timber Grades

Exterior Joinery      Heart Rimu or Rad. P. P. T. Huttloc  
Door Sills              Heart Matai  
Sashes                  Redwood, or Rad. P. P. T. Huttloc  
Interior Joinery        D. A. Rimu  
All to be dry seasoned timber run to standard profiles.

### 2. Windows

Aluminium windows where detailed shall be delivered to the site, stored on edge and protected from breakages, damage, plaster splashes etc. To be installed as per the manufacturer's directions.

Timber windows to be of the sizes and types as indicated on the drawings with all members run to standard or J. M. F. 'Sundyne' profile, of standard construction and high class workmanship. Opening awning type sashes to be fitted with 'Interlock' stays of approved sizes.

The windows are to be glazed with standard quality glass, with selected obscured glass to bathroom and W. C. windows and as directed.

### 3. Doors

Exterior door frames and doors are to be of standard sizes and of the types as shown on the drawings.

Interior doors are to be flush type, with D. A. Rimu facing sheets and clashing strip to the closing edge.

#### Sizes:

Main doors	2m x 750mm
Bathroom, W. C.	2m x 700mm
Wardrobe and	2m x 650mm OR 2m x 600mm
Cupboards	1.8m x 600mm with upper cupboard:

Interior door jambs are to be ex 25mm with 15mm bevelled planted stops.

Glazing to doors or door frames to be selected obscured glass.

### 4. Fittings

Construct the various fittings as shown on the drawings.

Cupboards are to be of standard construction and divided into door and drawer units as directed.

Sink top as specified under "Plumber". Other bench tops to be of selected "formica" or "laminex" with matching edges.

Cupboard doors to have solid core hardboard faced doors.

Drawers to have sides dovetailed to fronts and hardboard bottom.

Supply a standard bathroom cabinet with a mirror rebated and beaded to the door.

### 5. Stairs

Closed type - To be constructed with strings ex 250 x 50mm, treads ex 40mm thick and risers ex 25mm thick. The treads and risers are to be housed 15mm, glue wedged and glue blocked to the strings. Nosing to be 30mm maximum.

Open type - To be constructed with undercarriages ex 150 x 75mm, tread cleats and treads ex 50mm thick timber - no risers.

Supply handrails ex 75 x 50mm bevelled and rounded to one side of each flight of stairs.

1. Generally

The whole of the plumbing and drainlaying shall be done in strict accordance with the local authorities' by-laws and drains shall be laid by registered workmen only.

The plumbing contractor shall obtain all necessary permits for the work and pay all fees in connection thereto.

2. Exterior work

Supply and fix all necessary flashings, lead caps, sill trays etc., in conjunction with the Builder to make a thoroughly watertight job.

Supply and fix galvanised spouting to all eaves, laid with even falls to 75mm diameter galvanised downpipes. Downpipes to be sealed into stormwater drains at foot.

Valleys to be standard, galvanised, laid over building paper.

3. Water service

Lay on cold water from the main, feed through a pressure reducing valve to a hot water cylinder, set up as shown on the drawings. Provide and set up the cylinder, complete with casing, lagging and thermostatically controlled electric element.

Lay on hot and cold water services to the various fittings as shown on the drawings and to 2 hose standards positioned as directed. Hot water service to run in copper. Main and cold water may run in plastic if approved by Owners, Loan Company and Local Authority Inspector.

4. Fittings

Provide and set up the fittings as shown on the drawings and provide regulation traps and wastes to same. Traps and wastes may be plastic if approved.

Bath, first quality, white.

Vanity unit - selected formica top, white basin, drawers and doors under.

Sink top - selected stainless steel.

Shower tray - stainless steel.

W. C. - White, china, wash-down pedestal with plastic double-flap seat and low-down plastic flushing cistern.

Tub - Stainless steel, with cupboard under.

Washing machine - to be supplied by the Owner.

Taps - C. P. as selected by the Owners, exterior hose taps - brass.

Shower rose - c. p. swivel type.

Shower mixer unit as selected by the Owners.

Waste disposal unit to be ..... type fitted with a copper trap and waste.

5. Drains

Stormwater to be taken in second quality socketted earthenware pipes to stormwater main connection, or standard soak holes.

Sewer drains to be first quality glazed socketted earthenware pipes.

100mm laid with even falls and easy bends to a main connection as directed.

Provide and fix all necessary gulley traps, terminal and back vents, cleaning eyes, inspection junctions and bends etc., as may be necessary to comply with the local authorities' regulations.

Provide and set the field tile drains set in scoria, if shown on the site or basement plan.

1. Generally

Refer to the drawings for the type of roofing to be used.

2. Concrete tiles

Tile battens are to be nailed firmly to the rafters and spaced to suit the gauge of the tiles.

2" x 1" 50 x 25 mm battens for rafters at 450mm centres.

2" x 2" 50 x 50mm selected quality battens for rafters or roof trusses at 900mm centres.

Tiles are to be set out with a full tile at the top.

Tiles to be laid with standard laps and nailed or wired down in accordance with standard practise.

Hips and ridges to be covered with hip tiles bedded in mortar.

Parge all hips, ridges and barges with coloured mortar to suit the colour of the tiles.

On completion leave 5 ordinary and 2 ridge tiles under the building for future maintenance purposes.

Supply the Owners with a guarantee for the tiles and a separate two year guarantee for the laying of the tiles.

3. Coated galvanised tiles

Battens to be splay cut, two ex 75 x 50mm timber and set out to suit the gauge of the tiles, and nailed firmly to the rafters. Co-operate with the Carpenter in the determining of the rafter length to finish with a full tile at the top.

Ridges, hips and barges to be covered with purpose made accessories, coated as for tiles.

Fix the tiles and accessories in accordance with standard practise and touch up all exposed nail heads with bitumastic coating coloured as for tiles.

Supply the Owners with the standard guarantee for the laying of the tiles.

4. Galvanised iron

The roof area is to be covered with 450mm x 1mm galvanised wire mesh stretched taut and securely stapled to the purlins. Overlay with breather type building paper.

Roofing to be 5mm galvanised corrugated iron sheeting, with primed laps, in single lengths, with 1½ corrugations side lap and nailed with lead headed or spring head nails in accordance with standard practise.

Ridges and hips to be covered with lead edged ridging, primed on the underside, in long lengths with the lead edge dressed down into the corrugations of the iron.

Barges to be covered with purpose made barge flashings.

Supply and fix all flashings, lead caps etc., to make the roof thoroughly watertight and birdproof.

Priming to be calcium plumbate.

5. Flat roofs

Supply and fix over galv. netting and breather type building paper and as per the manufacturer's directions, the flat roofing as shown on the drawings, complete with matching spoutings, downpipes, barge flashings and flashings as required.



ELECTRICIAN

1. Generally

This contract includes the supply and installation of the electric wiring system complete. The whole of the work shall be carried out strictly in accordance with the local authorities' by-laws and the electrical contractor is to obtain all permits from the supply authority, pay all fees in connection therewith and arrange for all inspection required.

2. Supply

Arrange for a mains supply to the building. Check the conditions before tendering.

3. Boards

Provide and set up as required one meter board and case with all necessary equipment thereon neatly labelled.

Provide and set up where directed a switchboard panel with all necessary fuses, switches and main switches properly mounted and labelled, and hinged on one side. This panel can be combined with the meter board if convenient to the Owners.

4. Lights

Provide and fix the lights, switches and power outlets as listed hereunder, all to be positioned by the Owners after the floor has been laid.

Passage and stairwell lights to have two way switches:

..... Interior lights

..... Exterior lights

..... Power outlets with switch gear.

5. Fittings

Allow the P.C. Sum of ..... for the purchase of an electric range and allow to order, take delivery of and install same.

Allow to wire up the thermostatically controlled hot water cylinder element, supplied under "Plumber".

Allow the P.C. Sum of ..... for the supply of an electric wall heater and allow to order, take delivery of and install same.

Allow the P.C. Sum of \$ ..... for the purchase of special light fittings and allow to order, take delivery of and fit same.

Allow to supply and install an exhaust hood or fan as detailed on the drawings.

Allow to wire up for the waste disposal unit supplied under "Plumber".

Allow to provide and install a selected razor outlet positioned as directed by the Owners.

Earth all metal waste pipes and metal fittings as required by the regulations.

Aerial, earth and T.V. aerial sockets as directed by the Owners.

### Materials

Blocks are to be of the sizes as shown on the drawings, delivered to the site on pallets and to be free from cracks and chipped edges.

Mortar is to consist of sand, cement and a liquid lime based plasticiser, mixed according to the lime manufacturer's directions.

### Laying

Construct the various block walls as shown on the drawings.

Corners to be plumbed both ways, courses to be level and straight.

The blocks are to be kept dry before and during laying and while the mortar is setting.

Sills are to be purpose made masonry unit sill blocks. Jamb blocks are to be rebated.

Ventilators are to be matching in colour and size, spaced 600 mm from the corners and at 1.8 m intervals.

Joints are to be 10 mm thick max, rounded on exposed faces.

Build in holding down bolts 500 mm from the corners and at 1.2 m centres.

Reinforce and concrete fill the various bond beam courses and vertical cavities as shown on the drawings.

On completion clean down all exposed faces of the block work and leave free from all defects and mortar stains.

## BRICKLAYER

### Materials

Bricks to be hard square, well burnt ..... bricks, delivered to the site in packets and free from chipped edges. The bricks are to be wetted before laying.

Mortar to consist of sand, cement and a liquid lime based plasticiser, mixed according to the lime manufacturer's directions.

### Laying

Construct the various brick and brick veneer walls, chimney, flower boxes etc., as shown on the drawings.

All corners are to be plumbed both ways and the courses are to be level and straight. Perpendics are to be in alignment. Joints to be 10 mm thick maximum weatherstruck on exposed faces.

Sills are to be bricks on edge, or purpose made will bricks as directed protruding 25 mm beyond the face of the wall.

Build in vermin proofing at bottom plate level and galvanised ties spaced at not more than 500 mm horizontally and every third course vertically.

Maintain a 40 mm min. cavity to be kept clear of all mortar droppings and to be drained and ventilated.

Co-operate with the Carpenter in the building in of all exterior joinery.

On completion clean down the exposed faces of all brickwork and leave free from all defects, mortar stains etc.

**BUILDING APPLICATION FORM**

Building Inspector,  
Manawatu County Council,  
P.O. Box 1,  
SANSON.

Valuation Roll No. 1425-98.  
Permit No. H 14902  
Receipt No. 1037  
Zoning Rural  
Date 18-5-76

I hereby apply for permission to (erect/add to/alter) IMPERMENT SHED

Site of Building RONGOTEA ~~BANKS LINE~~ - Rongotea Road

Legal Description (Lot D.P., etc.) Section 36, Bk II Pongos  
1311 BIK VII Te Kawan SD

Name of Owner ROBERT MERVYN COCKER

Address of Owner TAIPO ROAD NO 6 RD. PALMERSTON NORTH

Name of Builder OWNER

Address of Builder \_\_\_\_\_

Name of Plumber or Drainlayer \_\_\_\_\_

Address of Plumber or Drainlayer \_\_\_\_\_

Estimated value of building \$ \_\_\_\_\_ Permit Fees: Building \$ \_\_\_\_\_

Plumbing and drainage \$ \_\_\_\_\_ Plumbing and drainage \$ \_\_\_\_\_

Total Values \$ 600.00 Building Research Levy \$ \_\_\_\_\_

Total Fees \$ 3.00

Particulars of Building: Foundations POSTS - CONCRETE, POLES - CORRUGATED IRON

Walls CORRUGATED IRON Roof CORRUGATED IRON

Area of Proposed Building: sq. ft. 30 FT x 15 FT

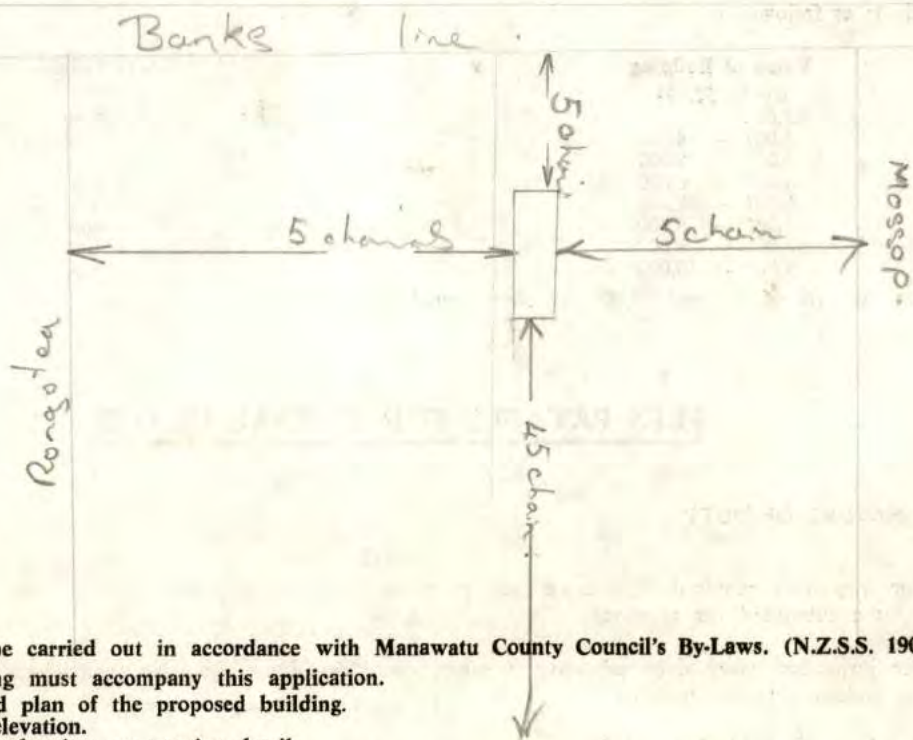
**SITE PLAN**

Road frontage to BANKS LINE RONGOTEA - Rongotea Road Street or Road

Make drawing of allotment below showing position of existing and proposed buildings, and clearly indicating same.

**NOTE.** Distances of each building from boundary lines must be clearly indicated.

*Under the Electrical Supply Regulations, 1967 it is an offence to erect any building or structure within 12 ft. of a power line of up to 33,000 volts and within 20 ft. of a power line over 33,000 volts.*



All work must be carried out in accordance with Manawatu County Council's By-Laws. (N.Z.S.S. 1900).

**NOTE.** The following must accompany this application.

- (A) Ground plan of the proposed building.
- (B) Front elevation.
- (C) Section showing construction details.
- (D) A specification of the work and materials to be used.

(For scale of fees see over).

Application approved: \_\_\_\_\_ Signature of R.M. Cocker

Building Inspector [Signature] Owner \_\_\_\_\_

Date 18-5-76 Builder \_\_\_\_\_

**FEE PAYABLE ON THE ISSUE OF ANY BUILDING PERMIT**  
**ACCORDING TO THE ESTIMATED VALUE OF THE BUILDING WORK**

ESTIMATED VALUE OF BUILDING WORK	FEES
Up to but not exceeding .....	\$ 1.00
" .....	2.00
" .....	3.00
" .....	4.00
" .....	5.00
" .....	6.00
" .....	7.00
" .....	8.00
" .....	9.00
" .....	10.00
" .....	12.00
" .....	14.00
" .....	16.00
" .....	18.00
" .....	21.00
" .....	24.00
" .....	27.00
" .....	30.00
" .....	33.00
" .....	36.00
" .....	40.00
" .....	44.00
" .....	48.00
" .....	52.00
" .....	56.00
" .....	64.00
" .....	72.00
" .....	80.00
" .....	88.00
" .....	98.00
" .....	108.00
" .....	118.00
" .....	128.00
" .....	138.00
" .....	148.00
" .....	158.00
" .....	168.00
" .....	178.00
" .....	188.00
" .....	198.00
" .....	210.00
" .....	220.00
For every \$40,000 or part thereof in excess of \$280,000, an additional fee of .....	10.00

**BUILDING RESEARCH LEVY**

Pursuant to the Building Research Levy Act 1969, the Minister of Science has approved a levy of 50c for each \$1,000 or part thereof of the whole value of all building constructed on or after 1 April 1970, except those of a permit value of less than \$3,000.

The scale is as follows:

Value of Building	Fee Payable
Up to \$2,999	Nil
\$3,000	\$1.50
3,001 — 4,000	2.00
4,001 — 5,000	2.50
5,001 — 6,000	3.00
6,001 — 7,000	3.50
7,001 — 8,000	4.00
8,001 — 9,000	4.50
9,001 — 10,000	5.00

and so on at the rate of 50c per \$1,000, or part thereof.

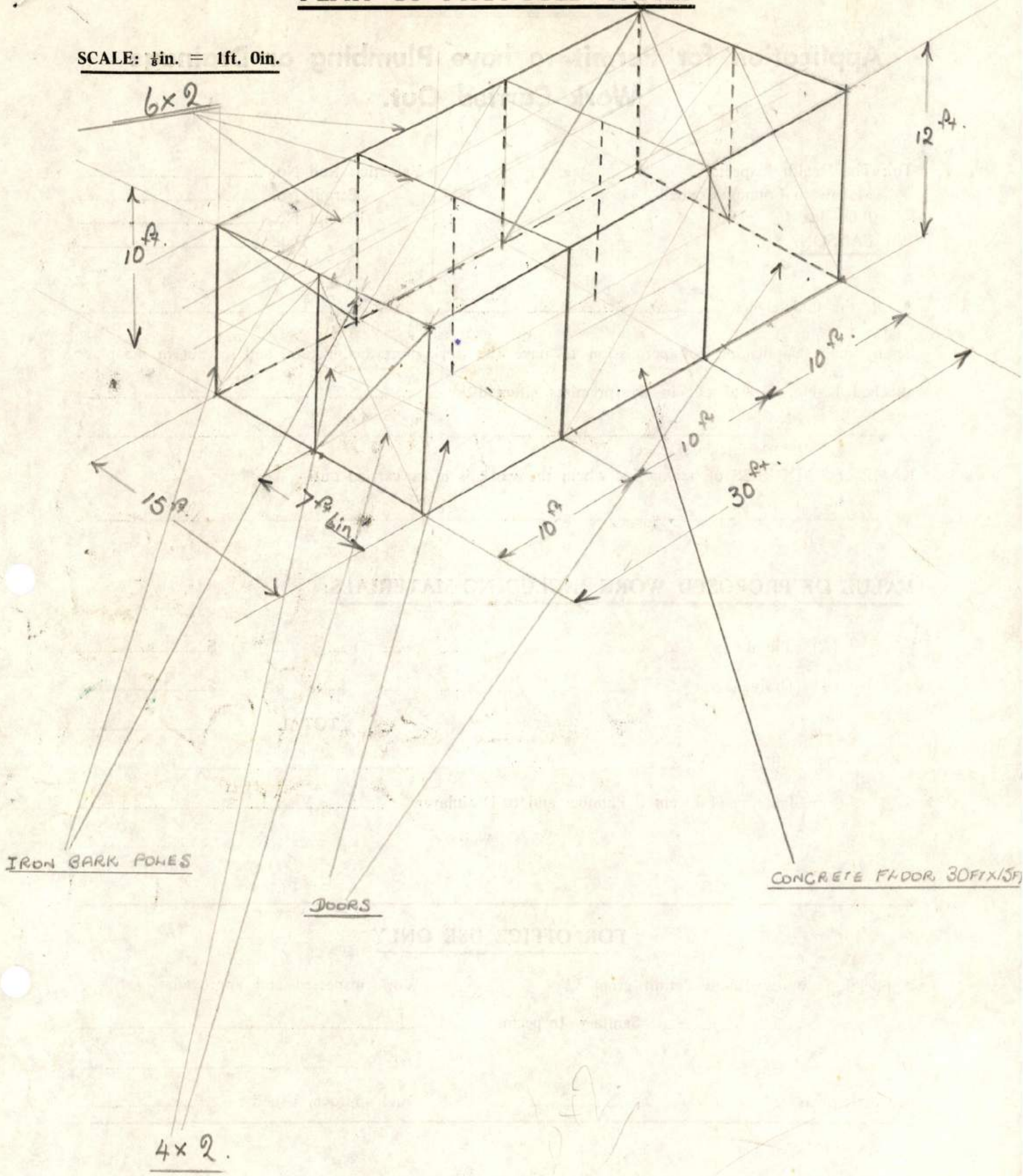
**FEE PAYABLE FOR SPECIAL DUTIES**

NATURE OF DUTY	FEES
For inspection required in the case of proposed structural alterations before plans are submitted for approval .....	\$2.00
For inspection every detached stove, furnace, oven, closed fire, or forge erected subsequently to the building .....	50c
For inspecting old timber before re-using the same in a new building .....	\$2.00
For any inspection that may be deemed necessary in connection with any building or work in respect of which no fee has otherwise been paid .....	\$1.00
For inspection required in the case of resiting existing buildings .....	\$4.00
	Plus Car Mileage

154 30

# PLAN OF PROPOSED WORK

SCALE:  $\frac{1}{4}$  in. = 1 ft. 0 in.



**MANAWATU COUNTY COUNCIL**

**Application for Permit to have Plumbing or Drainage Work Carried Out.**

To.: The Health Inspector,  
 Manawatu Council Council,  
 P.O. Box 1,  
SANSON.

Valuation Roll No. ....  
 Permit No. ....  
 Receipt No. ....  
 Date .....

I, the undersigned .....  
 (Name in full)

hereby make application for permission to have the work prescribed herein, and set out in the plans attached hereto, carried out in the premises situated in .....

(Description of Place)

NAME and ADDRESS of person for whom the work is to be carried out:

**VALUE OF PROPOSED WORK INCLUDING MATERIALS:**

(A) Plumbing	.....	.....	.....	.....	.....	.....	.....	.....	\$.....
(B) Drainage	.....	.....	.....	.....	.....	.....	.....	.....	\$.....
								<b>TOTAL</b>	\$.....

Dated this ..... day of ..... 19.....

Signature of Licensed Plumber and/or Drainlayer .....

Address .....

**FOR OFFICE USE ONLY**

Application approved and Permit granted .....  
 ..... Sanitary Inspector

Work inspected and approved. ....

Date .....

Date .....

Permit Form issued .....

Final approval issued .....

The following is the scale of Permit fees payable in respect of the issue of a permit for sanitary work:—

<u>ESTIMATED VALUE OF WORK</u>	<u>Fee Payable</u>
Up to but not exceeding .....	\$ 50 — \$0.50
" .....	100 — 1.00
" .....	200 — 2.00
" .....	300 — 3.00
" .....	400 — 4.00
" .....	600 — 5.00
" .....	800 — 6.00
" .....	1000 — 7.00
" .....	1200 — 8.00
" .....	1400 — 9.00
" .....	1600 — 10.00

Plus \$1.00 for each extra \$200 or part thereof.

In assessing the value of the work, no single fitting shall be deemed to have a value exceeding \$100.

MANAWATU COUNTY COUNCIL

**BUILDING APPLICATION FORM**

Building Inspector,  
Manawatu County Council,  
P.O. Box 1,  
SANSON.

Valuation Roll No. 1425-98  
Permit No. H 15-143  
Receipt No. 27430  
Zoning Rental  
Date 28-2-77

I hereby apply for permission to (erect/add to/alter) Garage  
Site of Building Corner of Rongotea - Kunguru Rd.  
Legal Description (Lot D.P., etc.) Sec 36 Bk II TB Kaiti S.D.

Name of Owner MR R.M. COEWATER  
Address of Owner TAMPO ROAD NO 6 RD. PAEN. NTH  
Name of Builder QUIN BROS (P.N.) LTD  
Address of Builder Box 750 P.N.  
Name of Plumber or Drainlayer \_\_\_\_\_  
Address of Plumber or Drainlayer \_\_\_\_\_

Estimated value of building \$ 800-00 Permit Fees: Building \$ 4-00  
Plumbing and drainage \$ \_\_\_\_\_ Plumbing and drainage \$ \_\_\_\_\_  
Total Values \$ 800-00 Building Research Levy \$ \_\_\_\_\_  
Total Fees \$ 4-00

Particulars of Building: Foundations CONCRETE  
Walls TIMBER / 269 m/w/somms Roof 269 Cor Iron.  
Area of Proposed Building: sq. ft. 25.2 m<sup>2</sup>

**SITE PLAN**

Road frontage to Banks Street or Road  
Make drawing of allotment below showing position of existing and proposed buildings, and clearly indicating same.  
**NOTE.** Distances of each building from boundary lines must be clearly indicated.

See Plan + Spec.

All work must be carried out in accordance with Manawatu County Council's By-Laws. (N.Z.S.S. 1900).  
**NOTE.** The following must accompany this application.  
(A) Ground plan of the proposed building.  
(B) Front elevation.  
(C) Section showing construction details.  
(D) A specification of the work and materials to be used.  
(For scale of fees see over).  
Application approved: \_\_\_\_\_ Signature of  
Building Inspector [Signature] Owner \_\_\_\_\_  
Date 28-2-77 Builder [Signature]

**FEES PAYABLE ON THE ISSUE OF ANY BUILDING PERMIT**  
**ACCORDING TO THE ESTIMATED VALUE OF THE BUILDING WORK**

ESTIMATED VALUE OF BUILDING WORK	FEES
Up to but not exceeding .....	\$200 — \$ 1.00
" .....	400 — 2.00
" .....	600 — 3.00
" .....	800 — 4.00
" .....	1000 — 5.00
" .....	1200 — 6.00
" .....	1400 — 7.00
" .....	1600 — 8.00
" .....	1800 — 9.00
" .....	2000 — 10.00
" .....	2500 — 12.00
" .....	3000 — 14.00
" .....	3500 — 16.00
" .....	4000 — 18.00
" .....	5000 — 21.00
" .....	6000 — 24.00
" .....	7000 — 27.00
" .....	8000 — 30.00
" .....	9000 — 33.00
" .....	10000 — 36.00
" .....	12000 — 40.00
" .....	14000 — 44.00
" .....	16000 — 48.00
" .....	18000 — 52.00
" .....	20000 — 56.00
" .....	25000 — 64.00
" .....	30000 — 72.00
" .....	35000 — 80.00
" .....	40000 — 88.00
" .....	50000 — 98.00
" .....	60000 — 108.00
" .....	70000 — 118.00
" .....	80000 — 128.00
" .....	90000 — 138.00
" .....	100000 — 148.00
" .....	120000 — 158.00
" .....	140000 — 168.00
" .....	160000 — 178.00
" .....	180000 — 188.00
" .....	200000 — 198.00
" .....	240000 — 210.00
" .....	280000 — 220.00
For every \$40,000 or part thereof in excess of \$280,000, an additional fee of .....	10.00

**BUILDING RESEARCH LEVY**

Pursuant to the Building Research Levy Act 1969, the Minister of Science has approved a levy of 50c for each \$1,000 or part thereof of the whole value of all building constructed on or after 1 April 1970, except those of a permit value of less than \$3,000.

The scale is as follows:

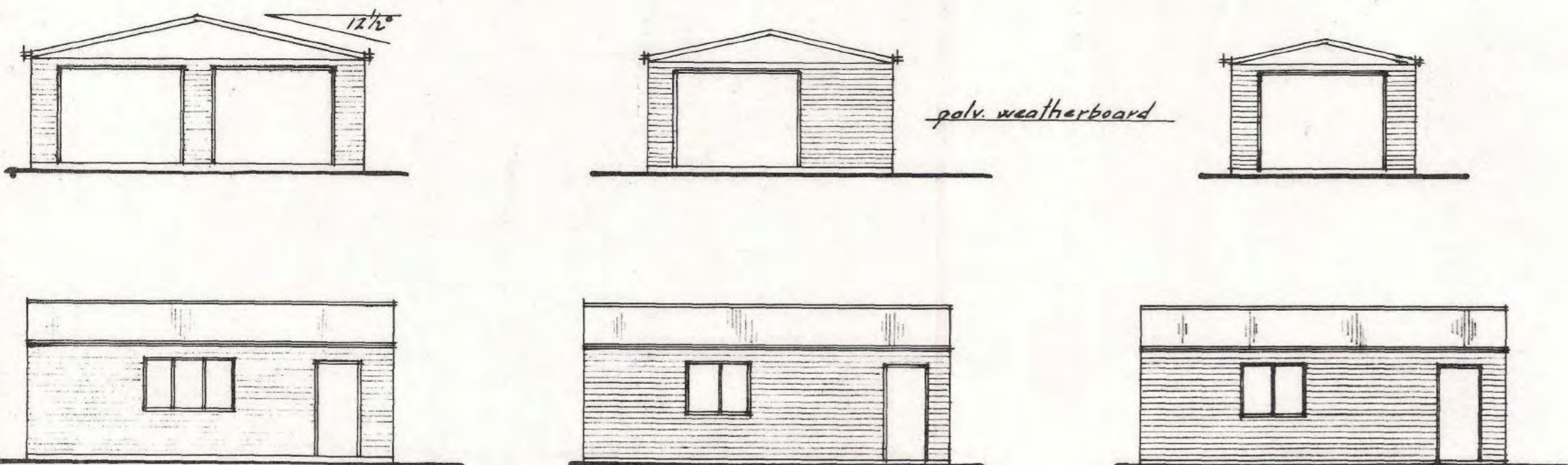
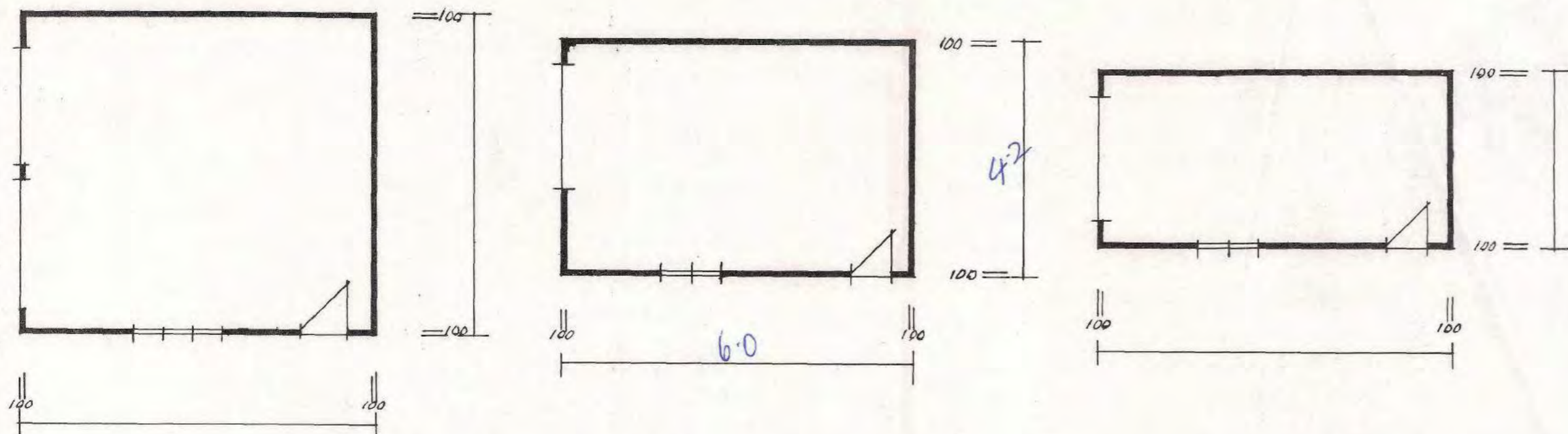
Value of Building	Fee Payable
Up to \$2,999	Nil
\$3,000	\$1.50
3,001 — 4,000	2.00
4,001 — 5,000	2.50
5,001 — 6,000	3.00
6,001 — 7,000	3.50
7,001 — 8,000	4.00
8,001 — 9,000	4.50
9,001 — 10,000	5.00

and so on at the rate of 50c per \$1,000, or part thereof.

**FEES PAYABLE FOR SPECIAL DUTIES**

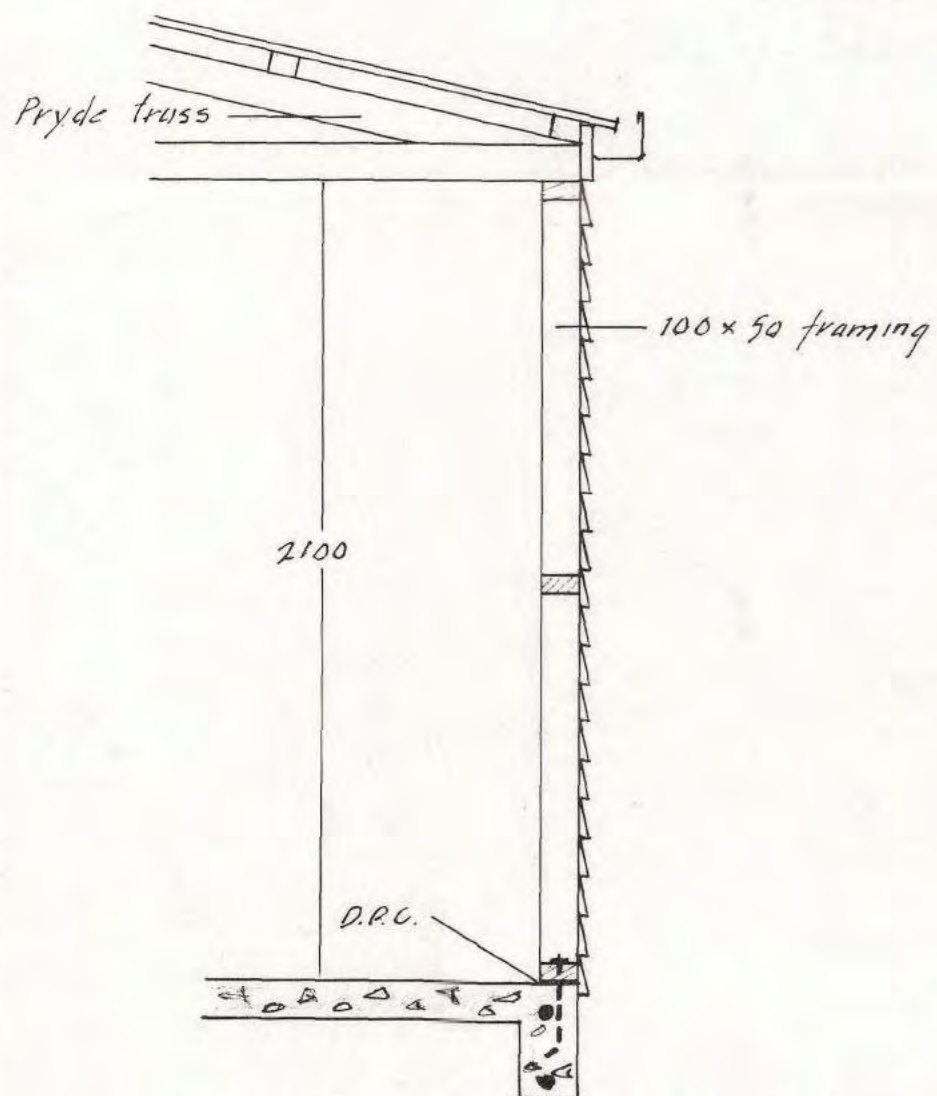
NATURE OF DUTY	FEES
For inspection required in the case of proposed structural alterations before plans are submitted for approval .....	\$2.00
For inspection every detached stove, furnace, oven, closed fire, or forge erected subsequently to the building .....	50c
For inspecting old timber before re-using the same in a new building .....	\$2.00
For any inspection that may be deemed necessary in connection with any building or work in respect of which no fee has otherwise been paid .....	\$1.00
For inspection required in the case of resiting existing buildings .....	\$4.00
	Plus Car Mileage





— DOUBLE GARAGE —      — GARAGE WORKSHOP —      — SINGLE GARAGE —

— PLANS AND ELEVATIONS SCALE 1:100 —

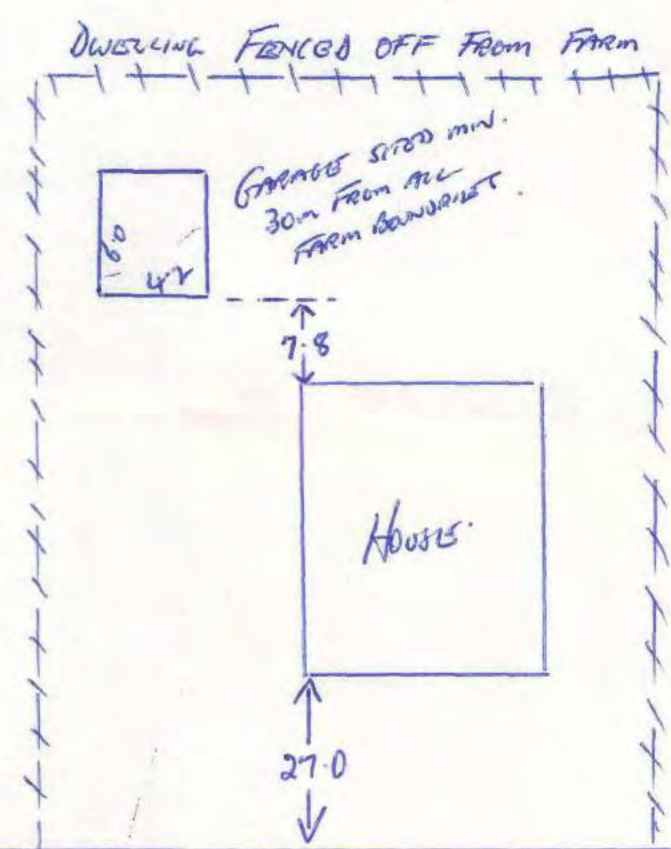


— WALL FRAMING SCALE 1:20 —

Framing	treated radiata D.4.5.
Studs	100 x 50 at 600 max c/c.
Plates	100 x 50
Dwangs	100 x 50 1 row
Braces	75 x 50 cut in at 5m. c/c.
Trusses	9m - 4.8m span Pryde H 947/513 up to 6m span Pryde H 947/514
Purlins	100 x 50 on edge at 750 c/c.
Concrete Floor	14 MPa concrete 100 thick
Foundation	200 x 150 2/10mm bars
Dampcourse	malthead
Fascia	150 x 25 treated
Roof	0.45 corr. galv. iron
Exterior Walls	0.45 galv. iron weatherboard
Gable Ends	Hardiflex sheet
Spouting	25 g.v. 0.45 galv.
Fastenings	to N.Z.S.S. 1900/6-1.

— QUIN BUILDINGS —

SEC 36  
BLK II  
TE KAWA S.D.



— SITE PLAN SCALE 1:100 —

FOR MR. P. M. COCKER  
AT BANKS ROAD PONGOTIA  
CONTRACT \$800-00

To: The Building Inspector,  
 Manawatu County Council,  
 P.O. Box 1,  
 SANSON.

(Office Use Only)	
Valuation Roll No.	1425-98
Receipt No.	1260
Permit No.	137810
Health Inspector	

I ROBERT MERVYN COCKER hereby apply for a permit to ~~erect~~

(full name)  
 add to/~~alter~~ CAR SHED  
 (description of building)

LOCATION OF BUILDING RANGITIKEA RANGITIKEA ROAD RANGITIKEA  
 (Street or Road) (Township or Locality)

LEGAL DESCRIPTION Lot No. 1425/98 D.P.    
 Section 36 Block 11 Survey District BK7 VII TE KAWAU SO

Floor area of Proposed Building (square metres) 3 1/2 m x 6 m

Name of Owner MR. R.M. COCKER

Address of Owner RANGITIKEA RANGITIKEA ROAD NO 3 RD PANMURSTON NORTH

Name of Builder SELF

Address of Builder AS ABOVE

Name of Plumber/Drainlayer  

Address of Plumber/Drainlayer  

Estimated Values		Permit Fees	
Building	\$ 800.00	Building	\$ 5.00
Plumbing/Drainage	\$ <u> </u>	Plumbing/Drainage	\$ <u> </u>
Total Values	\$ <u>800.00</u>	Building Research Levy	\$ <u> </u>
		Total Fees	\$ <u>5.00</u>

SCALE OF BUILDING PERMIT FEES

Estimated value of building work

Up to but not exceeding ..\$ 1000	-\$ 5.00	Up to but not exceeding ..\$ 18000	-\$ 52.00
" .. 1200	- 6.00	" .. 20000	- 56.00
" .. 1400	- 7.00	" .. 25000	- 64.00
" .. 1600	- 8.00	" .. 30000	- 72.00
" .. 1800	- 9.00	" .. 35000	- 80.00
" .. 2000	- 10.00	" .. 40000	- 88.00
" .. 2500	- 12.00	" .. 50000	- 98.00
" .. 3000	- 14.00	" .. 60000	- 108.00
" .. 3500	- 16.00	" .. 70000	- 118.00
" .. 4000	- 18.00	" .. 80000	- 128.00
" .. 5000	- 21.00	" .. 90000	- 138.00
" .. 6000	- 24.00	" .. 100000	- 148.00
" .. 7000	- 27.00	" .. 120000	- 158.00
" .. 8000	- 30.00	" .. 140000	- 168.00
" .. 9000	- 33.00	" .. 160000	- 178.00
" .. 10000	- 36.00	" .. 180000	- 188.00
" .. 12000	- 40.00	" .. 200000	- 198.00
" .. 14000	- 44.00	" .. 240000	- 210.00
" .. 16000	- 48.00	" .. 280000	- 220.00

For every \$40,000 or part thereof in excess of \$280,000, an additional fee of - \$10.00.

BUILDING RESEARCH LEVY

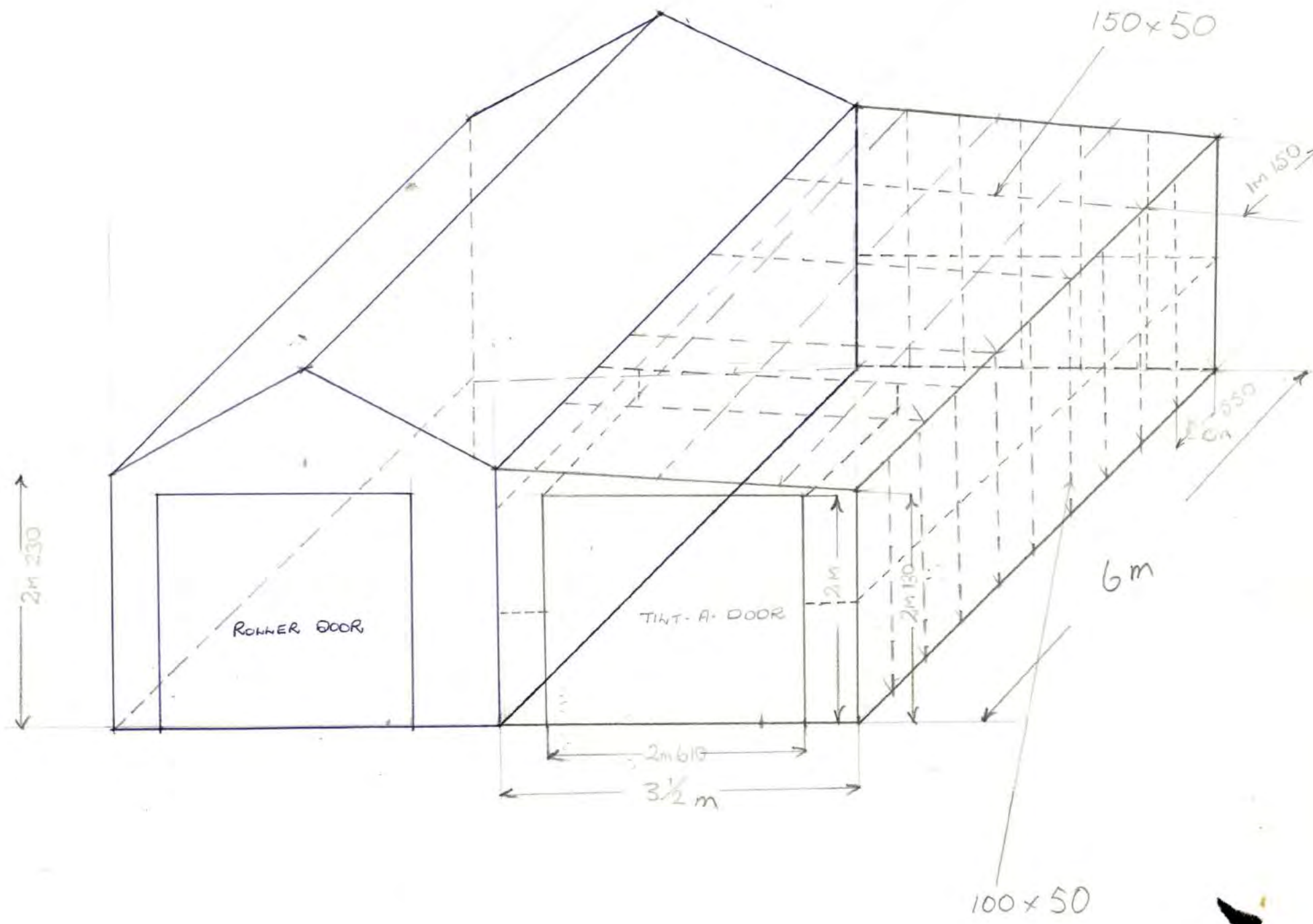
On all construction over a total permit value of \$3000 (including plumbing and drainage value) a levy of \$1.00 per \$1000 value is payable.

The following extra information must accompany this application;

- (1.) Scale site plan showing proposed and existing building/s with special reference as to distance from boundaries.
- (2.) Floor plan showing room layout with exterior and interior dimensions.
- (3.) Cross-section plan showing construction details.
- (4.) Elevation plans showing front, rear and side elevations.
- (5.) Detailed specifications of work to be completed and materials to be used.  
 (for minor buildings the reverse side of this form can be used for plan drawing etc.)

Dated this   day of   19 

Signature of R.M. Cocker ~~Builder~~  
Owner.  
Agent.

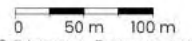


## **Appendix C: Historic Aerial Photographs**



**Legend**

□ Site Boundary



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 Information New Zealand



Produced by **Datanest.earth**

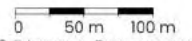
Title: Historical Aerial Imagery - 1949

Client: Te Kapiti Trust		Figure No: 3 Size: A4
Project: 14 Banks Road, Rongotea	Drawn: AC	
Date: 27-05-2022	Checked: SN	
Proj No: 5028	Scale: 1:5500	Version: draft



**Legend**

□ Site Boundary



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Produced by **Datanest.earth**

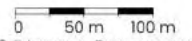
Title: Historical Aerial Imagery - 1968

Client: Te Kapiti Trust		Figure No: 4 Size: A4
Project: 14 Banks Road, Rongotea	Drawn: AC	
Date: 27-05-2022	Checked: SN	Version: draft
Proj No: 5028	Scale: 1:5500	



**Legend**

□ Site Boundary



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Produced by **Datanest.earth**

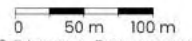
Title: Historical Aerial Imagery - 1982

Client: Te Kapiti Trust		Figure No: 5 Size: A4
Project: 14 Banks Road, Rongotea	Drawn: AC	
Date: 27-05-2022	Checked: SN	Version: draft
Proj No: 5028	Scale: 1:5500	



**Legend**

□ Site Boundary



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Information New Zealand



Produced by **Datanest.earth**

Title: Historical Aerial Imagery - 2005

Client: Te Kapiti Trust

Project: 14 Banks  
Road, Rongotea

Drawn: AC

Figure No:  
6

Date: 27-05-2022

Checked:  
SN

Size: A4

Proj No: 5028

Scale:  
1:5500

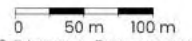
Version:  
draft





**Legend**

□ Site Boundary



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Produced by **Datanest.earth**

Title: Historical Aerial Imagery - 2015

Client: Te Kapiti Trust

Project: 14 Banks  
Road, Rongotea

Drawn: AC

Figure No:  
7

Date: 27-05-2022

Checked:  
SN

Size: A4

Proj No: 5028

Scale:  
1:5500

Version:  
draft

## Appendix D: Site Photographs



*Plate D1: Looking west from the entrance at 14 Banks Road. Note the locations of the implement shed and garage towards the centre and right-hand side of the photograph, respectively.*



*Plate D2: Looking north from entrance towards former house site. Note the location of garage on the left-hand side of photograph and pump shed towards right-hand side.*



*Plate D3: Garage located west of former house site.*



*Plate D4: Interior of garage.*



*Plate D5: Interior of pump shed located north of former house site.*



*Plate D6: Interior of pump shed. Note the electrical distribution board.*



*Plate D7: Stockpile located to the east of the garage containing tree branches, tree stumps and silage wrap.*



*Plate D8: Stockpile located to the west of the garage containing tree branches, tree stumps and polyethylene pipe.*



*Plate D9: Concrete water tanks located to the immediate west of the garage.*



*Plate D10: Looking southwest from the farm race towards the implement shed.*



*Plate D11: Looking north from the implement shed towards the stock yards.*



*Plate D12: Looking east from the farm race towards the implement shed and garage.*



*Plate D13: Looking northwest from the farm race across grazing land. Note the stock grazing on the right-hand side of the photograph and the residential properties beyond the northern boundary.*



*Plate D14: Looking west from the farm race towards the southwest lot.*





*Plate D15: Looking southwest from the farm race across grazing land. Note the new residential properties beyond the southern boundary.*



*Plate D16: Looking northeast across grazing land. Note Trent Street towards the right-hand side of the photograph and the concrete pipes in the foreground.*



*Plate D17: Looking northeast along Walsh Drain on northwest portion of site.*



*Plate D18: Looking southeast from western boundary of the southwest lot. Note the stockpile of soil.*



*Plate D19: Looking west from western boundary of the southwest lot towards the oxidation ponds associated with the Rongotea WWTP.*



*Plate D20: Looking east from southern boundary of the southwest lot. Note the stockpiles of drainage pipe and timber posts.*



*Plate D21: Looking northeast from southern boundary of the southwest lot.*



*Plate D22: Looking across southwest lot near Campbells Drain. Note the surface water ponding.*