Land Information Memorandum

- 1437 B State Highway 23 WHATAWHATA
- LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS

Waikato DISTRICT COUNCIL
Te Kaunihera aa Takiwaa o Waikato

Print Date: 28 January 2025, 1:51 PM

Rates Information Database

Use the rates information database to find out rates information about property in the Waikato district.

If you would like your details made confidential, please complete the Request to Suppress Personal Information form and return to Waikato District Council. Please note that it is not necessary to complete the form if you have no objection to your name and postal address being published in the Complete Rating Information Database.

If you have a question about your rates please contact the rates team on 0800 492 452.

Search again | Print this page | Make a rates payment
View district plan | Recent

Property details

Property location	1437B State Highway 23 WHATAWHATA
Valuation number	06371/104.29
Legal description	LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS

Property valuation

Capital value	$700,000.00
Land value	$460,000.00
Improvement value	$240,000.00
Effective from	01/07/2021

Property apportionment(s)

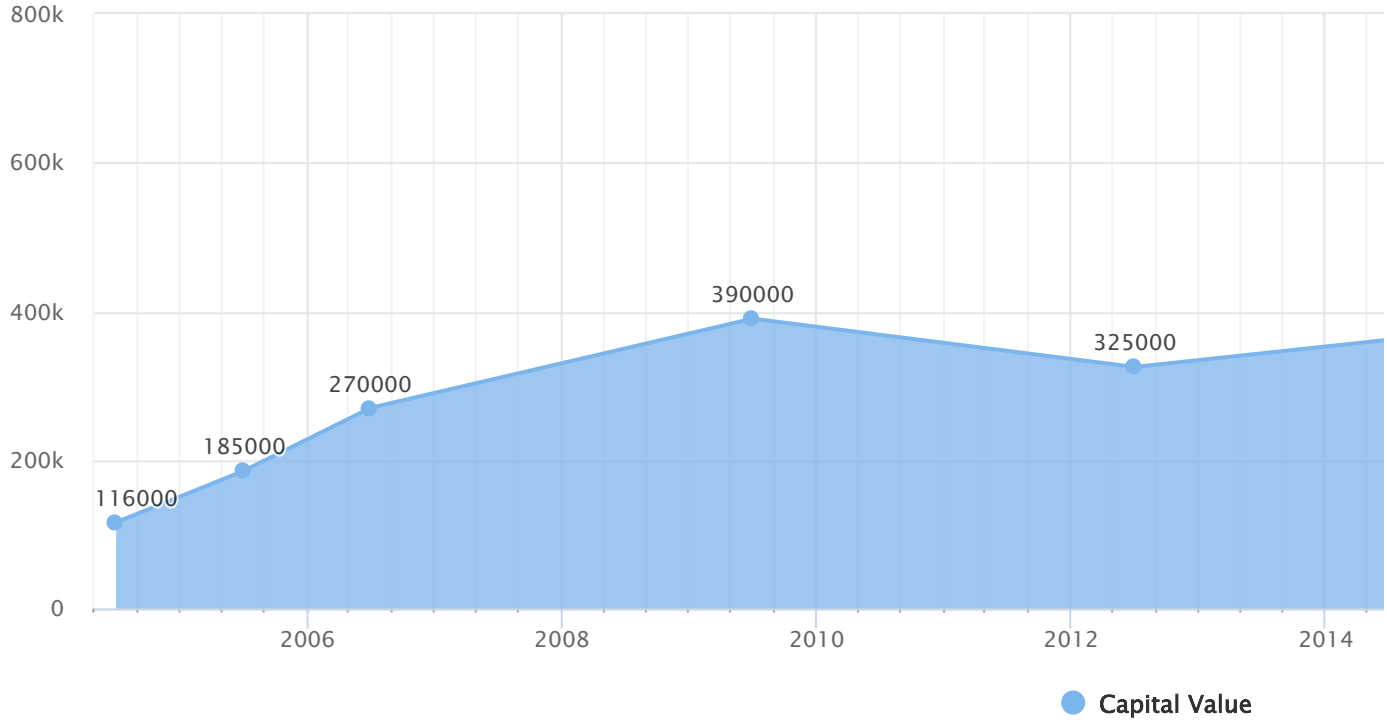
Area	**0.62 ha** (1.528 acre/6182m^2)
Tenure code	Property is not leased. Owner is also occupier
Ownership code	Private: Individual
Rateability code	Rateable
Rating division	Std Property - Not Applicable, ie Not an apportionment
Land use	Lifestyle - Single unit
Land use zone	Lifestyle
Property category	LI200B
Nature of improvement	DWG OB OI

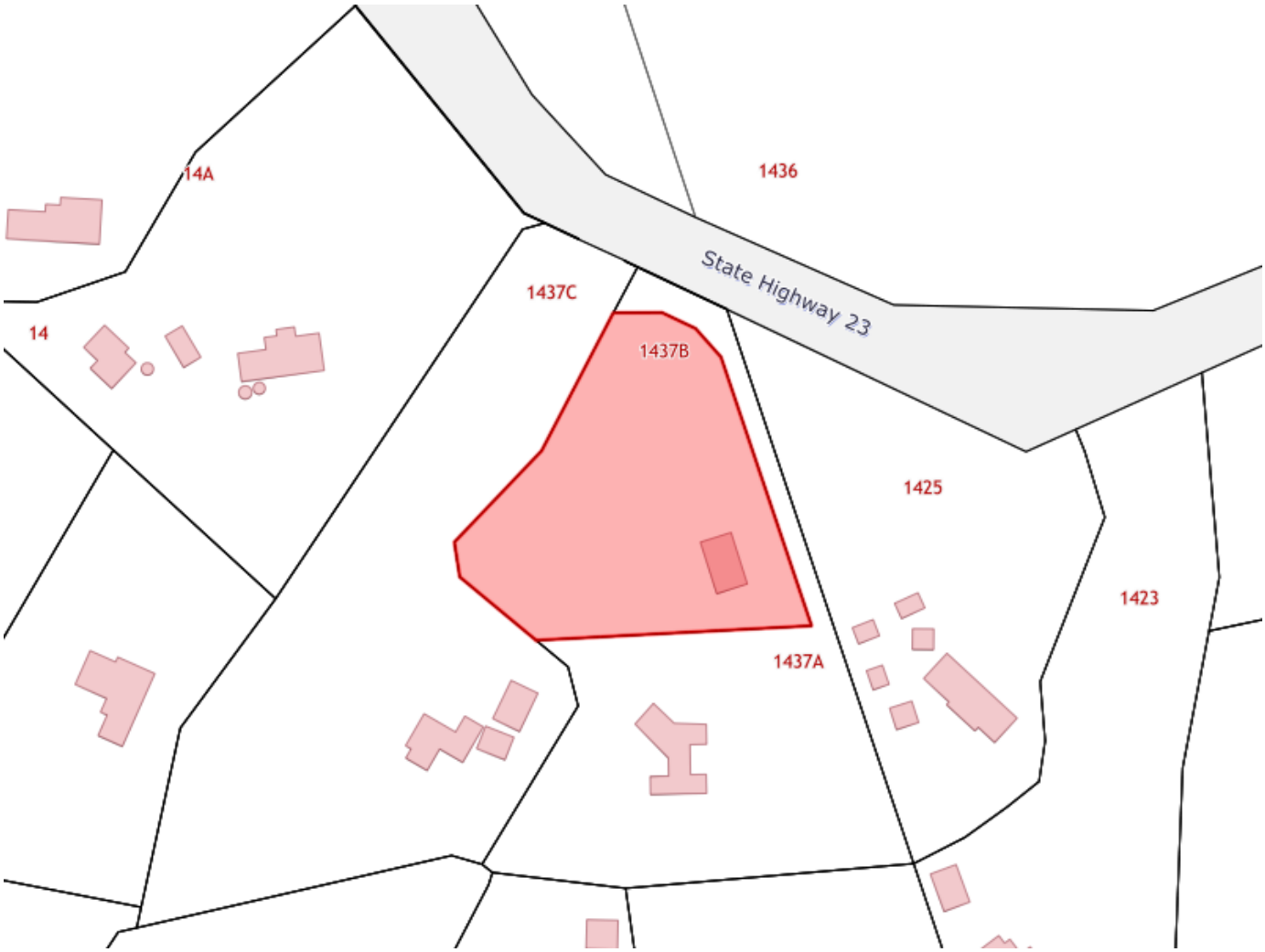
Property charges (2022/23)

	Targeted rate factor	Factor applicable	Amount
General Rate	0.21416c/$	700000.00	$1,499.12
Uniform Annual General Charge (UAGC)	Fixed Charge	1.00	$432.25
District Refuse	per dwelling	1.00	$215.62

Total rates payable $2,146.99 incl GST

Property valuation history





❗If your property connects to any additional council services between now and the 30 June 2023, there will be additional charges added to your property in the following rating year. If you have any questions or queries with regards to your 2022/23 rates, please contact a member of the rating team on 0800 492 452 or e-mail rates@waidc.govt.nz.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **SA61C/454**
Land Registration District **South Auckland**
Date Issued 02 February 1998

Prior References
SA1102/7

Estate	Fee Simple
Area	6182 square metres more or less
Legal Description	Lot 2 Deposited Plan South Auckland 77487

Registered Owners
Aaron Charles Brown as to a 1/2 share
Jennifer Louise Cook as to a 1/2 share

Interests

The within land has no frontage to a public road

B367157 Gazette Notice declaring State Highway No. 23 fronting the within land to be a limited access road - 12.9.1996 at 11.55 am

B463088.6 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 2.2.1998 at 10.04 am

Appurtenant hereto is a right of way and rights to transmit telecommunications and transmit electricity specified in Easement Certificate B463088.14 - 2.2.1998 at 10.04 am

Subject to a right to transmit electricity over part marked L on DPS 77487 specified in Easement Certificate B463088.14 - 2.2.1998 at 10.04 am

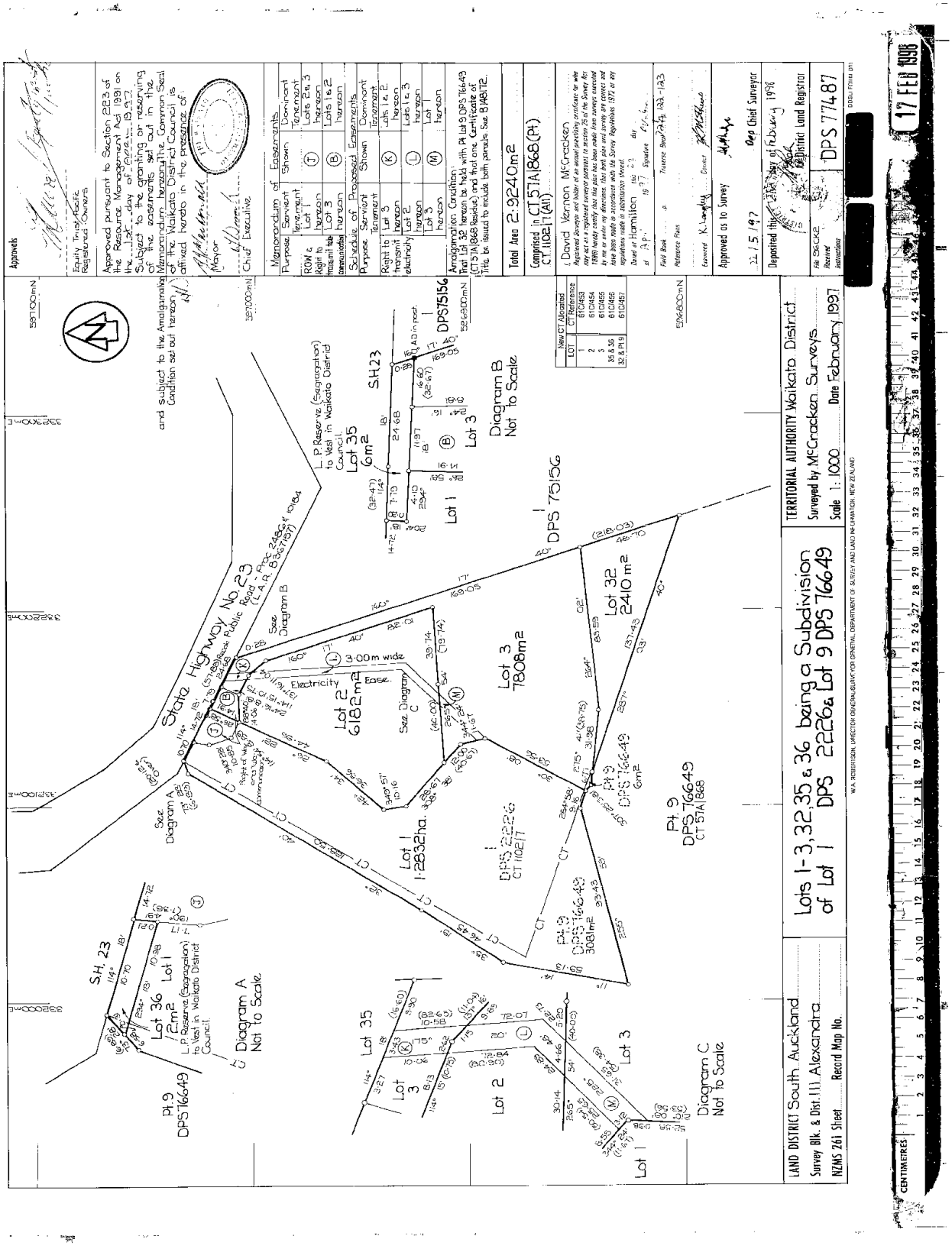
Some of the easements specified in Easement Certificate B463088.14 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Transfer B463088.15 - 2.2.1998 at 10.04 am

B476334.2 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 17.4.1998 at 9.33 am

12215983.3 Mortgage to Westpac New Zealand Limited - 12.8.2021 at 4:29 pm

Identifier **SA61C/454**



WAIKATO DISTRICT COUNCIL

CONSENT NOTICE PURSUANT TO SECTION 221 RESOURCE MANAGEMENT ACT 1991

B463088.6 CONO

The District Land Registrar
South Auckland Land Registry

IN THE MATTER of a Consent Notice pursuant to Section 221 of the Resource Management Act 1991

and

IN THE MATTER of a subdivision Consent pursuant to Sections 105, 108, 220, and 221 of the Resource Management Act 1991

PURSUANT to section 252(1)(a) of the Local Government Act 1974, I, WARWICK LESLIE BENNETT Chief Executive of THE WAIKATO DISTRICT COUNCIL, hereby certify that by way of delegated authority conferred on Council Officers under Section 34(4) of the Resource Management Act 1991 the following notice should be registered on the Certificates of Title for Lots 1, 2 and 3 on Deposited Plan S.77487 being a subdivision of Lot 1 on Deposited Plan S.2226 comprised in Certificate of Title Volume 1102 Folio 7 and Lot 9 on Deposited Plan S.76649 comprised in Certificate of Title Volume 57A Folio 868 (South Auckland Registry).

THE Owner of the land (as defined in the Resource Management Act 1991) shall, on a continuing basis, ensure that:

1 All subsequent owners of proposed Lots 1-3 be advised of the recommendations concerning site development contained in the Site Investigation and Geotechnical Appraisal prepared by Mark T Mitchell Registered Engineer and dated 16 October 1996.
A copy of the Appraisal may be inspected at the offices of the Waikato District Council.

2 All subsequent owners of proposed Lots 1-3 be advised that ongoing maintenance relating to onsite sewerage treatment and disposal systems shall be carried out in accordance with the Inspection and Maintenance Programme prepared by Mark T Mitchell Registered Engineer and dated 26 May 1997. All costs associated with the monitoring of the inspection and maintenance programme by office of the Waikato District Council shall be reimbursed to that Council.
A copy of the Programme may be inspected at the offices of the Waikato District Council

DATED at Ngaruawahia this 19th day of June 1997.

WARWICK LESLIE BENNETT
Principal Administration Officer

K:\SEC\GJ\7061804P

10.04 02.FEB98 B 463088.6

PARTICULARS ENTERED IN REGISTER
LAND REGISTRY SOUTH AUCKLAND
ASST LAND REGISTRAR

(6) 30

CONO

WAIKATO DISTRICT COUNCIL

15 Galileo Street
Private Bag 544
NGARUAWAHIA

Telephone: 0-7-824 8633
Facsimile: 0-7-824 8091

Your Ref:

In reply please quote:
70 97 075

If calling, please ask for:
Alistair Muirhead

28 February 1997

McCracken Surveys Ltd
PO Box 19-182
HAMILTON

Dear Sir/Madam

APPLICATION FOR RESOURCE CONSENT: HIGHBROOK HOLDINGS

You are advised of the following decision on your application, which has been made pursuant to a delegated authority by the District Planner.

"That pursuant to Sections 34(4), 105(1)(b),105(2) (b),108, 220 and 221 of the Resource Management Act 1991 the Waikato District Council under delegated authority grants its consent to an application for a subdivisional consent for a discretionary activity to create twenty five rural residential lots under the provisions of the Proposed Waikato District Plan and to create twenty five rural residential lots as a non complying activity under the provisions of the Waikato Transitional District Plan (Raglan Section) to allow the subdivision of Lot 1 DPS 2226 contained in Certificate of Title 1102/7 , Auckland Land Registry, and Pt lot 1 DPS 7669 contained in Certificate of Title 1C/997 ,Auckland Land Registry, for a rural subdivision, submitted with the application prepared by Mc Cracken Surveys Ltd , subject to the following conditions:

1 The Survey Plan to give effect to this resource consent must be consistent with the proposal shown on Mc Cracken Surveys Ltd's Plan No. 96CK2 as submitted for application no. 70 97 075 subject to the modifications required by the conditions of this consent.

2 That a 0.2 metre wide strip fronting lots 4,5, and 6 along the entire road frontage with State Highway 23, be vested in Council as local purpose reserve (utility).

3 That all easements be duly granted and reserved. Provision for the on going maintenance of the rights of way shall be included in the easement certificates to the satisfaction of Council.

4 That lots 6 to 11, 12 to 18 and 23 be provided with a standard residential vehicle entrance as shown on the scheme plan and constructed in accordance with WDC plan No. TSG-E3 to the satisfaction of Council.

5 That the proposed road lot 33 and 34 be designed and constructed in accordance with the minimum specifications set out WDC plan No. 4105 and in accordance with the geotechnical report (Ref W-4102) prepared by Mark T. Mitchell Registered Engineer and dated 16 October 1996 to the satisfaction of Council. The engineering design plans of the road are to be approved by Council prior to any construction being undertaken.

6 That a stormwater drainage system for the road lot 33 and 34 be designed and constructed to the satisfaction of Council. The engineering design plans of the stormwater drainage system are to be approved by Council prior to any construction being undertaken. The plans shall incorporate the dismantling of the dam located on lot 17 and associated remedial works.

7 That 6m x 6m boundary splays be taken at the intersection of all new roads created by this development.

8 That the intersection of the road to vest (lot 33) and State Highway 23 be designed and constructed in consultation with Transit NZ to the satisfaction of Council .

9 That flag lighting be provided at the intersection of State Highway 23 and the proposed road (lot 33) in consultation with Transit NZ to the satisfaction of Council.

10 That widening and marking of the highway seal be carried out in accordance with Transit NZ plan RD468 for a minimum distance of 90 metres either side of the road intersection in consultation with Transit NZ to the satisfaction of Council.

11 That the embankment of the applicants property to the east of the proposed intersection with State Highway 23 be trimmed back to provide an uninterrupted minimum sightline distance of 200 metres in consultation with Transit NZ to the satisfaction of Council:

12 That the proposed right-of-ways, 'E', 'F', 'G', and 'H' be designed and constructed in accordance with the minimum specifications set out WDC plan No. 4105 to the satisfaction of Council. The engineering design plans of the right-of-way are to be approved by Council prior to any construction being undertaken.

13 That lots 28 and 29 vest in the Crown.

14 That lots 33 and 34 vest in Council as road.

15 That lot 30 vest in the Council as local purpose reserve (esplanade).

16 The surface water drainage paths contained within Lots 4, 5, 6, 10, 11 and 18 to 23 identified on Mc Cracken Survey Ltd's Plan No. 96CK2 dated August 1996 shall be protected and maintained to allow uninterrupted flow of stormwater from upstream properties to the Tunaeke Stream

17 That proposed or existing planting adjoining the intersection of the road to vest (lot 33) and State Highway 23 and located in lot 6 shall be located and maintained to ensure that the minimum sight distance of 200 metres to the east and west of the intersection is retained to the satisfaction of Council.

18 That a maintenance and inspection programme relating to on-site sewage treatment and disposal systems for the proposed Rural Residential lots be prepared and submitted by the consent holder for Council's approval. The programme shall include any ongoing costs of Council for monitoring the condition.

19 (i) That the owners and all subsequent owners of proposed rural residential lots 1 to 27 inclusive be advised of:

(a) recommendations concerning site development contained in the site investigation and geotechnical appraisal prepared by Mark T. Mitchell Registered Engineer and dated 16 October 1996 .

and

(b) That ongoing maintenance responsibilities relating to on-site sewage treatment and disposal systems shall be in accordance with the approved inspection and maintenance programme required by Condition 18.

(ii) The minimum floor level for habitable areas of any residential building , located on proposed lots 5, to 8, 10, 11 and 21 to 27 shall be no less than 300 mm above the 100 year design flood level for the Tunaeke Stream which is RL 22.5 metres Moturiki Datum.

(iii) Specific engineer designed sewage treatment and disposal systems will be required to be for any habitable buildings constructed on lots 4, 5, 6, 7, 22, 23 and 24.

20 That pursuant to Section 221 of the Resource Management Act 1991, consent notices shall be prepared by the Council's solicitors at the applicant's expense to ensure compliance with conditions

16 ,17,and 19 on a continuing basis by the subdividing land owner and subsequent owners. The owners and all subsequent owners of proposed Lots 4, 5, 6, 10, 11 and 18 to 23 shall be advised of condition 16 on a continuing basis and further that all subsequent owner of proposed lot 6 shall be advised of condition 17 on a continuing basis. The owners and all subsequent owners of proposed lots 1 to 27 shall be advised of condition 19(i)(a) and ((b) on a continuing basis and further that all subsequent owners of proposed lots 5, to 8, 10, 11 and 21 to 27 shall be advised of condition 19(ii) on a continuing basis. Also owners and all subsequent owners of proposed lots 4, 5, 6, 7, 22, 23 and 24 shall be advised of condition 18(iii) on a continuing basis.

Upon the issue of a certificate pursuant to Section 224(c) of the Resource Management Act 1991 or at such earlier time may be required, the consent notices pursuant to Section 221 of the Resource Management Act will be issued. The consent notices will specify condition 16 shall be registered against the respective certificates of title for Lots 4, 5, 6, 10, 11 and 18 to 23 and will further specify condition 17 shall be registered against the respective certificates for title lot 6 . The consent notices will specify condition 19(i)(a) and (b) shall be registered against the respective certificates of title for Lots 1 to 27 . Also the consent notices shall specify 19(ii) shall be registered against the respective certificates for title lots 5, to 8, 10, 11 and 21 to 27 . Finally the consent notices shall specify condition 19(iii) shall be registered against the respective certificates for title lots 4, 5, 6, 7, 22, 23 . .

21 That the boundaries of the proposed local purpose reserve(esplanade) (required by condition 15 of this consent), be identified with marker posts appropriately located to clearly indicate the boundaries of the proposed local purpose reserve(esplanade) where it abutts proposed lot 23.

22 That pursuant to Section 407 of the Resource Management Act 1991, a reserve contribution of $28,125 (Twenty Eight Thousand, One Hundred and Twenty five dollars) including GST. be paid to Council in lieu of vesting of land, such contribution shall be calculated at an amount equivalent to the value of 130m^2 of proposed 25 rural residential lots, but not exceeding 7.5% of the current market land value of that lot, or an amount of $1,125 (incl. GST) per lot whichever is the lesser, provided that the current market land value of that lot shall be fixed by agreement between the applicant and the Council at the expense of the applicant under section 407 of the Resource Management Act 1991 and sections 298 and 301 of the Local Government Act 1974.

23 That telecommunication and power services be installed underground within lots 33 and 34 and connections be provided to the boundaries of each of the twenty five rural residential lots.

24 a A landscape plan shall be prepared and submitted to Council for approval and be implemented prior to a certificate pursuant to section 224(c) of the Act being obtained for this subdivision.

The purpose of the landscape plan is to:-

i landscape the southern boundary of lots 19,21,22, and 25 as well as the eastern boundary of lots 8 and 24 and plant the stream bank and reserve in lot 30

ii to integrate the building sites into the landscape.

iii provide additional amenity to neighbouring sites.

iv the species used shall be selected from that proposed in the planting programme prepared by J and B Mortimer , dated 10 September 1996 and included with the application.

b To achieve these purposes there shall be a minimum area of 100 m^2 planted and protected within each of the lots listed in condition 23(a)(i) with the exception of lot 30 for which the area of planting shall be determined by the Resource Planner in consultation with the consent holder..

c The landscape plan shall be prepared by a landscape architect or person competent in landscaping and gardening approved by Council. The landscaping plan shall be submitted to Council and shall include the following information:-

i A description of the existing planting and the proposed planting; and

ii Elevations as seen from State Highway 23 for lots 6 and 30 and from the proposed road to vest for the proposed rural residential lots accessed from that road to vest.

iii A schedule of species to be planted with the mature height for each; and

iv Any effect on underground or overhead services; and

v Any effect on visibility for road users and drivers exiting the site; and

vi A maintenance programme including the protection of the landscape planting ; and

vii An estimate of the cost of planting and associated work; and

viii The qualification or experience of the landscape adviser for the applicant or developer; and

d Pursuant to Section 108(1)(b) of the Act, the applicant may enter into a performance bond in respect of carrying out the landscaping and meeting the purposes in the landscaping plan required in conditions 23(a), 23(b), and 23(c) above. The value of the bond shall be commensurate with the cost of carrying out the landscaping, and the term of the bond shall be commensurate with the term required to establish such landscaping. This bond shall be also subject to the provisions of Section 222 of the Resource Management Act 1991, and the bond documentation shall be prepared by Council's solicitors at the applicant's expense to the satisfaction of Waikato District Council.

25 That proposed lot 31 be deleted and included in Stage 3 of the rural residential subdivision of the subject site.

26 That the existing barn located over the boundary of lots 18 and 27 be demolished and the land rehabilitated.

27 Should the construction of the proposed road , rights of way and the installation of the underground services uncover any archaeological remains the consent holder must immediately contact the local kaumatua of the Te Tai Hauauru Trust and the New Zealand Historic Places Trust. Work shall cease in the affected area as the necessary procedures have been followed.

Advisory Notes:

1. When Building Consents are applied for the following matters will need to be addressed in any application:

i The foundation of any building should be located, designed and constructed in accordance with the recommendations of the geotechnical report Ref. W-4102 prepared by Mark T Mitchell, dated 16 October 1996, submitted with the application.

ii Percolation tests for effluent disposal are required for each lot.

iii A Registered Engineer or other suitably qualified person experienced in the design of sewage treatment and disposal systems may be required to design and supervise the construction of a sewage effluent disposal system for all lots. Plans and specifications for the work in

accordance with the recommendations of the geotechnical report Ref. W-4102 prepared by Mark T Mitchell, dated 16 October 1996, are to be submitted at the time of lodging a building consent with the Council and are to be approved by Council before work commences. The works are to be installed and maintained to the satisfaction of Council.

iv The minimum floor level for habitable areas of a residential building , located on proposed 5, to 8, 10, 11 and 21 to 27 shall be no less than 300 mm above the 100 year design flood level for the Tunaeke Stream which is RL 22.5 metres Moturiki Datum.

v Specific engineer designed sewage treatment and disposal systems will be required to be installed for any habitable buildings constructed on lots 4, 5, 6, 7, 22, 23 and 24.

2 An additional land use consent will be required from Council for above ground power and telephone services between the boundary of the lot and the proposed rural residential dwelling house.

3 Consents maybe required from the Waikato Regional Council for the diverting and culverting of any water courses

4 Prior authorisation is required from the New Zealand Historic Places Trust to modify or destroy an archaeological feature.

The reasons for this decision are:

a The proposal is inaccordance with Objectives 10.1.3 to 10.1.7 and Policies 10S.2.1 to 10S.2.2 and 10S.2.9 of the Proposed Waikato District Plan, relating to the creation of rural residential lots.

b The undergrounding of power and telephone services within stage 2 of the proposed 25 lot rural residential subdivision and implementation of the proposed landscaping will contribute to the mitigation of the visual impact of the development and integration of the site with the adjoining rural and rural residential properties.

c Council has given full weight to the Proposed Waikato District Plan where those provisions are beyond challenge under section 75 and 75B of the Resource Management Act 1991.

d No weight has been given to the Transitional Waikato District Plan (Raglan Section).

e A reference (appeal) by Greenhill Holdings requiring the insertion of additional assessment criteria relating to mineral resources, has some effect on the rural and rural residential zones. In this instance, there are no known sand quarries within 200 metres or rock quarries within 500 metres of the site .

f Little weight was given to the provisions of variation 3 due to the variation being subject to several submissions and given the closing period for submissions has recently closed and the period for further submissions has not yet closed.

g Requiring the floor levels of habitable areas of residential building's to be 0.3 metres above the 100 year design flood event level of the Tunaeke Stream is consistent with the District Plan provisions for the reduction of flood risk.

h Conditions of this consent require a management plan to be prepared and approved by Council for the ongoing maintenance of effluent disposal systems, servicing the rural residential development. The registration of consent notices on each certificate of title for each Rural Residential lot will ensure that the existing and subsequent owners are aware of their responsibilities to comply with the provisions of the approved management plan. Regular maintenance of effluent disposal systems should minimise any environmental effects from on-site sewage disposal.

In addition new sewage effluent disposal system for any future buildings will need to comply with the T tional Waikato Regional Plan Change No. 2 regarding " On site Sewage" disposal systems and this would be dealt with at the time of any building consent application. The size of each lot is well in excess of the minimum lot area prescribed by the Transitional Regional Plan."

This decision has been made under the authority delegated to staff by Council.

A **Lapsing of Consents**

Your attention is drawn to Section 125 of the Resource Management Act 1991. A summary of that section is that a resource consent lapses on the expiry of 2 years after the date of commencement of the consent, or after the expiry of such shorter or longer period as is expressly provided for in the consent, unless

(a) The consent is given effect to, before the end of that period:
or
(b) An application is made to Council up to 3 months after the expiry of that period which meets the criteria specified in Section 125.

B **Compliance with Conditions**

Please note that unless a specific time limit is stated in the conditions imposed by the Council when granting this consent, all conditions must be complied with before the use to which the consent relates is established.

C **Changes to Conditions**

Your attention is drawn to Section 127 of the Resource Management Act 1991 which enables an application to be made at any time to Council to change or cancel any condition of this consent on the grounds that a change in circumstances has caused the condition to become inappropriate or unnecessary and the other specified criteria of Section 127 can be met.

D **Review of Decision on non-notified application**

Your attention is drawn to section 357(2) of the Resource Management Act 1991. This section provides that there is a right of objection to Council in respect of this decision. Section 357(5) requires:

Any such objection shall be made by notice in writing to the Council, setting out the reasons for the objection, within 15 working days after the decision or requirement being notified to that person, or within such further time as may in any case be allowed by the consent of the Council.

E **Right of Appeal**

Your attention is drawn to the Resource Management Act 1991 Sections 120 and 121 and also Resource Management Regulations 1991/170 Section 10 and Part VI. Some key provisions to note are as follows:

i You may appeal against the decision of the Council by lodging a Notice of Appeal in the prescribed form with the Registrar of the Planning Tribunal and with the Council within 15 working days of the receipt by you, or the person who filed the application on your behalf, of the Council's decision. The address of the Planning Tribunal is as follows:

The Registrar
Planning Tribunal
P O Box 5027
Wellington

ii The appeal must be in the form prescribed by the Resource Management (Forms) Regulations 1991/170 or to like effect. The regulations may be purchased from the Government Printing Office. The form is identified as Form '7' in the regulations.

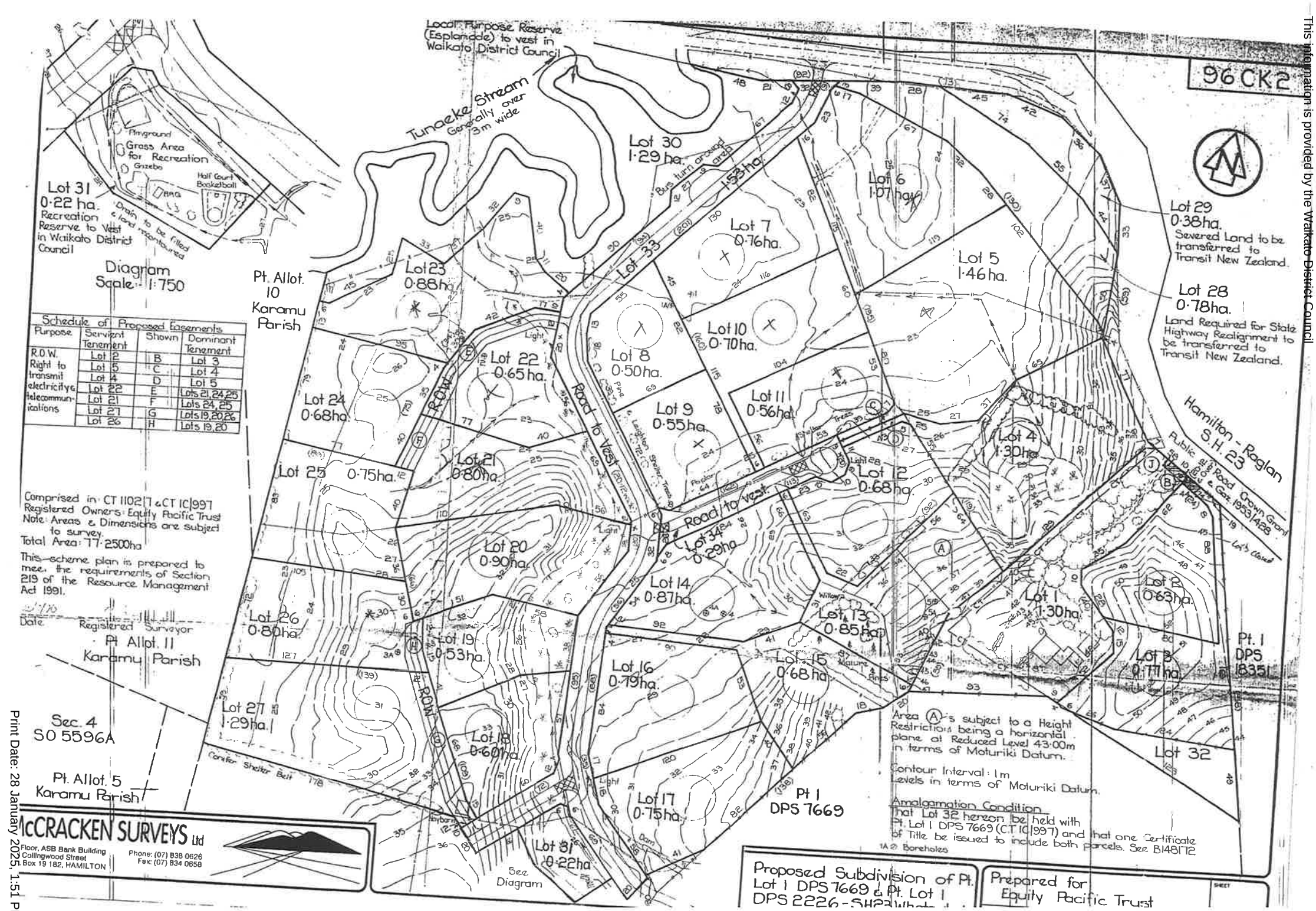
iii A filing fee of $55.00 GST inclusive must accompany every document by which appeal proceedings are commenced.

iv Regulation 11 of the Resource Management (Forms) Regulations 1991/170 sets out important information as to the persons upon whom the appeal must be served and the time when service must take place. It is essential that these provisions be adhered to. Failure to do so may result in your appeal being struck out.

If you are in any doubt as to the procedures to be followed it is strongly recommended that you consult a lawyer.

Yours faithfully
M Buttimore
MANAGER

Janene Houghton
SUPERVISING CONSENTS OFFICER
ENVIRONMENTAL SERVICES
SEC\JH\7022801J



[06371/104.01] 06371/104-29
2001906 2001906

Waikato District
COUNCIL

INTERIM CODE COMPLIANCE CERTIFICATE NUMBER: 91762

Section 43(3) Building Act 1991

ISSUED BY WAIKATO DISTRICT COUNCIL
BUILDING CONSENT NUMBER: 91762

POST TO	PROJECT
Owner: HIGHBROOK HOLDINGS LIMITED Address: C/- A HAMMOND 839 OROPI RD R D 3 TAURANGA 3021	Stage Number of an intended stages of: New or relocated building ☑ Alteration ☐ FILE COPY Other ☐ Intended use(s) (in detail): TEMPORARY RELOCATABLE OFFICE
PROJECT LOCATION	
STATE HIGHWAY 23, WHATAWHATA	
LEGAL DESCRIPTION	
Property Number: 2001906 Valuation Roll Number:06371 10401 Legal Desc: LOTS 31-33 DPS 71143 LOTS 2 3 32 DPS 77437	Intended life: Indefinite, but not less than 50 years ☐ Specified as 15 years Demolition ☐

This is an interim code compliance certificate in respect of part only, as specified below and in the attached particulars, of the building work under the above building consent.

This certificate is issued subject to the conditions specified below and in the attached pages(s) headed "Conditions of Code of Compliance Certificate Number 91762" (being this certificate).

Signed for and on behalf of the Council:

Name: **P R Clarke**

Signature: ....

Position: Building Control Officer

Date: 17/04/2000

Conditions of Code Compliance CertificateNo: ABA 91762

The Code Compliance Certificate is issued subject to following Conditions:

---

1) Preline inspection only.

2) Inspection covers insulation to walls, nailing of bracing elements, and pipework within the wall cavities.

3) Code Compliance Certificate does not cover internal finishings, floor coverings, foundations, drainage or decks/steps, etc.

Date: 17/ 4/00

Signed:

WAIKATO DISTRICT COUNCIL

WAIKATO DISTRICT COUNCIL

BUILDING CONSENT NO. ABA 91762

Section 35, Building Act 1991

ISSUED BY: WAIKATO DISTRICT COUNCIL

APPLICANT	PROJECT
Name: HIGHBROOK HOLDINGS LIMITED Mailing Address: C/- A HAMMOND, 839 OROPI RD, R D 3, TAURANGA 3021	All ☑ Stage No ..... of an intended ..... stages
PROJECT LOCATION	
Street Address: STATE HIGHWAY 23, WHATAWHATA	New or Relocated Building ☑ Alteration/Addition ☐ Demolition ☐
LEGAL DESCRIPTION	
Property Number: 2001906 Valuation Roll No: 06371 10401 Legal Description: LOTS 31-33 DPS 71143 LOTS 2 3 32 DPS 774	Intended Use(s) in detail: TEMPORARY RELOCATABLE OFFICE **Intended Life:** Indefinite, not less than 50 years ☑ Specified as ..... years ☐ Estimated Value: $ 15000
COUNCIL CHARGES	
The balance of Council's charges payable on uplifting of this building consent, in accordance with the tax invoice are: Total: $ PAID ALL FEES ARE GST INCLUSIVE	Signed for and on behalf of the Council: Name: ..... Building Consents Officer Date: 06/09/1999

This building consent is a consent under the Building Act 1991 to undertake building work in accordance with the attached plans and specifications so as to comply with the provisions of the building code. It does not affect any duty or responsibility under any other Act not permit any breach of any other Act.

This building consent is issued subject to the conditions specified in the attached 1 pages headed "Conditions of Building Consent No ABA 91762"

** Waikato District Council ***
Conditions in respect of the Building Act 1991
Section 34(4), Building Act 1991

Conditions of Building Consent No: ABA 91762 Page: 1

---

1) Can you please ensure that 24 hours notice is given prior to requiring the following inspection:
a) Prelining
(The owner or builder shall be on site at the time of inspection)

2) Trusses or rafters shall be fixed at tails to top plate with wire dogs at each end.

3) Roof shall be braced to comply with Table 10.1 NZS 3604, 1990.

4) Provide breather type building paper on outside of frame, to extend to top plate level.

5) Outside sheathing shall be installed behind the terrace to protect the sub floor framing from the weather.

6) Habitable rooms shall have at least 5% of room area in opening sashes and 10% in glazing.

7) Fibreglass insulation shall be a minimum of 75mm in walls and 100mm in ceilings or shall comply with the requirements of E3 AS1 of the New Zealand Building Code 1991.

8) Plumbing preline inspection shall be required.

9) Trusses to be at 1200mm centres.

10) Lapse and cancellation of building consent
This building consent shall lapse and be of no effect if:
a) The building work concerned has not been commenced within 6 calendar months after the date of issue of the consent; or
b) Reasonable progress on the building work has not been made within 12 calendar months after work has commenced.
The Council can exercise its discretion in either case.

Date: 6/ 9/99

Signed:

** Waikato District Council ***

WAIKATO DISTRICT COUNCIL
15 Galileo Street, Ngaruawahia
Private Bag 544. Ngaruawahia
Phone: 0-7-824 8633. Fax 0-7-824 8091.

BUILDING CONSENT APPLICATION

11.10 AM

APPLICATIONS SHOULD BE MADE AT ONE OF THESE OFFICES:
HAMILTON, HUNTLY, NGARUAWAHIA, RAGLAN
(Addresses are on the back of this form)

Section 33, Building Act 1991
(Attach all relevant documents in duplicate)

APPLICATION NUMBER: 9162

PART A : GENERAL
(Complete Part A in all cases)

1. OWNER	2. CONTACT (if not owner)
Surname Hammond	Surname Hammond
First Names Andrew	First Names Dudley George
Postal Address 839 ORORI Rd	Postal Address 839 Orori Rd RD3
Tauranga	Tauranga
Phone No. ..... Fax No.	Phone No. 025443568 Fax No. 075430391
Signature ..... Date	Signature D Hammond Date 2.9.99
Name of previous property owner. ..... (if property has been recently sold a copy of sale and purchase agreement is required)	(Signed by or for and on behalf of the owner)

FILE COPY

3. PROPOSED LOCATION OF BUILDING WORK
Address Lot 19 Highbrook

4. LEGAL DESCRIPTION	Lot(s) (Section)	DP/S (Block)	AREA OF SITE (M²)
Valuation Roll Number: 6371-10401	19	79021	

5. PROJECT

New Building	✓
Alteration	
Relocation	
Demolition	
Other	

Intended Life:
NOT less than 50 years ✓
OR
Less than 50 years
specified as ..... years

Description of work:
Intended use(s) in detail:
Site office
TO CONSTRUCT RELOCATABLE OFFICE.

Nature of Ground .....
Ground floor area of project 48 sq m
Upper floor area of project .....

Estimated Value $15000 (GST incl)

☐ Application for building only, in accordance with Project Information Memorandum No. .....
☐ Application for Building Consent and Project Information Memorandum.

I wish to uplift the consent at the ..... Office

PART D

COMPLETE AS FAR AS POSSIBLE IN ALL CASES
(GIVE NAME, ADDRESSES, TELEPHONE NUMBERS. GIVE RELEVANT REGISTRATION NUMBERS IF KNOWN).

13.

DESIGNER(S)
Name: Versatile Garages
Address: Tauranga
Phone Number: ..... Fax Number: .....

BUILDER
Name: Andy Etchells
Address: .....
Phone Number: 021978601 Fax Number: 078490200

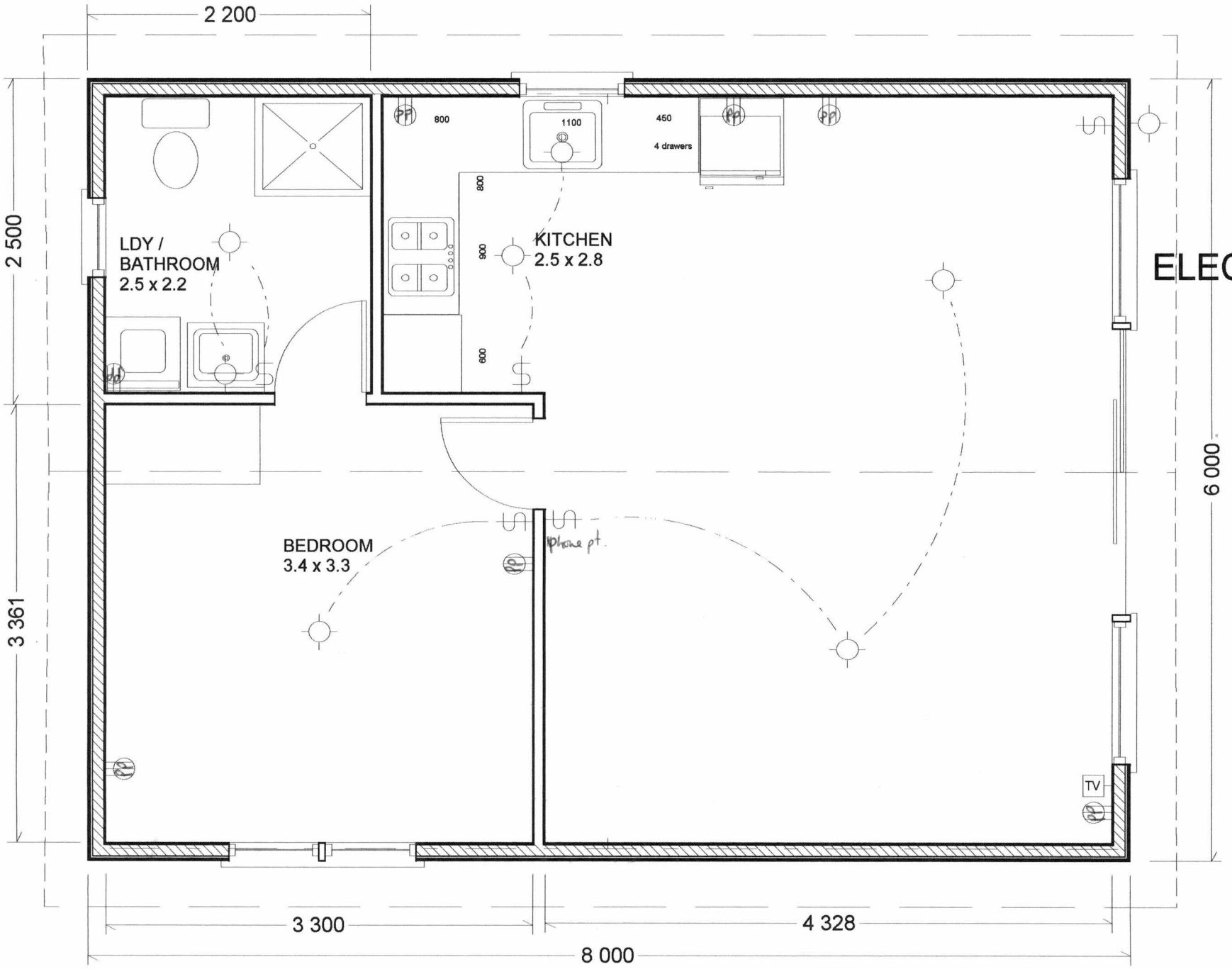
DRAINLAYER
Name: Plumbing Works Reg. No. .....
Address: .....
Phone Number: 0785530 Fax Number: .....

PLUMBER
Name: Dave Etchells Plumbing Works Reg. No. 10904
Address: .....
Phone Number: 078553005 Fax Number: .....

CERTIFIERS
Name: ..... Reg. No. .....
Address: .....
Phone Number: ..... Fax Number: .....
Certifying .....

Name: ..... Reg. No. .....
Address: .....
Phone Number: ..... Fax Number: .....
Certifying .....

IF MORE THAN NUMBER ALLOWED FOR PLEASE PROVIDE DETAILS ON A SEPARATE SHEET.



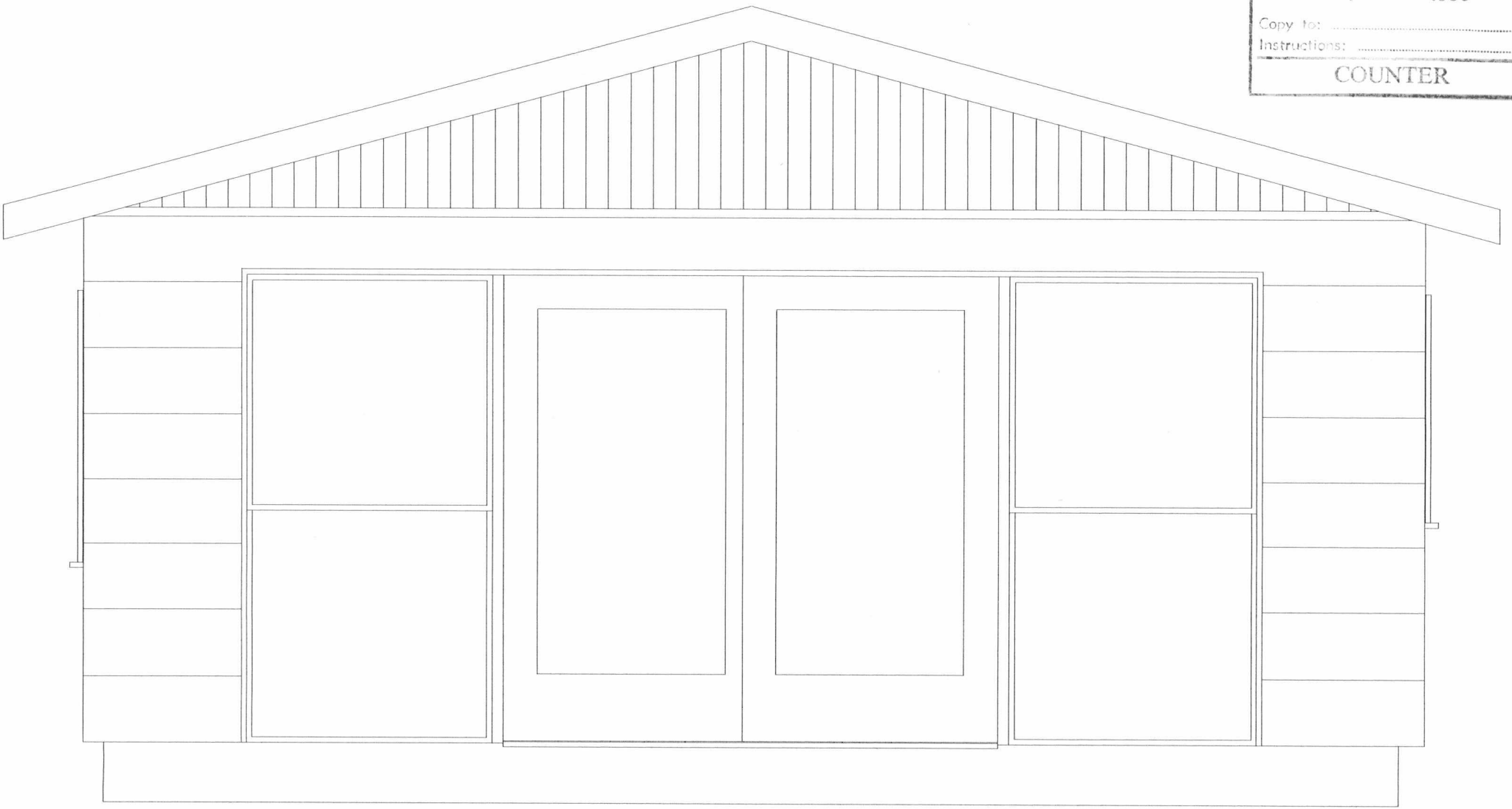
ELECTRICAL PLAN

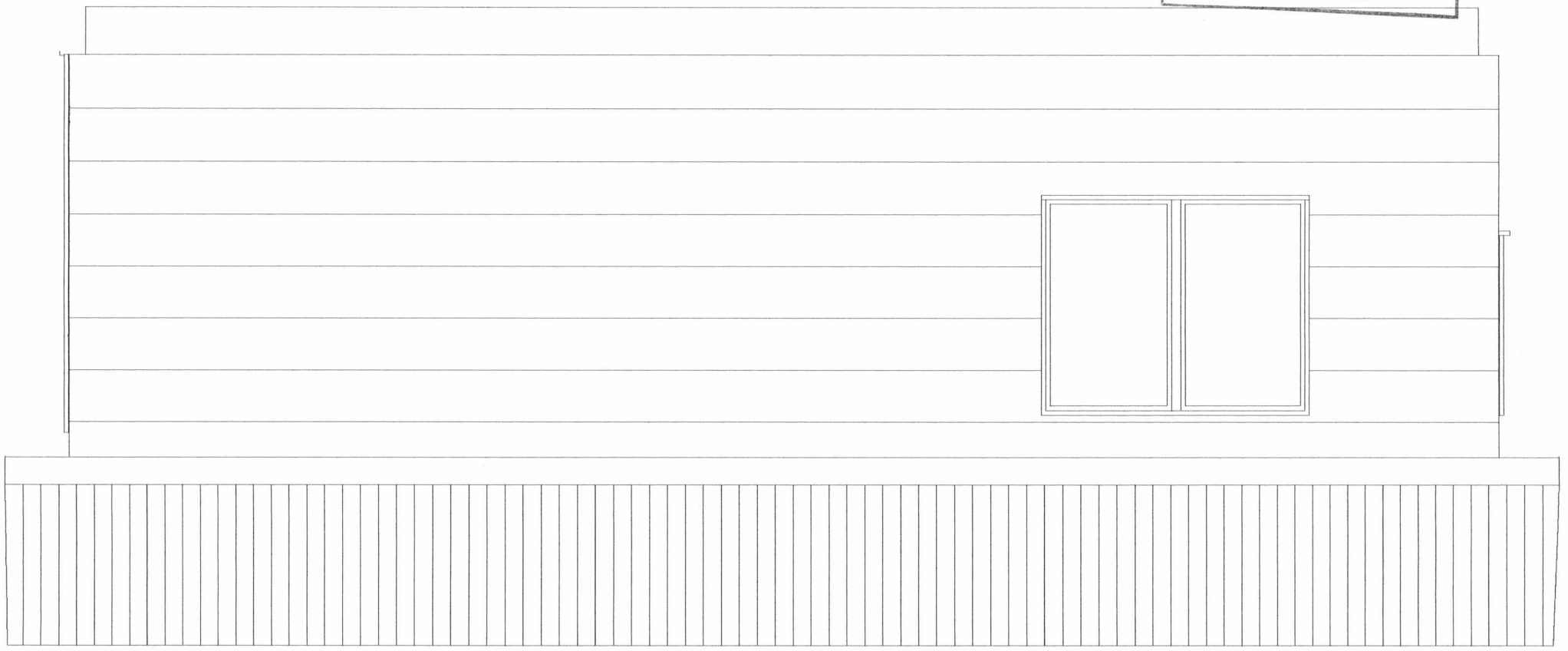
7 lights
1 outside light
7 double power points
1 TV point
1 telephone pt.

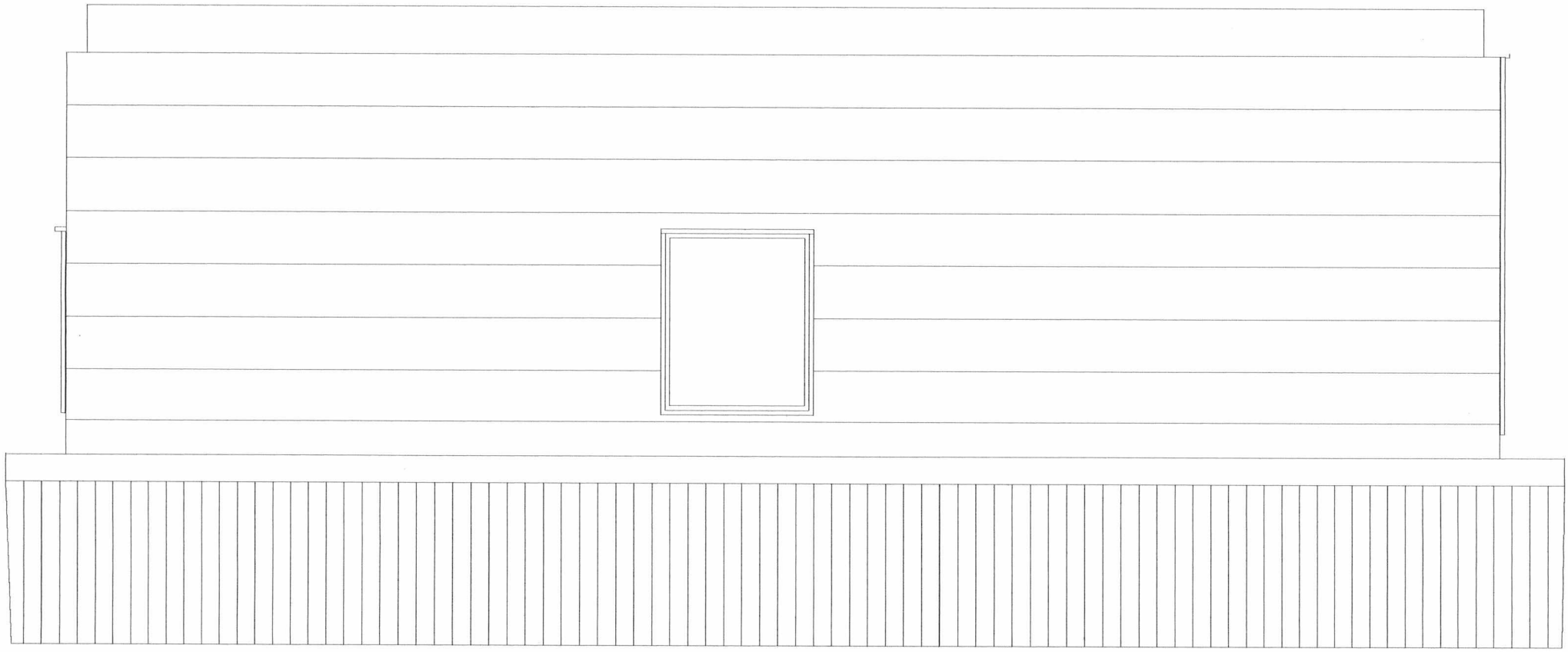
(gas hob & gas HW)

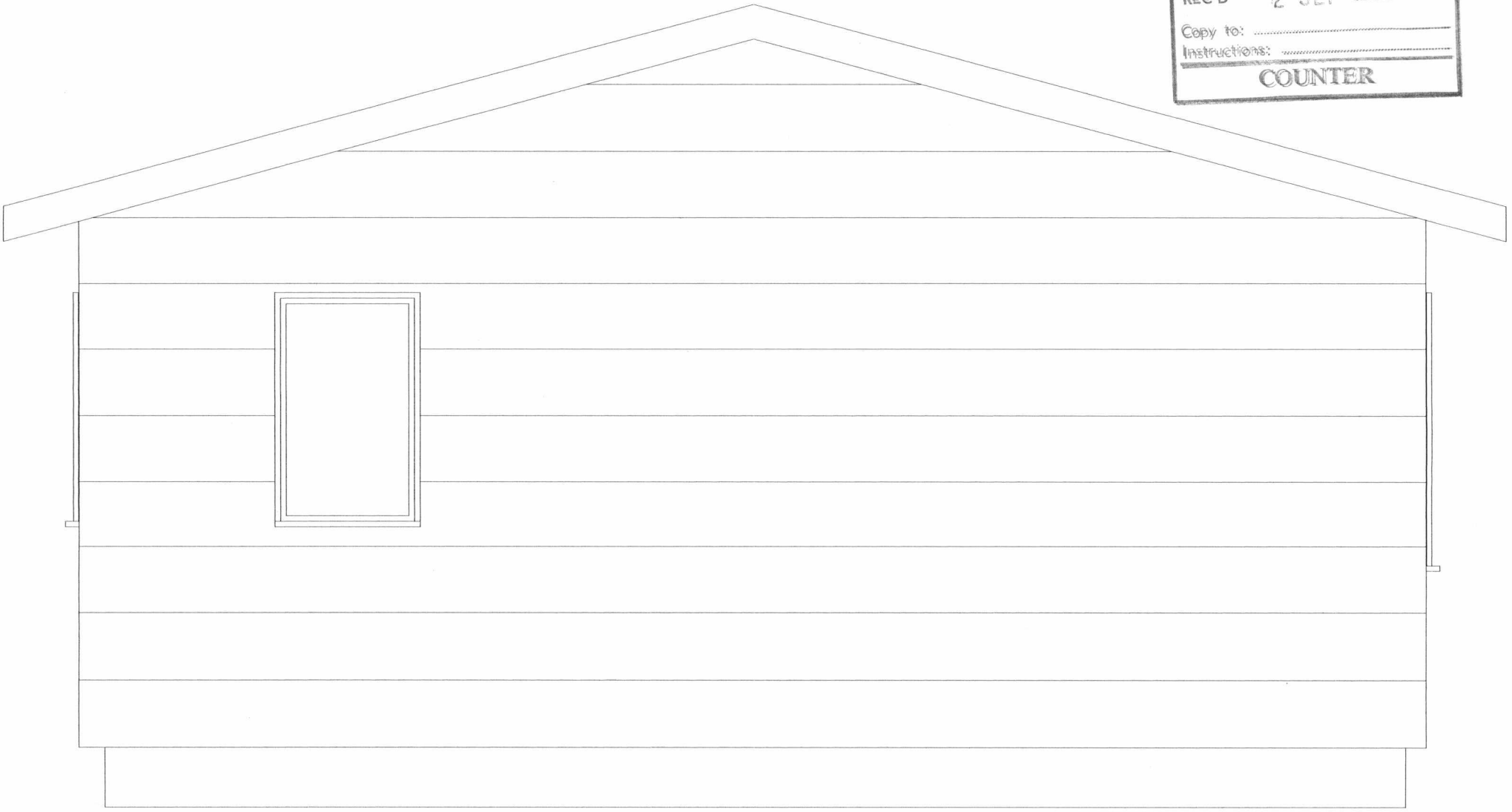
$ switch
PP
light

LIVING AREA
47.9 sq m









Association Consulting Engineers of New Zealand

New Zealand Institute of Architects

Institution Professional Engineers of New Zealand

P.I.M. No.....

Building Regulation Clause(s).....B1.....

PRODUCER STATEMENT - DESIGN

ISSUED BY: H.E. ARCHER
(Suitably qualified Design Professional)

TO: VERSATILE BUILDINGS LIMITED
(Owner)

IN RESPECT OF: EZY - BUILD GARAGE - (ROOF PURLINS, STUD GRADES AND SIZES AND WALL BRACING)
(Description of Building Work)

BECA CARTER HOLLINGS AND FERNER LTD *(Design Firm)* has been engaged by VERSATILE BUILDINGS LIMITED *(Owner/Developer/Contractor)*

to provide STRUCTURAL DESIGN AND CHECKING *(Extent of Engagement)* services in respect of the

requirements of Clause(s) B1 of the Building Regulations 1992 for

☐ All ☑ Part only as specified

of the building work. The design has been prepared in accordance with B1/VM1 *(verification method(s)/acceptable solution(s))*

(respectively) of the approved documents issued by the Building Industry Authority and the work is described on

GANG NAIL - LUMBERLOK drawings titled EZY - BUILD GARAGE TRUSS & WALL DETAILS AND WEATHERBOARD BRACING ELEMENT

and numbered CH4100 / 101 AND CH4100 / 104 and other documents according to which the building is proposed to be constructed.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of $200,000, **I BELIEVE ON REASONABLE GROUNDS** that subject to:

(I) the verification of the following design assumptions
- GROUND CONDITIONS COMPLYING WITH NZS3604:1990 SECTION 3.
- GANG NAIL EZY-BUILD GARAGE DESIGN, COMPLIES WITH SECTION B1 OF THE BUILDING REGULATIONS 1992.

and (ii) all proprietary products meeting the performance specification requirements, the drawings specifications, and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the building code.

.....
(Signature of suitably qualified Design Professional)

Date 5 September 1997

BE (Civil), MIPENZ, Reg. Eng.
(Professional Qualifications)

ERB/AERB Reg No. 6079

122 Victoria Street, Christchurch
(Address)

Member ACENZ ☑ IPENZ ☑ ☐ NZIA

This form to accompany Form 3 of the Building Regulations 1992 for the application of a Building Consent

5 September, 1997
3A09269/15
$JL79P01.DOC

GANG-NAIL
GROUP LTD

PRODUCER STATEMENT - DESIGN
GANG-NAIL GROUP LIMITED

CH4100
GANG-NAIL DESIGN

The building design CH4100 sheets 101 102 103 & 104 have been compiled using sound and widely accepted engineering principles and in accordance with NZS4203:1992 and NZS3603:1993 as verification methods and acceptable solutions of the approved documents issued by the Building Industry Authority to satisfy the requirements of Clause B1:Structure of the Building Regulations 1992.

As independent design professionals covered by a current policy of Professional Indemnity Insurance to a minimum value of $200,000
I BELIEVE ON REASONABLE GROUNDS that subject to:

1. The verification of all design assumptions detailed in the drawings and
2. All proprietary products meeting the performance specification requirements,

the drawings, specifications and other documents according to which the building is proposed to be constructed, comply with the relevant provisions of the Building Code.

Stephen Anthony COLL T.M. IPENZ, MNZIOB

for GANG-NAIL GROUP LIMITED
20 KOTZIKAS PLACE
CHRISTCHURCH
NEW ZEALAND

Date: 21 August, 1997

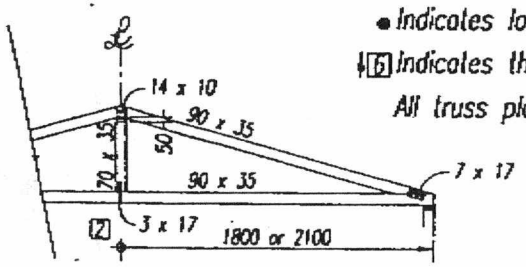
Correspondence from Christchurch Office

Auckland Office: 5 Zelanian Drive, East Tamaki, P.O. Box 58-014
Greenmount, New Zealand. Phone 0-9-274 7109, Fax 0-9-274 7100

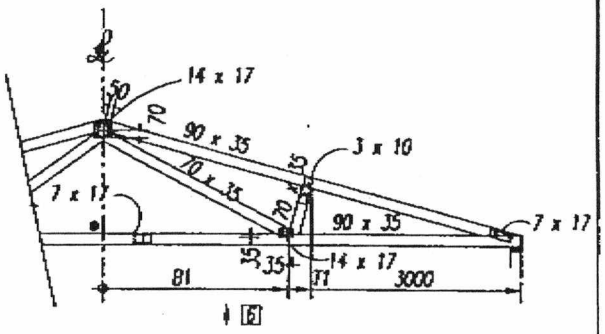
Christchurch Office: 20 Kotzikas Place, Sockburn, P.O. Box 8387
Riccarton, New Zealand. Phone 0-3-348 8691, Fax 0-3-348 0314

GANG-NAIL® LUMBERLOK® BOWMAC® TRI FOLD®

NOTE:
All trusses 15° pitch
● Indicates location of Bottom Chord Brace
[6] Indicates the Truss Camber (typical)
All truss plates are Gang Nail GN10 type



4000 SPAN



6000 SPAN

Table shows the minimum Grades necessary for each type of garage.

	4m WIDE					
	2.1 Low	2.4 Low	2.1 Med	2.4 Med	2.1 Hgh	2.4 Hgh
90x35 Studs (Machine Stress Graded) UNDER TRUSSES	F5	F5	F5	F8	F8	F9
90x35 Studs (Machine Stress Graded) IN-BETWEEN	F5	F5	F5	F5	F8	F8
90x35 Studs (Visually Graded)	OK	OK	OK	OK	NG	NG
90x45 Purlins – in-between trusses	F5	F5	F5	F5	F5	F5
Extra Wall Bracing Required	NO	NO	NO	NO	NO	YES

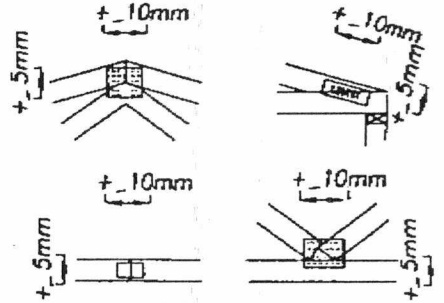
	6m WIDE					
	2.1 Low	2.4 Low	2.1 Med	2.4 Med	2.1 Hgh	2.4 Hgh
90x35 Studs (Machine Stress Graded) UNDER TRUSSES	F5	F5	F5	F8	F8	F9
90x35 Studs (Machine Stress Graded) IN-BETWEEN	F5	F5	F5	F5	F8	F8
90x35 Studs (Visually Graded)	OK	OK	OK	OK	NG	NG
90x45 Purlins – in-between trusses	F5	F5	F5	F5	F8	F8
Extra Wall Bracing Required	NO	NO	NO	NO	NO	YES

Top Plates for all EzyBuild Garages shall match the tabulated values above.
STUDS ARE AT 1.0m CENTRES
Extra Wall Bracing = consists of angle brace or strip brace running in both directions in three walls. (refer sheet 104)
OK – appropriate for use, NG – not appropriate for use
Versaclad cladding shall be nailed at 117mm centres to all studs (refer sheet 104)
Versaclad cladding shall be nailed at 500mm centres to the bottom plate.

SPAN AND LOAD CHART

Live Load = 0.25kPa (Distr)
= 1.0Kn (Conc)
Dead Load =0.15kPa (Top chord)
(Iron Roof, no ceiling)
Wind Load Cpi. = 0.50 max
Cpe = 0.80 max
Max Snow Load – = 0.50kPa
Max Wind Load = High
Truss Centres = 2000
Purlin Spacing = 1500 max

TIMBER:
The specification of timber shall be as follows:
Grading: MSG Radiata Pine Min. F5 or No1
Framing Grade 90x35 or 90x45 Kiln Dried.
Treatment: T.P.A. Specification H1/Chem Free Kiln Dried Radiata pine.
Moisture Content: Dry



Typical positioning tolerances for plates

MANUFACTURING TOLERANCES.
NOTE:
1. Plates are to be fully pressed home on both sides of joints.
The plate axis must be located in the specified or indicated direction.
2. Joints are to be tightly butted along one edge.
The maximum gap between surfaces must not exceed 3mm at time of fabrication.

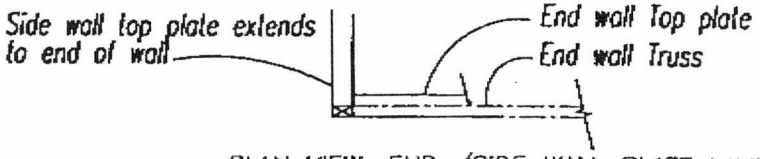
GANG-NAIL – LUMBERLOK
designed by
TIMBER ENGINEERING CONSULTANTS
Auckland Office Christchurch Office

EZY-BUILD GARAGE DRAWINGS

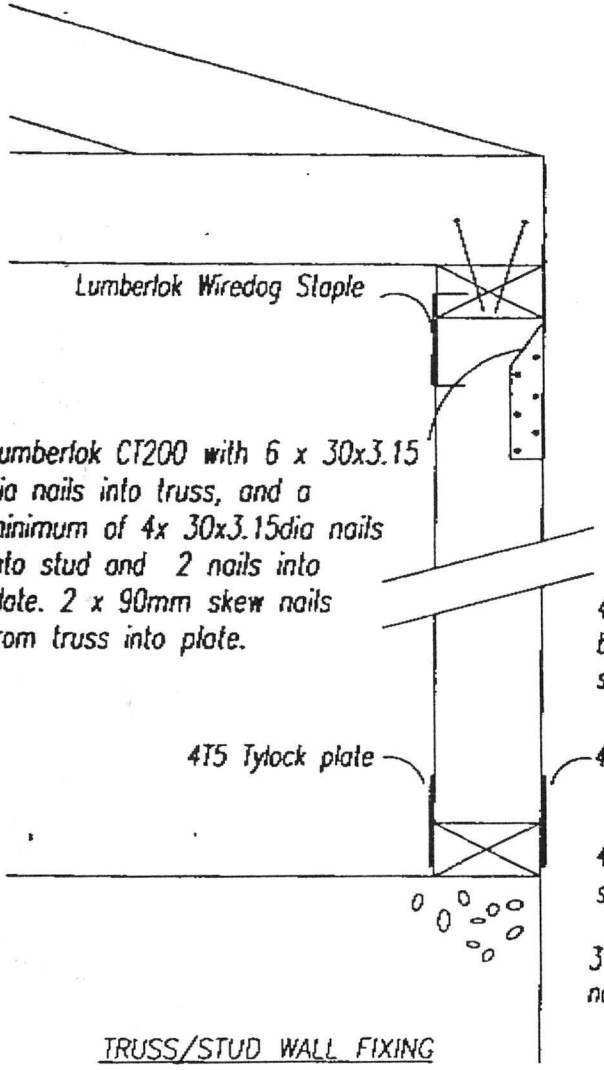
DRAWING TRUSS & WALL DETAILS
DESIGN & DRAWN: S.A. Coll & B.O'Connor
DRAWING NO GH4100

LOAD DETAILS

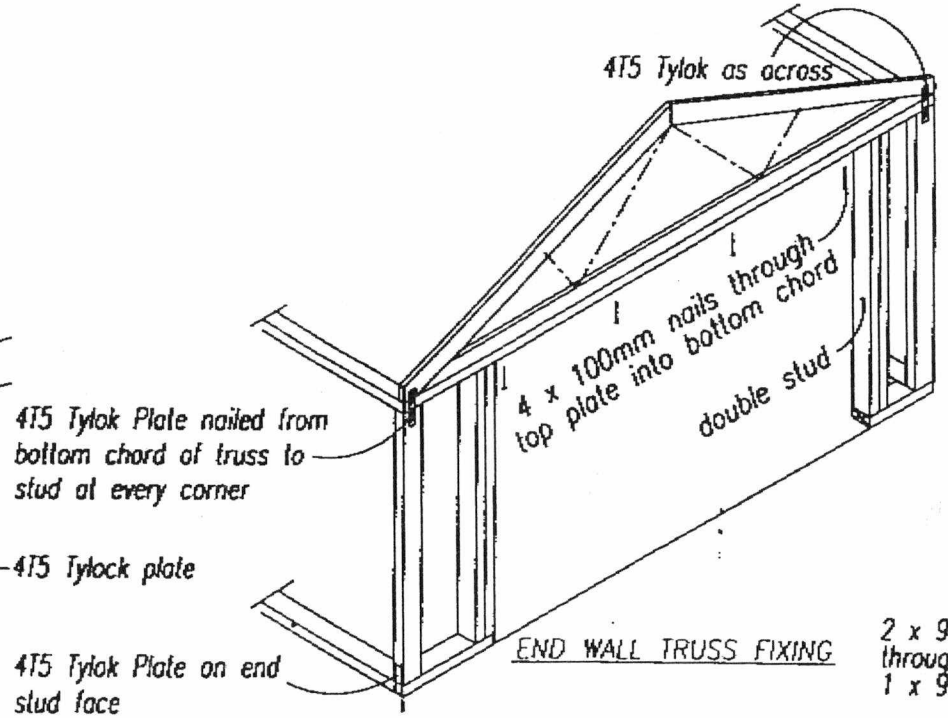
Live Load = 0.25kPa (Distl.)
= 1.0Kn (Conc)
Dead Load =0.15kPa (Top chord)
(Iron Roof, no ceiling)
Wind Load Cpi = 0.50 max
Cpe = 0.80 max
Max Snow Load – = 0.50kPa
Max Wind Load = High
Truss Centres = 2000
Purlin Spacing = 1500 max



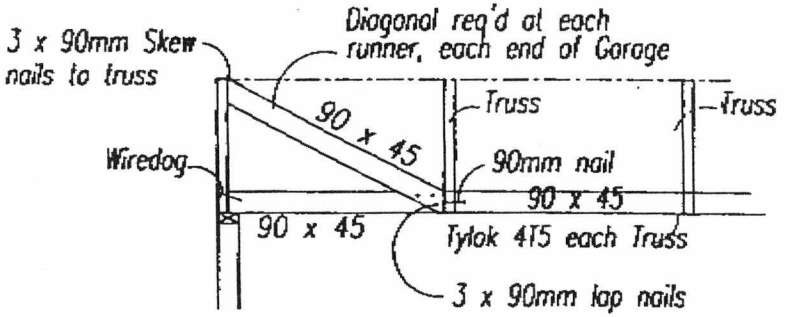
PLAN VIEW: END /SIDE WALL PLATE LAYOUT



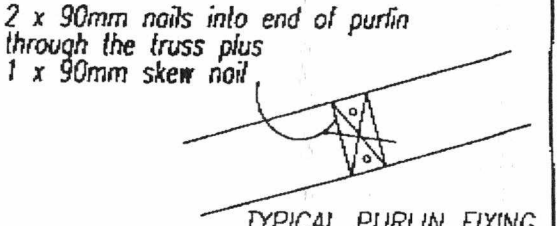
TRUSS/STUD WALL FIXING



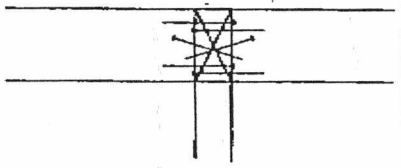
END WALL TRUSS FIXING



BOTTOM CHORD BRACE DETAIL



TYPICAL PURLIN FIXING

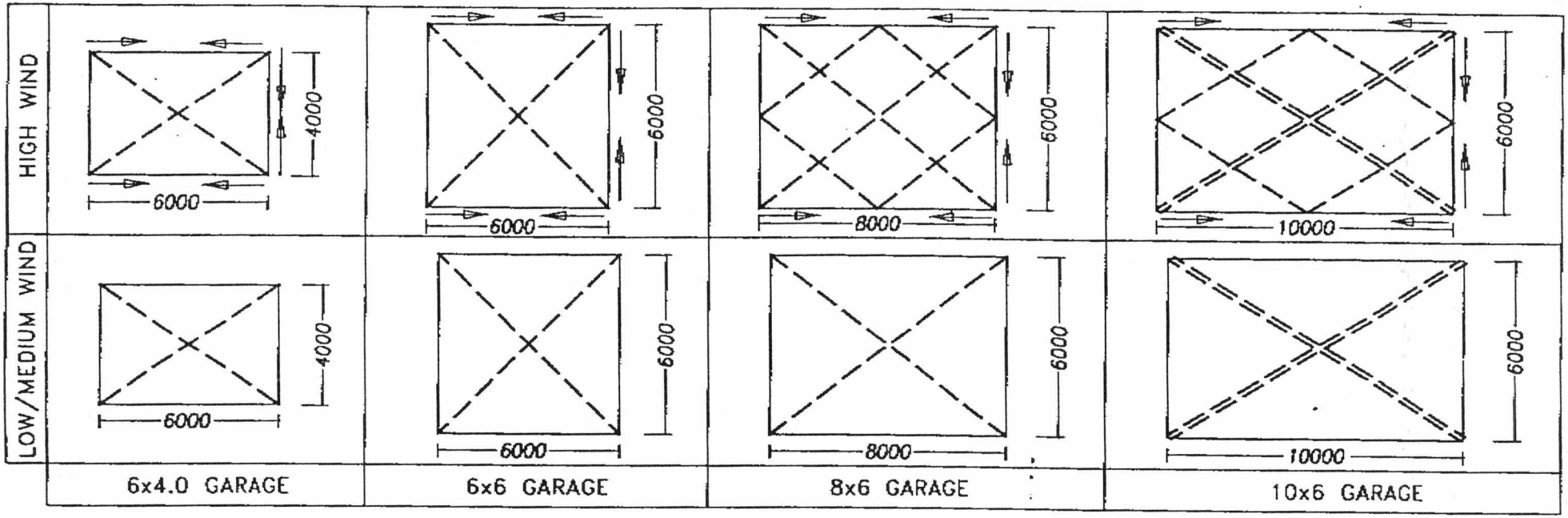


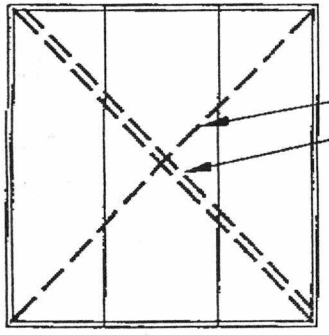
TYPICAL PURLIN FIXING CROSS-SECTION

GANG-NAIL – LUMBERLOK
designed by
TIMBER ENGINEERING CONSULTANTS

EZY-BUILD GARAGE DRAWINGS

DRAWING
TRUSS/STUD/PURLIN FIXING DETAILS





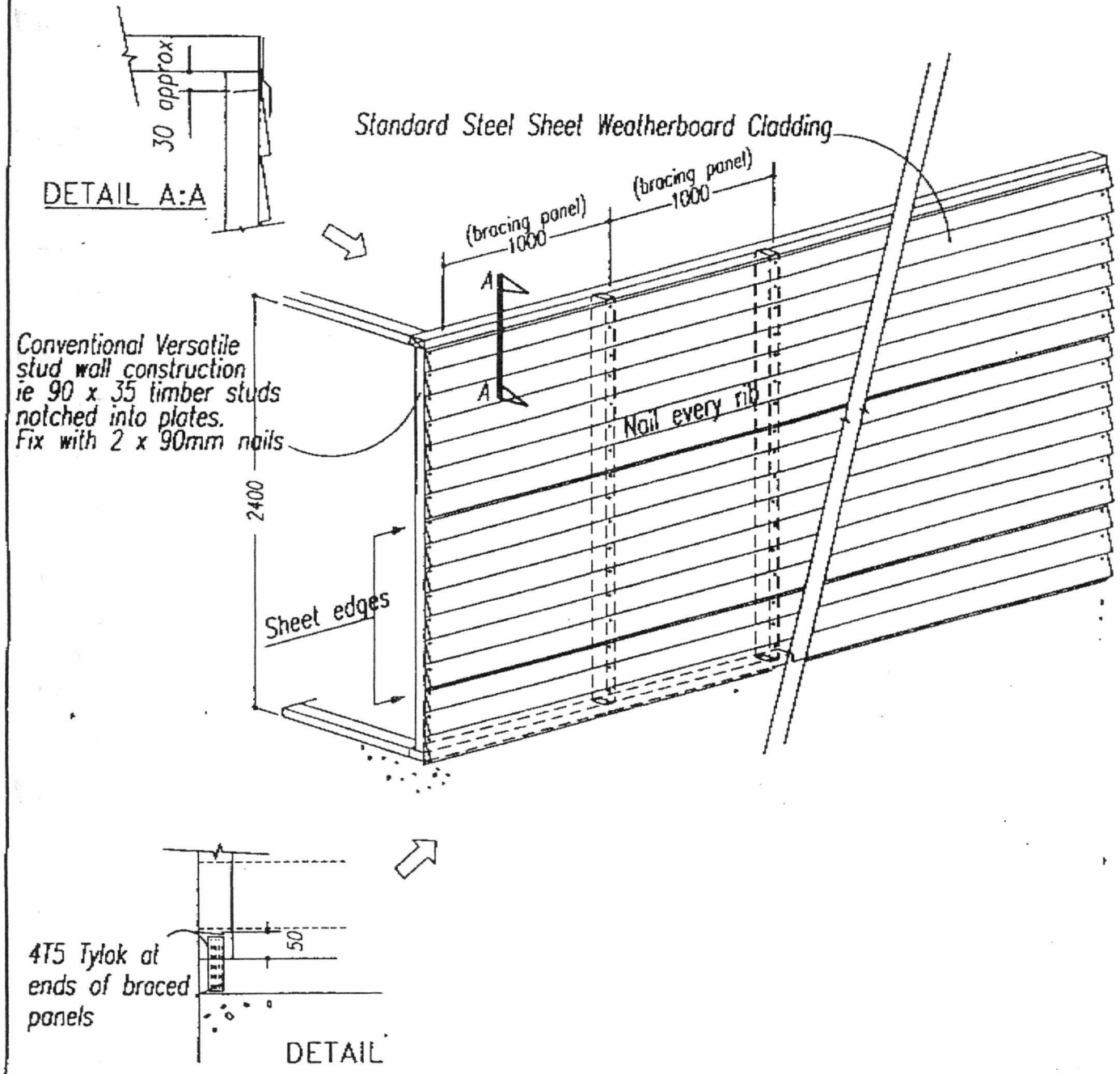
BRACING NOTES

1. *Indicates a single row of Lumberlok Strip Brace tensioned up and laid over the top of purlins. Fix each end with 3 x 75 x3.15 nails. (typical)*
2. *Indicates a double row of Lumberlok Strip Brace Installed as per step 1.*
3. *Wall bracing as per sheet: 104 Except 2.4m stud in High Wind*
4. *Indicates a single length of Angle Brace in wall set at approx 45°.Required for 2.4 stud only Fix each end with 3 x 60 x 3.15 nails and at each stud crossing with 2 x 60 x 3.15 nails (typical)*
5. *Maximum Stud height of Building is 2.420m*

GANG-NAIL — LUMBERLOK
designed by
TIMBER ENGINEERING CONSULTANTS

EZY–BUILD GARAGE DRAWINGS

DRAWING
WINDLOAD ROOF BRACING REQUIREMENTS



NOTE

1. Fix weather board with ϕ 2.8 x35mm Flat Head galvanised nails nailed below each rib of cladding.

2. Locate nails as indicated on the drawing of a wall section.
All sheet edges to be fixed to studs at 1000crs plus intermediate nailing between sheet edges at every rib.
Fixing along the vertical sheet edges to be at every rib.

3. "Bracing Ability"
Refer to Producer Statement; Beca Carter Hollings & Ferner for:
bracing ability of weather board cladding in accordance with results from:
BRANZ P21 test No: STR 346

4. Bracing Panels (defined as 1000mm wide bacing panels 2.1 or 2.4 high)

3 bracing panels are required in each of the 3 walls without a tilta-door. Two of these must go at each end of a wall plus one more anywhere along the wall except where there is a side door. It then must go beside the side door. Windows can go in any other available place between studs.

GANG-NAIL - LUMBERLOK designed by TIMBER ENGINEERING CONSULTANTS

EZY-BUILD GARAGE DRAWINGS

DRAWING WEATHERBOARD BRACING ELEMENT

02/09/1999 11:50 64-7-5787808 VERSATILE BUILDINGS PAGE 07

Waikato DISTRICT COUNCIL

FINAL CODE COMPLIANCE CERTIFICATE

Section 43(3) Building Act 1991
ISSUED BY THE WAIKATO DISTRICT COUNCIL
BUILDING CONSENT NUMBER: BC0068/04

APPLICANT:	**PROJECT**
G A Wilson, J Wilson 1435 State Highway 23 R D 9 Hamilton 2021	Dwelling **Intended use(s) in detail:** DWELLING
CONTACT:	
G A Wilson 1435 State Highway 23 R D 9 Hamilton 2021	Indefinite but not less than 50 years
PROJECT LOCATION:	
1437 B State Highway 23 WHATAWHATA	
LEGAL DESCRIPTION:	
Property Number: 2007123 Valuation Roll Number: 06371/104.29 Legal Description: LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS	

This is a final Code Compliance Certificate issued in respect of all the building work under the above building consent.

Signed for and on behalf of Council:

Signature: NP Koning

Name: Nicholas Koning
Position: **Building Control Officer**
Date: 16 January 2008

FILE

Waikato DISTRICT COUNCIL

BUILDING CONSENT NO: BC0068/04

Section 35, Building Act 1991
ISSUED BY: WAIKATO DISTRICT COUNCIL

APPLICANT	PROJECT
Name & Address: ~~G Wilson, J Wilson~~ ~~30a Winstone Ave~~ ~~Hamilton 2001~~ 1435 SH WAY 23 RD9 Hamilton	Dwelling
CONTACT	**CATEGORY**
Name & Address: G Wilson ~~30a Winstone~~ Ave ~~Hamilton 2001~~	Dwelling Intended Life: 50 Year(s) Indefinite but not less than 50 years ☐ Total Estimated Value: $ 54000
PROJECT LOCATION	
Street Address: State Highway 23 WHATAWHATA	
LEGAL DESCRIPTION	
Property Number: 2007123 Valuation Number: 6371/104.29 Legal Description: LOT 2 DPS 77487	
COUNCIL CHARGES	
The balance of Council's charges payable on uplifting of this building consent, in accordance with the tax invoice are: Total: $586.10 **ALL FEES ARE GST INCLUSIVE**	Signed for and on behalf of the Council: DProud. Donna Proud **ENVIRONMENTAL ADMINISTRATION** Date: 11 May 2004

The building consent is a consent under the Building Act 1991 to undertake building work in accordance with the attached plans and specifications so as to comply with the provisions of the building code. It does not affect any duty or responsibility under any other Act nor permit any breach of any other Act.

This building consent is issued subject to the conditions specified in the attached 2 pages headed "Conditions of Building Consent BC0068/04".

Waikato District Council
Conditions of Building Consent Certificate No: BC0068/04

The Building Consent Certificate is issued subject to the following conditions:

1. Owner/Builder MUST locate boundary pegs prior to Council carrying out a foundation inspection.

2. Provide perforated type insulation to undersite of timber floors.
3. Outside sheathing shall be installed behind the terrace to protect the sub floor framing from the weather.

4. Fibreglass insulation shall be a minimum of 75mm in walls and 100mm in ceilings or shall comply with the requirements of E3 AS1 of the New Zealand Building Code 1991.

5. Fixing of anchor and braced piles shall be in accordance with NZS 3604, 1999.

6. The building consent may not authorise you to build. You are advised to read carefully the Project Information Memorandum issued with this building consent to find out if there are other consents required before you start to build. Failure to do so could result in enforcement action being taken.

7. Lapse and cancellation of building consent.
This building consent shall lapse and be of no effect if:

The building work concerned has not been commenced within 6 calendar months after the date of issue of the consent; or

Reasonable progress on the building work has not been made within 12 calendar months after work has commenced.

The Council can exercise its discretion in either case.

8. 24 hours' notice shall be required for all mandatory inspections including:

Foundation (prior to pouring concrete)

Bond Beam (prior to pouring concrete)

Floor (prior to pouring concrete)

Prelining

Insulation

Final Inspection to be called for (the owner or builder shall be on site at the time of inspection)

Owner/builder to locate boundary pegs prior to council carrying out a foundation inspection.

9. Stairs, stair handrails and barriers shall comply with the requirements of the NZ Building Code D1/AS1,B1/AS2 and F4/AS1.

10. All drainage and plumbing shall comply with the New Zealand Building Code 1991.

11. At least 24 hours' notice shall be required for plumbing and drainage inspections.

12. Plumbing preline inspection shall be required.

13. An as built drainage plan and an electrical certificate of compliance is required on completion.

14. Verandah posts shall comply with Figure 9.2 and 9.3 NZS 3604, 1999.

15. Septic tank and effluent disposal shall comply with AS/NZS 1547: 2000.

16. Stormwater shall be disposed of in an approved manner.

17. All roof trusses shall be designed and fabricated by a certified manufacturer.

18. Pile footings shall comply with Table 6.1 NZS 3604, 1999.

19. All sub floor timber treatment shall comply with NZS 3640, 1999. Minimum treatment to piles H5, bearers and joists H1 or H3, all deck timber H3 or H4.

20. Wall framing shall comply with table 8.2, 8.14, 8.18, 10.9, 10.10 or 10.13 figure 8.12 NZS 3604: 1999.

21. Trusses or rafters shall be fixed at tails to top plate with wire dogs at each end.

22. The roof shall be braced to comply with Table 10.1 NZS 3604, 1999.

23. The moisture barrier beneath the floor shall comply with the New Zealand Building Code 1991.

24. Provide breather type building paper on outside of frame, to extend to top plate level.

25. The heating appliance shall be installed in accordance with the manufacturer's instructions.
The applicant shall inform the Council when the installation is ready to be inspected.
The heating appliance shall be inspected prior to its being used.
The ceiling plate is not to be fixed until the appliance has been inspected.
Where heat shields are required, spacers shall be of a non-combustible material, i.e. not timber.

26. The concrete hearth shall be a minimum of 65mm thick and secured on all four sides in accordance with the New Zealand Building Code 1991.

27. The flue shall comply with NZS 7421, 1990, for sheet metal chimneys.

28. Inbuilt and free standing heaters shall be bolted to the hearth to prevent seismic movement.

Date: 11 May 2004

Signed:

pp: Brand.

Nicholas Koning
Waikato District Council

Council Copy.

0068/04

Hamilton City Council

REGULATORY BUILDING CONTROL

PRODUCER STATEMENT - DESIGN

(Guidance notes on the use of this form are printed on the reverse side)

ISSUED BY : RANJIT WANIGASEKERA LTD. CONSULTING, STRUCTURAL AND CIVIL ENGINEERS
(Suitably qualified Design Professional)

TO : Mr G. Wilson
(Owner)

IN RESPECT OF : Structural Design modifications
(Description of Building Work)

AT : Hegelbrath Estate

Whatawhata
(Address)

LOT 2 DPS .... SO ....

RANJIT WANIGASEKERA LTD. CONSULTING, STRUCTURAL AND CIVIL ENGINEERS (Design Firm) has been engaged by Mr D. Cowie (Owner/Developer/Contractor)

to provide ENGINEERING CONSULTANCY services in respect of the requirements of Clause(s) B (1) of the Building Regulations 1992 for the building work.

The following specific design elements have been considered :

Lintel to Kitchen
extension to living room walls
and chimney stack
extension 150x50 rafters to porch

Drawing by Sketches attached

Titled :

The following specific design elements have not been considered :

ALL ITEMS NOT LISTED ABOVE

Drawing No.

Structure Class I II III
Verification level 1 2 3

(refer reverse of page for explanation of verification)

Verification to be carried out by .... (if known)

Design prepared in accordance with .... (Codes of Practice used)

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of $200,000, I BELIEVE ON REASONABLE GROUNDS that subject to:

(i) the site verification of the following design assumptions ....

and (ii) all proprietary products meeting the performance specification requirements, the drawings, specifications, and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the building code.

[signature]

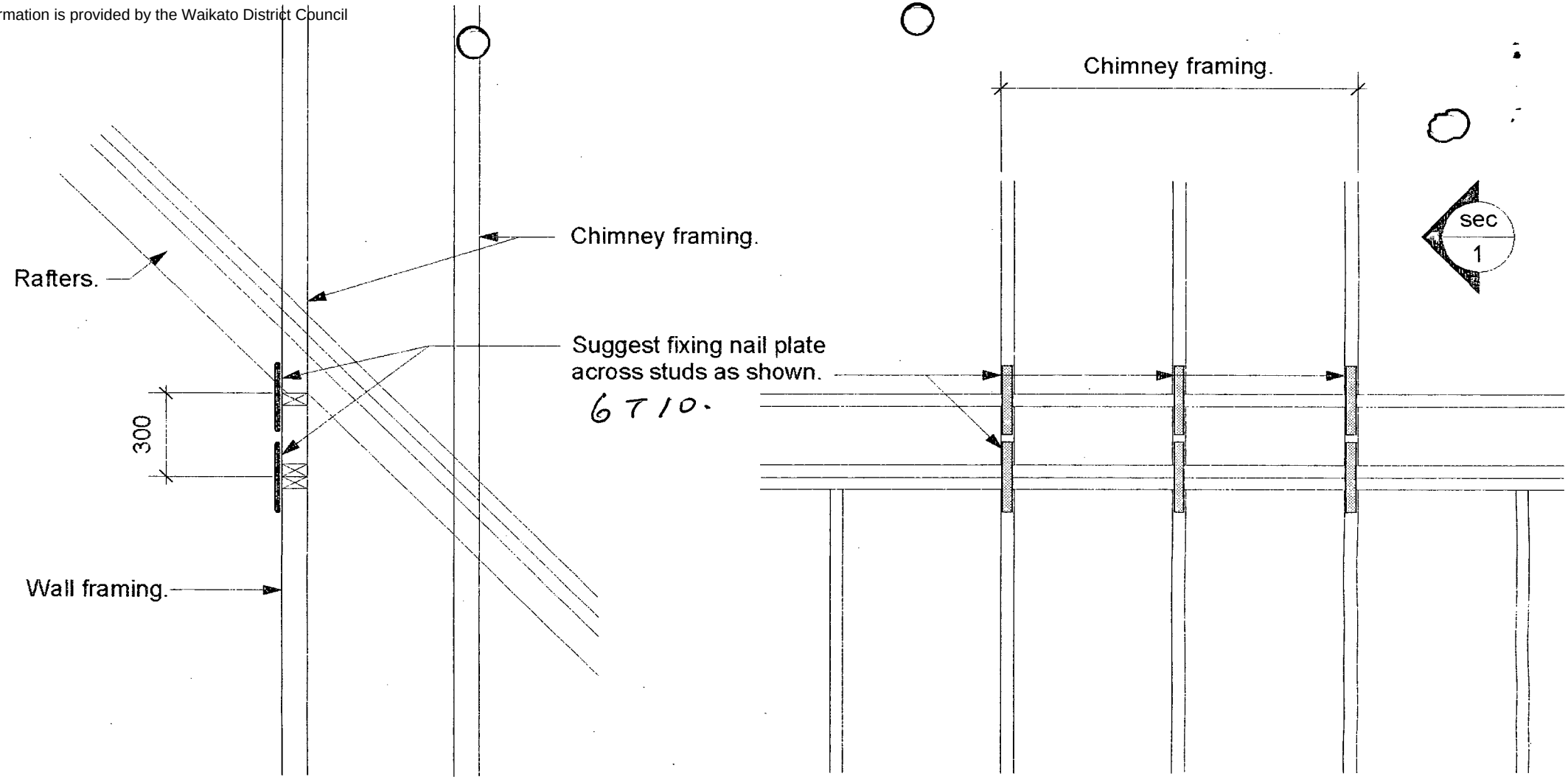
Date 30/6/05

RANJIT WANIGASEKERA LTD.
CONSULTING, STRUCTURAL AND CIVIL ENGINEERS

5 HERITAGE AVENUE
HAMILTON
Telephone: (07) 855 3377

ERB/AERB 086158

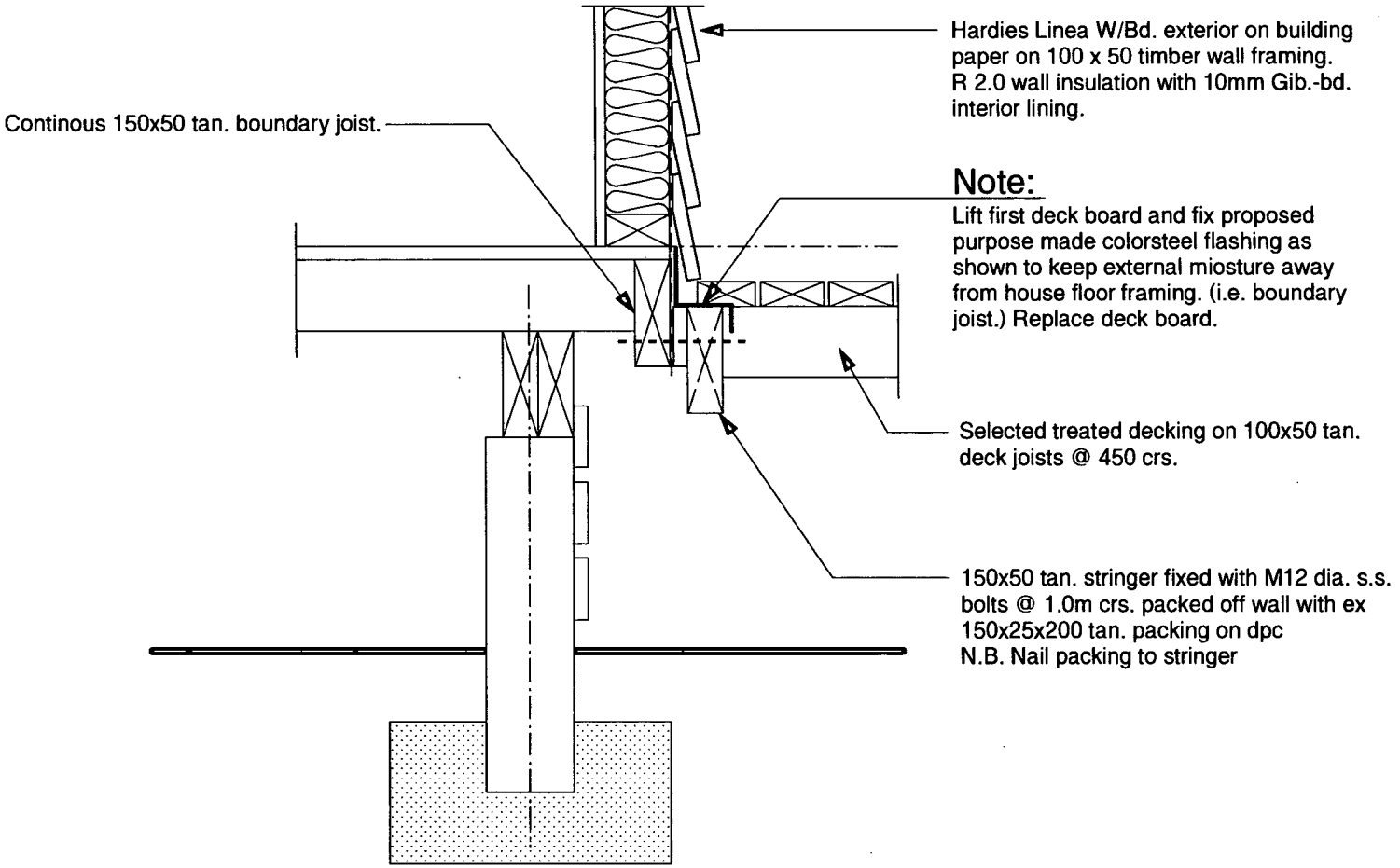
Member ACENZ ☑ IPENZ ☑



Section 1

Elevation

CHIMNEY DETAIL FOR G. WILSON



1
-

DECK FLASHING DETAIL

EWRB 5

Electrical Certificate of Compliance

for prescribed electrical work that is carried out on electrical installations and involves the placing or positioning or the replacing or repositioning of conductors (including fittings attached to those conductors).

To be completed whether or not an Inspection is required.

No 1803396

No. of attachments

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer GRAEME Phone

Address of installation State Highway 23 Pt 2 Highbrook Estate, Whata Whata

Postal address of customer (if not as above) 30A Winstone Avenue Hamilton

WORK DETAILS

	No. of lighting outlets		No. of ranges	Please tick (✓) as appropriate where work includes:	
1	No. of socket outlets		No. of water heaters	✓ Mains	✓ Main earthing system
Was any installation work carried out by the homeowner?		No	Yes ✓	✓ Switchboard	Electric lines

Description Install mains supply for Distribution Board + one circuit for power.

It is recommended that test results be recorded here

Visual Examination	✓
Earth Continuity	✓
Bonding	✓
Polarity	✓
Insulation Resistance	>200 Mohm
Other	

If necessary attach any pages with sketches of work done

CERTIFICATION OF WORK

I certify that the above electrical work has been carried out in accordance with the requirements of the Electricity Act 1992 and Electricity Regulations 1997.

ELECTRICAL WORKER DETAILS

Name Derek Brown

Registration no. E18804

Company

Signature

Date 18/05/05

Contact Ph No. 0274 581 877

CERTIFICATION OF ELECTRIC LINES

(to be completed where a separate electrical worker has installed the electric line portion of the mains)

Name

Registration no.

Company

Signature

Date

Contact Ph No.

INSPECTION DETAILS Electrical work requiring inspection by a registered electrical inspector

✓ New mains	✓ Switchboard	Earthing system	✓ Installation work in hazardous areas

I certify that the inspection has been carried out in accordance with the requirements of regulation 41 of the Electricity Regulations 1997.

Name

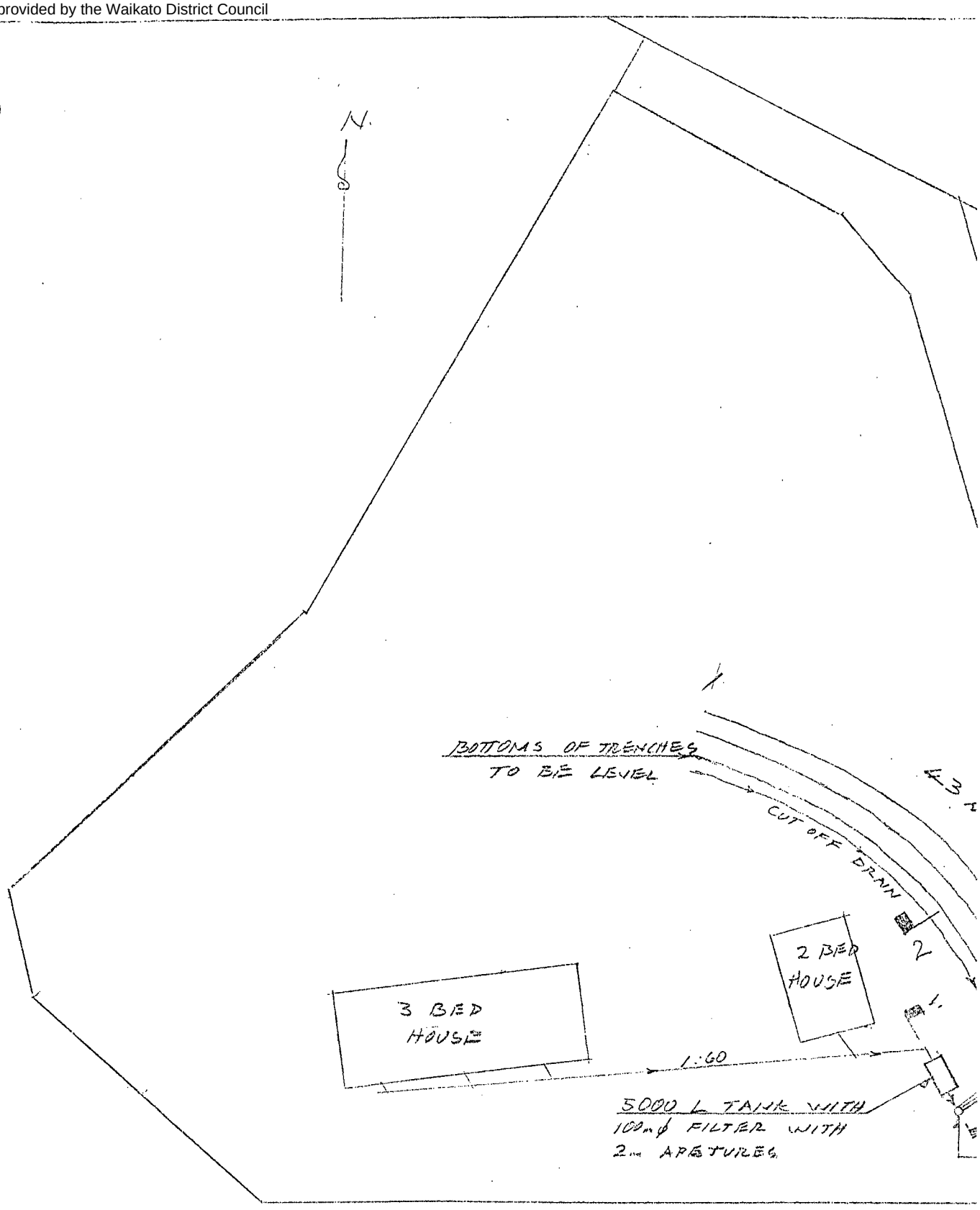
Registration no.

Signature

Date 18-5-05

Contact Ph No. 027 289 1099

This form is approved by the Electrical Workers Registration Board (PO Box 10-156, Wellington, Freephone 0800 ...) for the purposes of the Electricity Regulations 1997.



1 : 500

11. A WASTE DISPOSAL UNIT USED IN THE SINK.

12. THE CONTRACTOR SHOU... SERVICES BEFORE EXCA... CARRIED OUT.

I. B. MACKIE
STRUCTURAL and CIVIL ENGINEER
9 HOLDEN AVE HAMILTON
PHONE 8490032

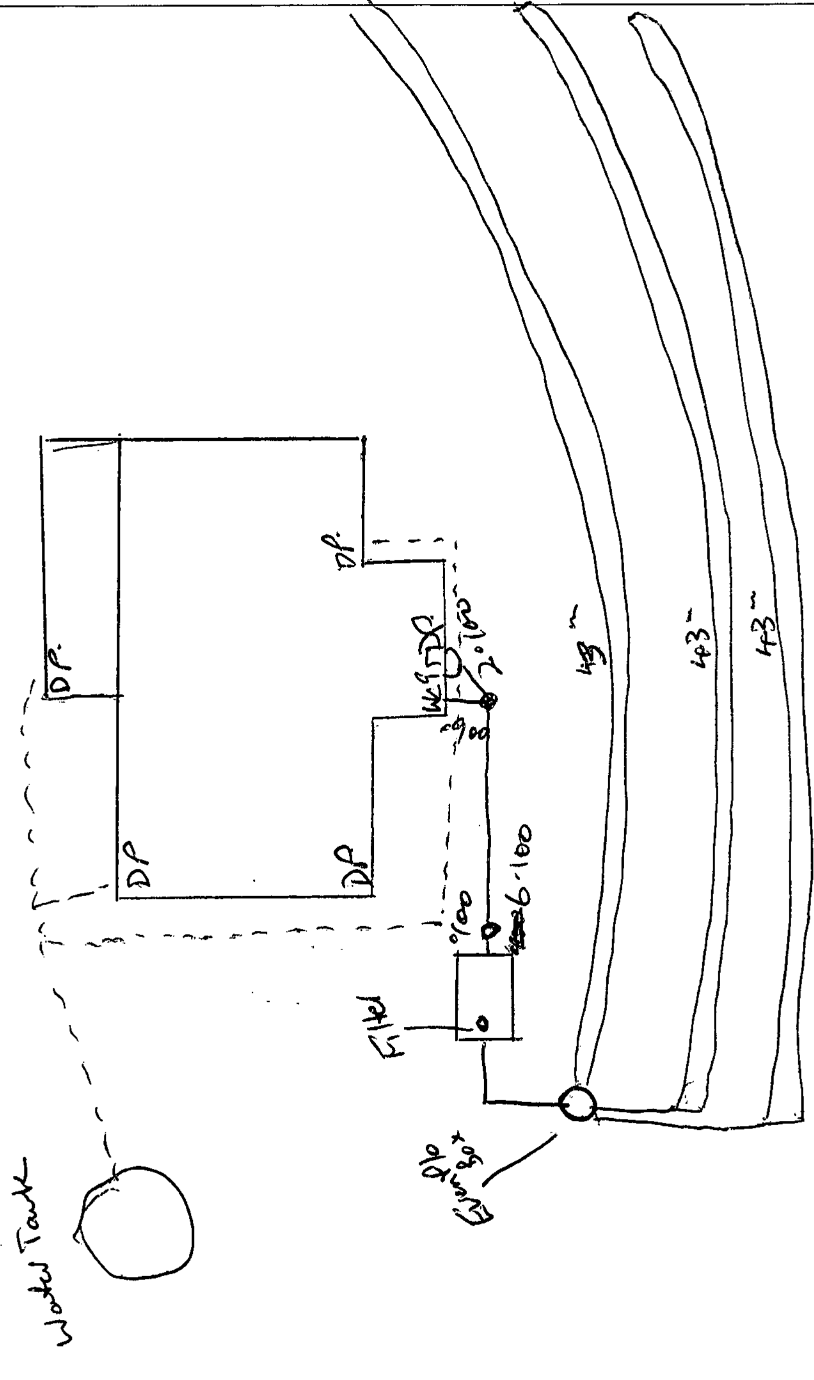
EFFLUENT DISPOSAL SY...
LOT 2 DPS 2226. HA...

Hamilton City Council
Te kaunihera o Kirikiriroa
Private Bag 3010, Hamilton, New Zealand.
FAX: (07) 838 6950

BUILDING UNIT
AS LAID DRAINAGE PLAN

STREET: Raglan Rd No:	LOT: 2 DPS 2226
OWNER: G. Wilson	DRAINLAYER: C. Gibson
INSPECTOR: N. Konning	REG No: 11941
DATE OF INSPECTION:	CONSENT No:

DRAINLAYER PLEASE FILL IN ALL DETAILS



DRAINLAYER'S SIGNATURE: ____________ DATE: ____________

Association Consulting Engineers of New Zealand	New Zealand Institute of Architects	Institution Professional Engineers of New Zealand

P.I.M. No.....................

Building Regulation Clause(s).....................

PRODUCER STATEMENT - DESIGN

(Guidance notes on the use of this form are printed on the reverse side)

ISSUED BY: IVAN BARRY MACKIE
(Suitably qualified Design Professional)

TO: GRAHAME WILSON
(Owner)

IN RESPECT OF: EFFLUENT DISPOSAL SYSTEM.
(Description of Building Work)

AT: LOT 2. DPS 2226. HAMILTON - RAGLAN RD

....
(Address)

LOT 2 DPS 2226. SO ....

I. B. MACKIE STRUCTURAL + CIVIL ENGINEER (Design Firm) has been engaged by GRAHAME WILSON (Owner/~~Developer/Contractor~~)

to provide DESIGN + DRAWING (Extent of Engagement) services in respect of the

requirements of Clause(s) G.13 of the Building Regulations 1992 fo

☐ All ☑ Part only as specified

of the building work. The design has been prepared in accordance with AS/NZS 1547 2000. (verification method(s)/acceptable solution(s))

(respectively) of the approved documents issued by the Building Industry Authority and the work is described on

I. B. MACKIE STRUCTURAL & CIVIL ENGINEER (Design Firm) drawings titled EFFLUENT DISPOSAL SYSTEM FOR GRAHAM WILSON.

and numbered 1500. and the specification and other documents according to which the building is proposed to be constructed.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of $200,000, I BELIEVE ON REASONABLE GROUNDS that subject to:

(i) the verification of the following design assumptions BOTTOMS OF TRENCHES CAN BE LAID LEVEL.

and (ii) all proprietary products meeting the performance specification requirements,

the drawings, specifications, and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the building code.

I. B. Mackie
(Signature suitably qualified Design Professional)

Date 23/2/04

BE MIPENZ
(Professional Qualifications)

ERB/AERB Reg No. ....

Member ACENZ ☑

BOX 9211
(Address)

IPENZ ☑ ☐ NZIA

This form to accompany Form 3 of the Building Regulations 1992 for the application of a Building Consent.

REGULATORY
BUILDING
CONTROL

PRODUCER STATEMENT

PLUMBING SYSTEM PRESSURE TEST

Owner..... G Wilson .....

Property Address.....

Lot.....DPS.....Consent No. 0068/04

Please be advised that our company ..... **C.F. REESE (1996) LTD** .....

Has completed a pressure test on the plumbing system in the building at the above address. We certify that the system was tested to 1500kpa for a period of 30 minutes and in accordance with manufacturer recommendations and complies with the provisions of the New Zealand Building Code Approved Solution G12 and AS3500 as appropriate.

We advise that we have current public liability insurance to the value of at least $500,000 and have approved quality control measures in place.

We understand that the Hamilton City Council will conduct random audits of our work where a producer statement has been used and if a workmanship or technical fault is detected from these audits then we undertake to carry out all appropriate remedial work as necessary.

Issued By..... **C.F. REESE (1996) LTD** .....

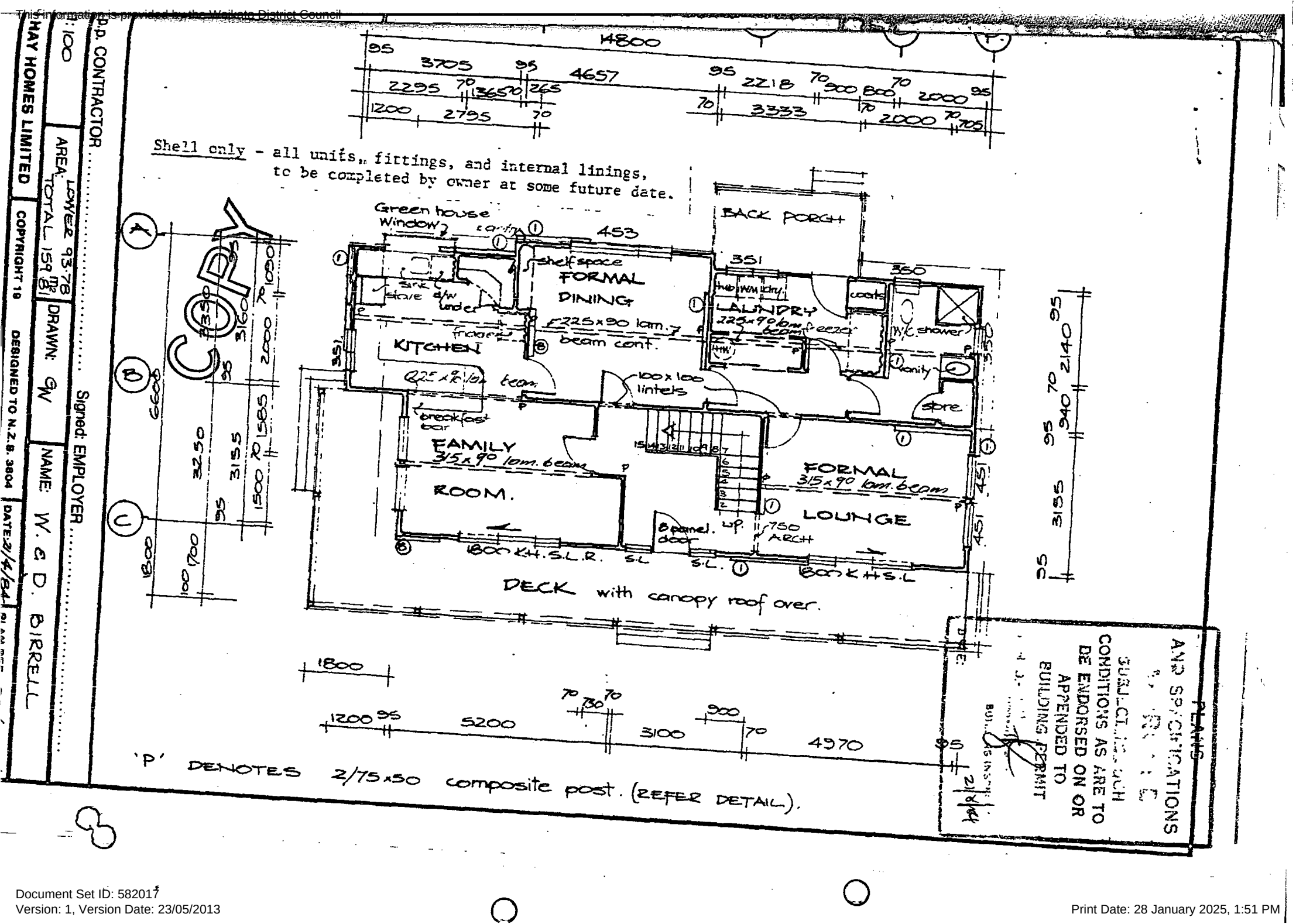
Address..... 32 Euclid Ave, Hamilton .....

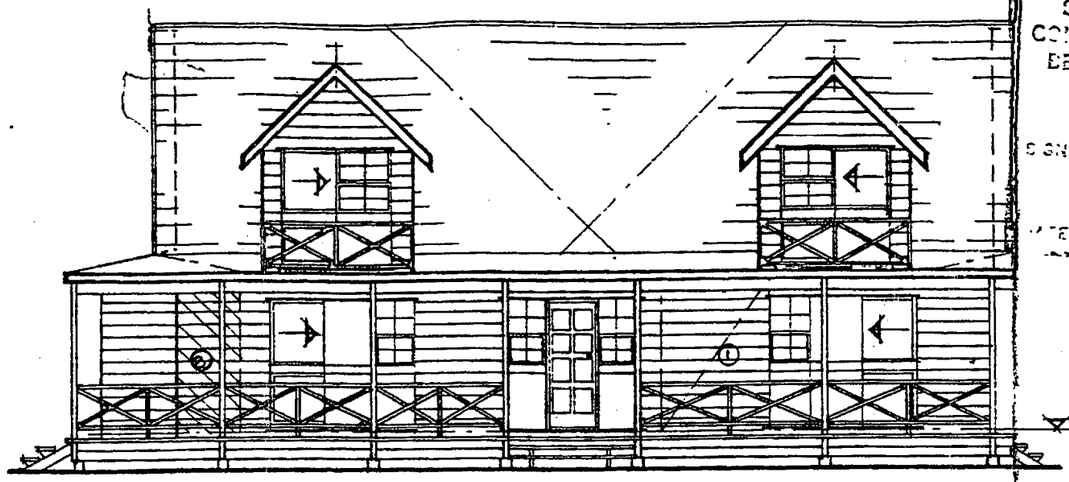
Contact Phone Number..... 8499703. .....

Signature.....

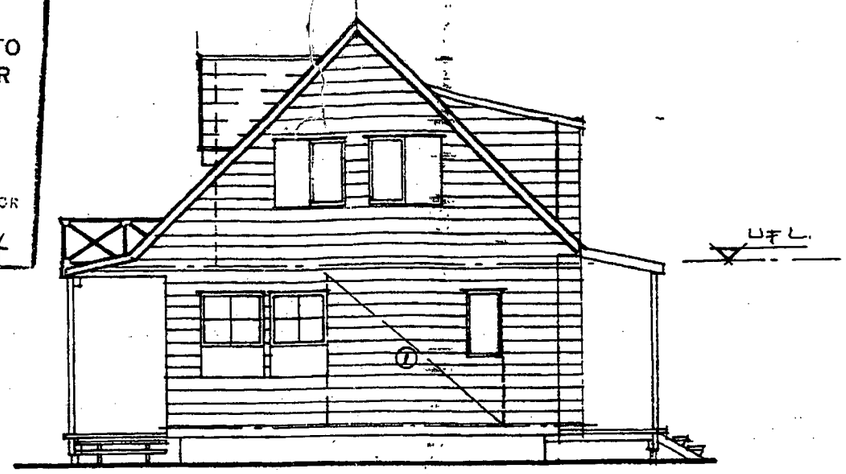
Date..... 9/6/2005 ..... Registration Number..... 09560 .....

Version No.1-15 September 1999

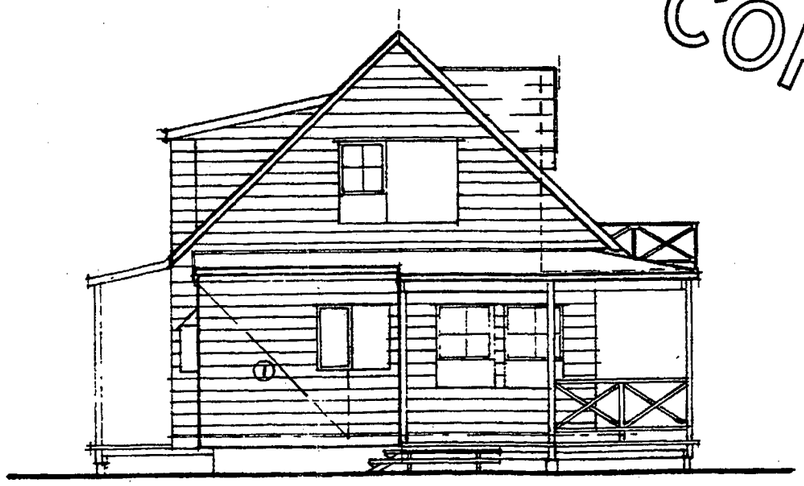




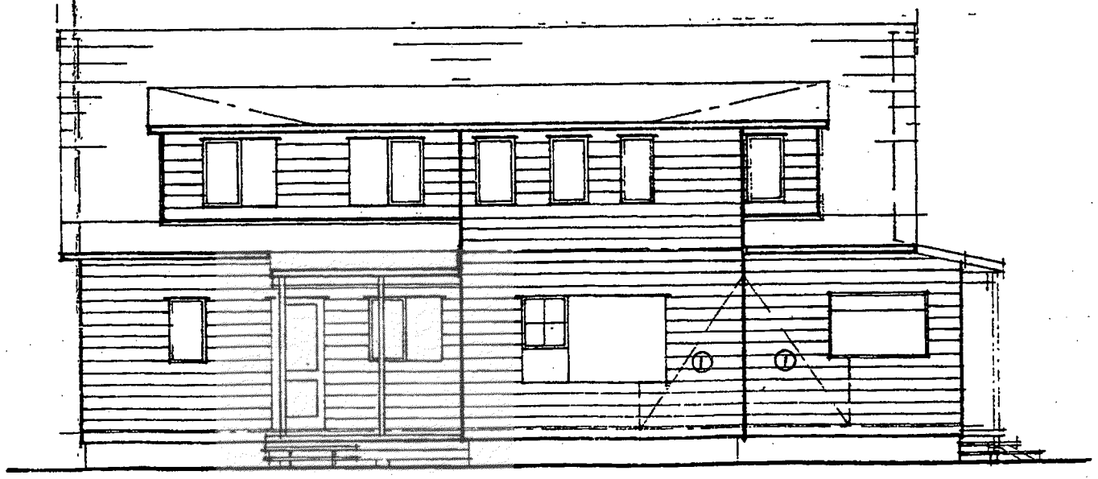
NORTH WEST ELEVATION



SOUTH WEST ELEVATION



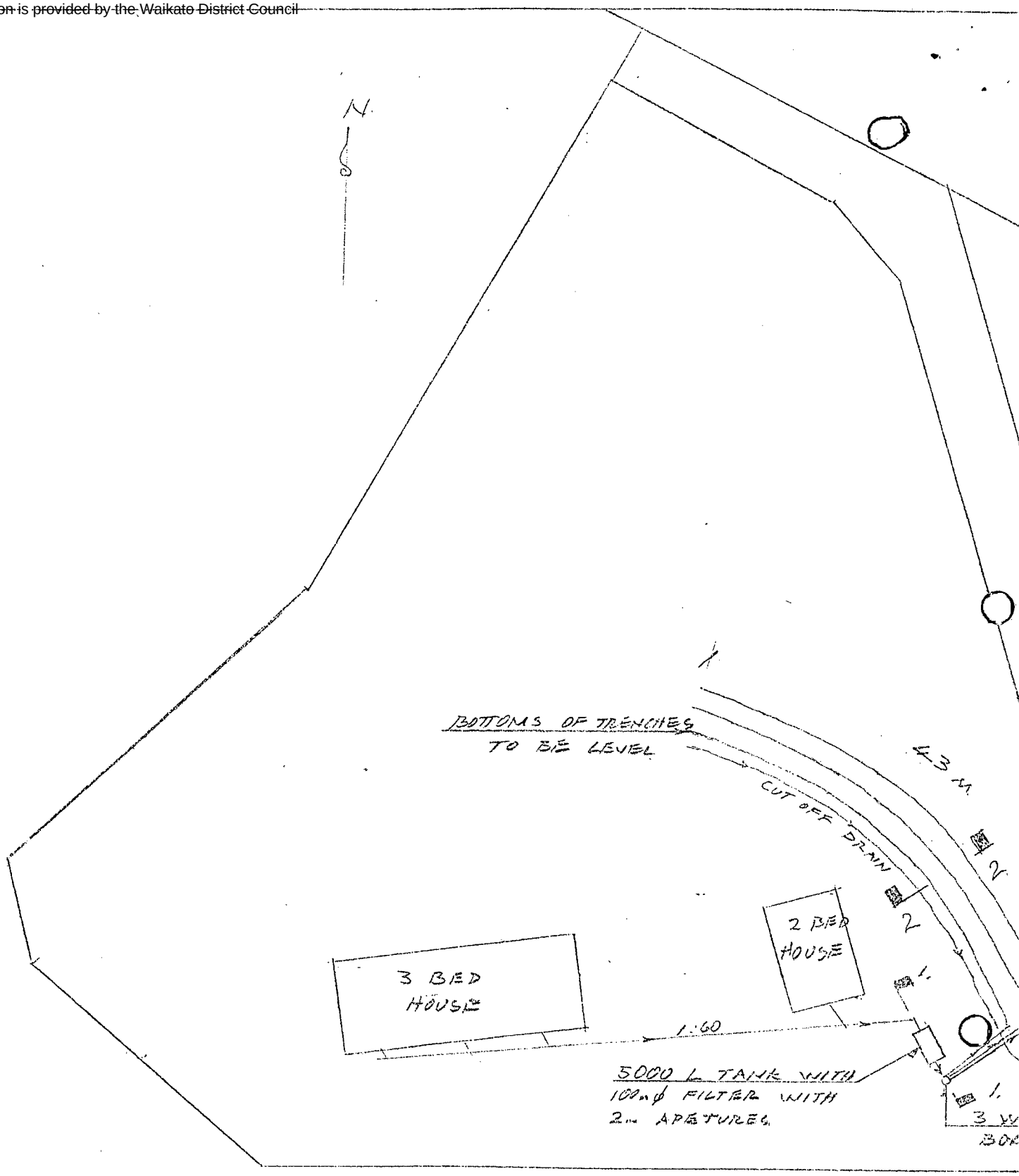
NORTH EAST ELEVATION



SOUTH EAST ELEVATION

Shell only - all units, fittings, and internal linings, to be completed by owner at some future date.

KEITH HAY HOMES LTD **73 Carr Road, Mt Roskill,** **Auckland, N.Z. Phone 699-199**	ELEVATIONS FOR W. & D. BIRRELL LOT 94A HENWOOD RD, TAUPAKI,	**COPYRIGHT** **PLAN DESIGNED TO NZS 3604**	PLAN REF 502/700/2 DRAWN GW · CHECKED · SCALE 1:100 TRACED · DATE 21/5/84 SHEET · SERIES OF · REF

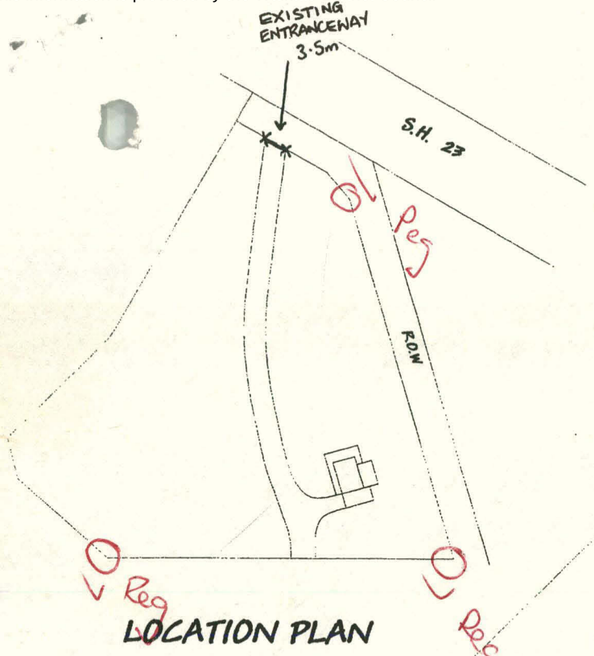


1 : 500

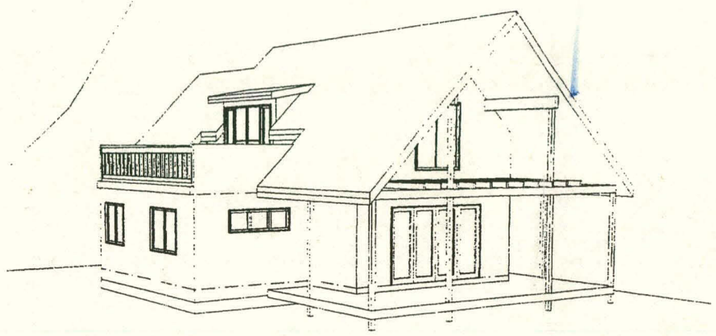
11. A WASTE DISPOSAL UNIT SHO
USED IN THE SINK.
12. THE CONTRACTOR SHOULD C
SERVICES BEFORE EXCAVAT
CARRIED OUT.

I. B. MACKIE
STRUCTURAL and CIVIL ENGINEER
9 HOLDEN AVE HAMILTON
PHONE 8490032

EFFLUENT DISPOSAL SYSTE
LOT 2 DPS 2226. HAMIL

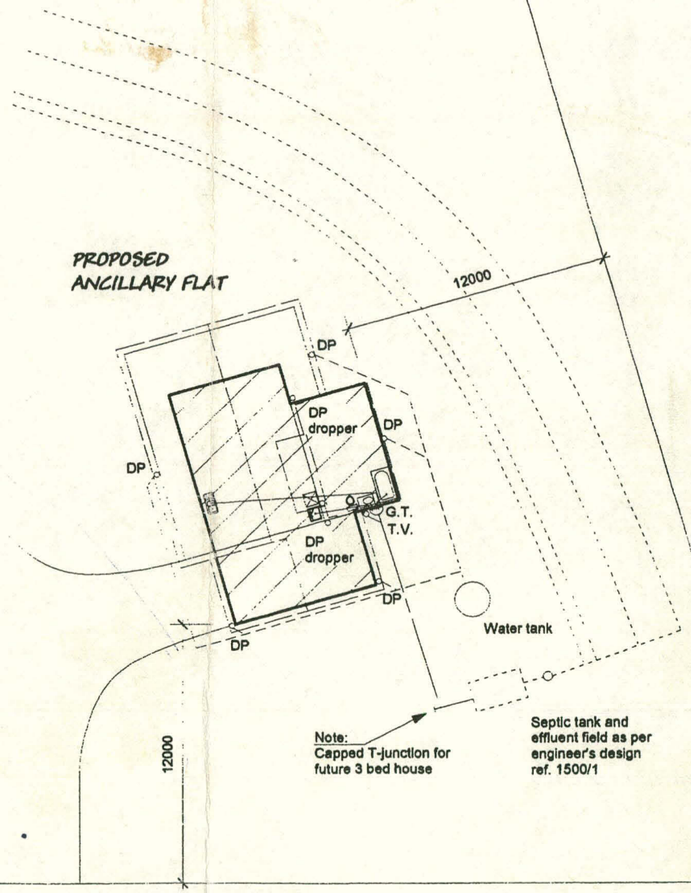


LOCATION PLAN



PERSPECTIVE

LOT 2
D.P.S. 2226
AREA 6300 m2



PROPOSED 100 MM DIA. SEWER LINE.

PROPOSED 90 MM DIA. STORMWATER LINE.

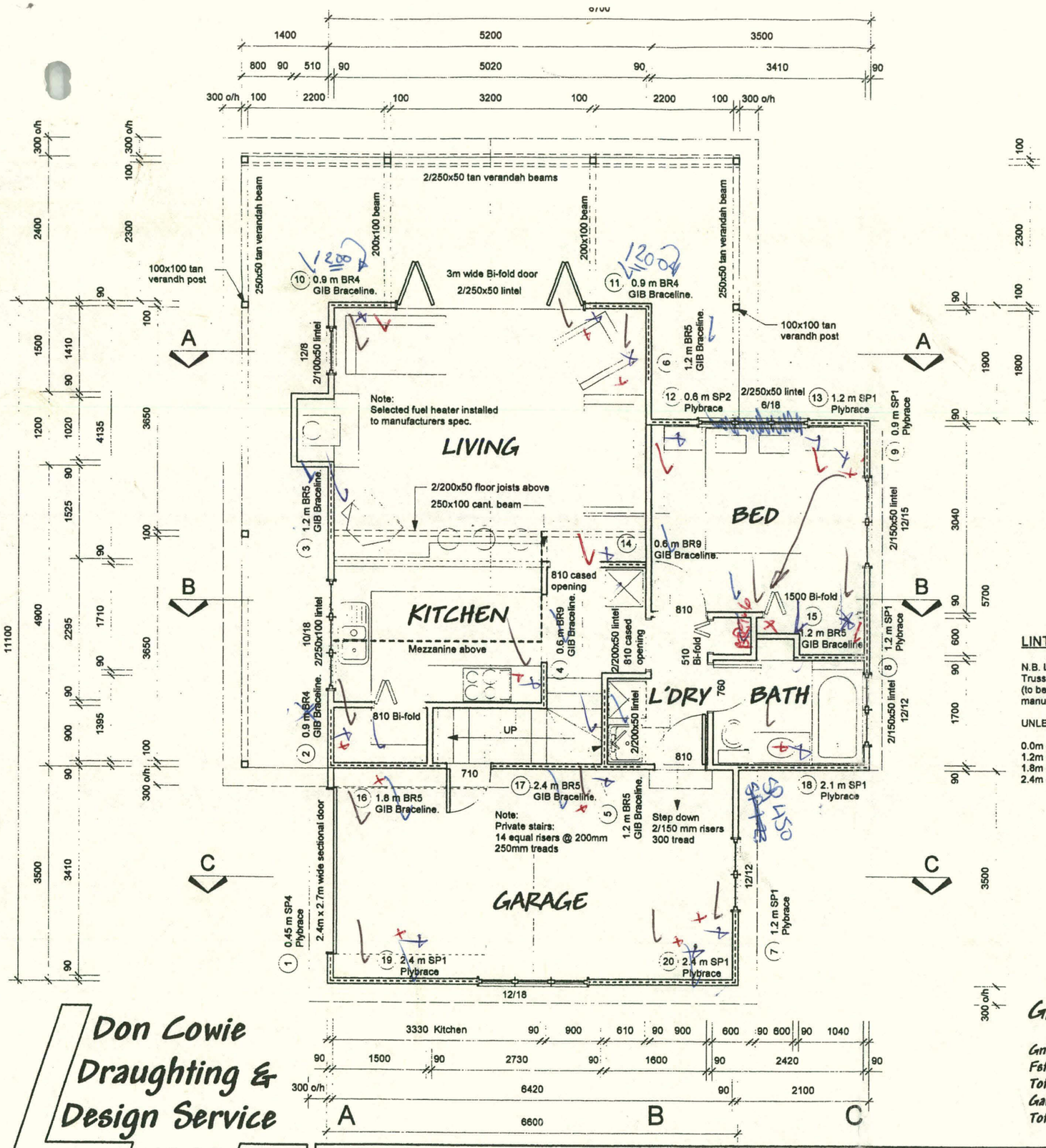
SITE PLAN

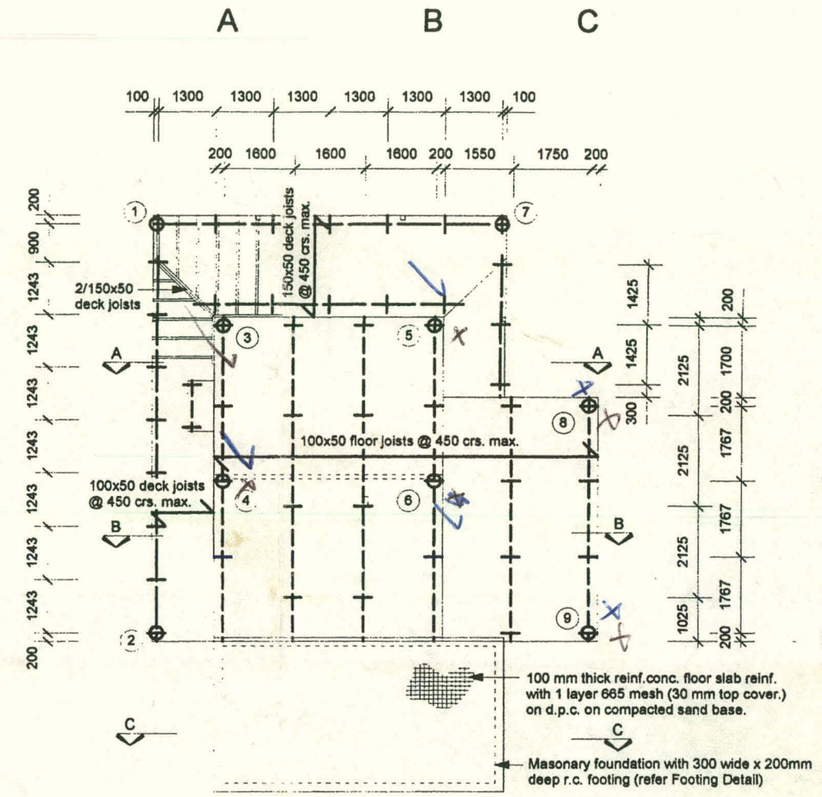
NOTE:
CONFIRM ALL DIMENSIONS ON SITE PRIOR TO ANY CONSTRUCTION.

Don Cowie
Draughting &
Design Service
N.Z.C.E.
20 Waimarie Street Hamilton
Ph. 07 847 8864 Mobile 025 6041 392

PROPOSED ANCILLARY FLAT FOR MR. GRAEME WILSON
AT LOT 2 HIGHBROOK ESTATE, OPP. KARAKARIKI RD., S.H.23, WHATAWHATA

SITE PLAN, LOCATION PLAN				1
DRAWN	CHECKED	DATE	SCALE	OF 5
S. Fowler	D. Cowie	March 2004	1:200 , 1:1000	402





LINTELS:

N.B. Light roof with max loaded dimension of 4m.
Truss roof loads are supported by exterior walls.
(to be designed by approved gangnail truss manufacturer)

UNLESS NOTED: (to be confirmed by framing man)

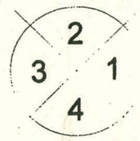
0.0m - 1.2m span use 2/ 100x50
1.2m - 1.8m span use 2/ 150x50
1.8m - 2.4m span use 2/ 200x50
2.4m - 3.0m span use 2/250x50

+ 125# ordinary tanipile with:
250x250x300 deep conc. footing for non load bearing walls.
400x400x300 deep conc. footing for load bearing walls

⊕ 125# anchor tanipile with 400x400x900 deep conc. footing

——— 100x100 tan. bearers @ 1425 max. crs.

– – – – 2/150X50 tan. bearers @ 2125 max. crs.



ELEVATION KEY

FOUNDATION PLAN

GROUND FLOOR PLAN

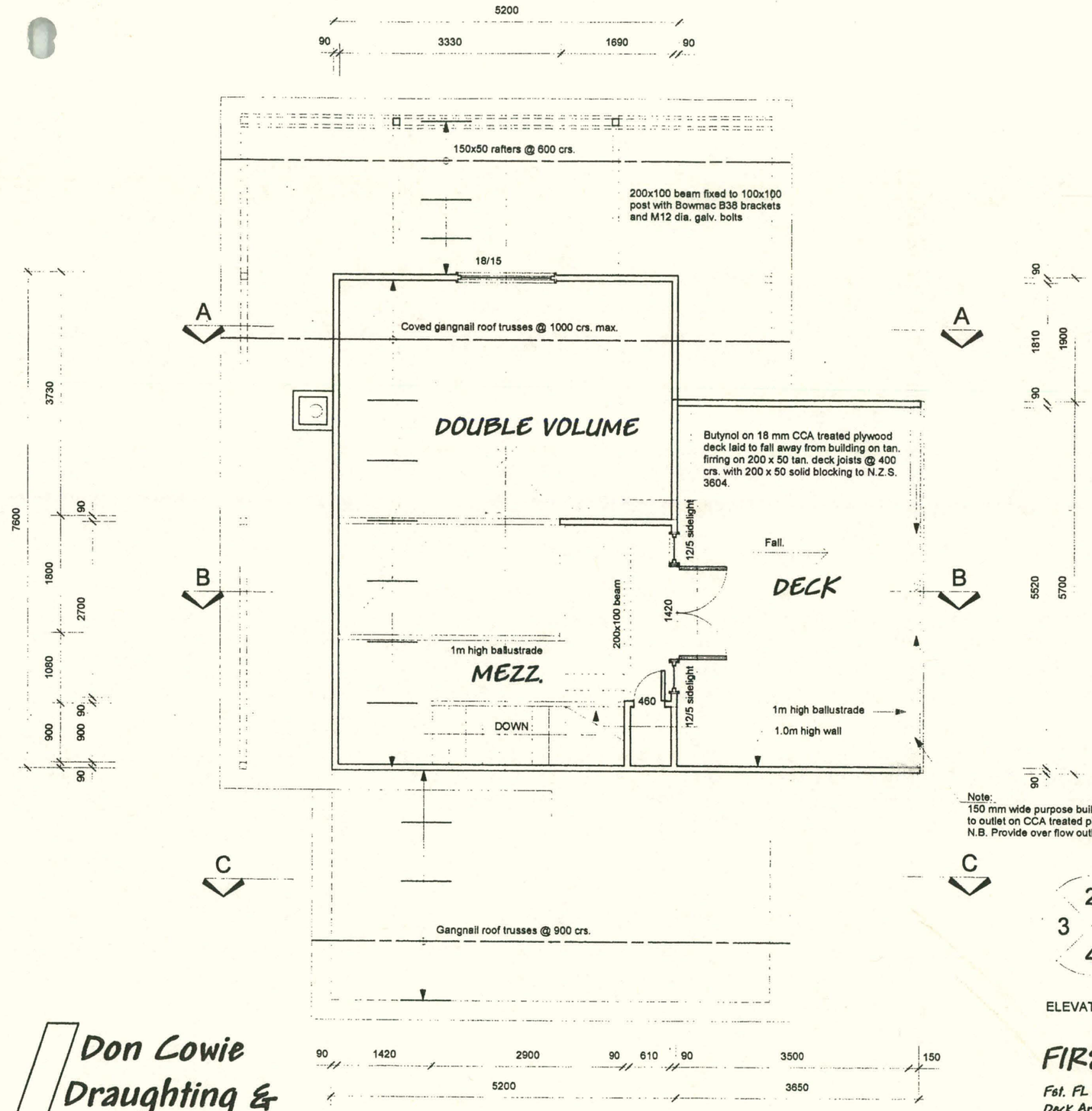
Gnd FL Area.....59.5 m2
Fst. FL Area..... 10.3 m2
Total Living Area.....69.8 m2
Garage Area.....23.7 m2
Total Floor Area.....93.5 m2

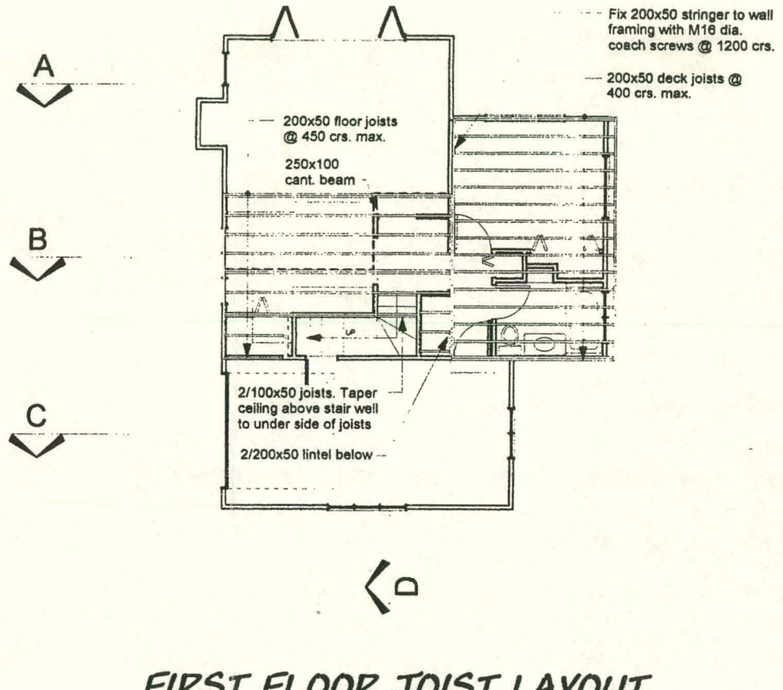
NOTE:
CONFIRM ALL DIMENSIONS ON SITE
PRIOR TO ANY CONSTRUCTION.

Don Cowie
Draughting & Design Service
N.Z.C.E.
20 Waimarie Street Hamilton
Ph. 07 847 8864 Mobile 025 6041 392

PROPOSED ANCILLARY FLAT FOR MR. GRAEME WILSON
AT LOT 2 HIGHBROOK ESTATE, OPP. KARAKARIKI RD., S.H.23, WHATAWHATA

GROUND FLOOR PLAN, FOUNDATION PLAN				2
DRAWN	CHECKED	DATE	SCALE	OF 5
S. Fowler	D. Cowie	March 2004	1:50, 1:100	402





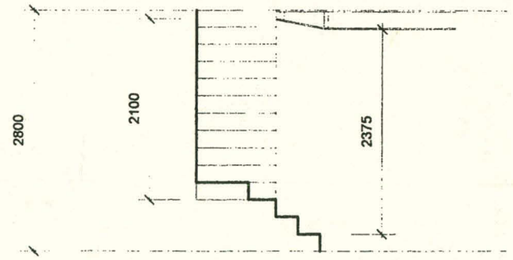
FIRST FLOOR JOIST LAYOUT

Note:
150 mm wide purpose built butynol gutter laid to fall to outlet on CCA treated plywood.
N.B. Provide over flow outlets at each end of deck.

ELEVATION KEY

FIRST FLOOR PLAN

Fst. FL Area.....10.3m2
Deck Area.....20.0 m2



SECTION D - D

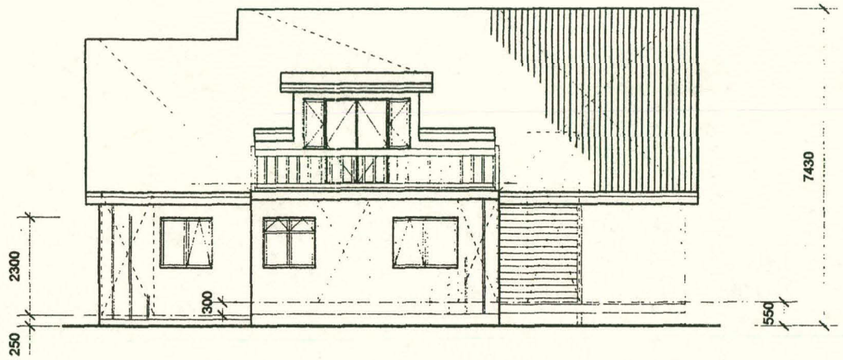
NOTE:
CONFIRM ALL DIMENSIONS ON SITE PRIOR TO ANY CONSTRUCTION.

Don Cowie
Draughting & Design Service
N.Z.C.E.
20 Waimarie Street Hamilton
Ph. 07 847 8864 Mobile 025 6041 392

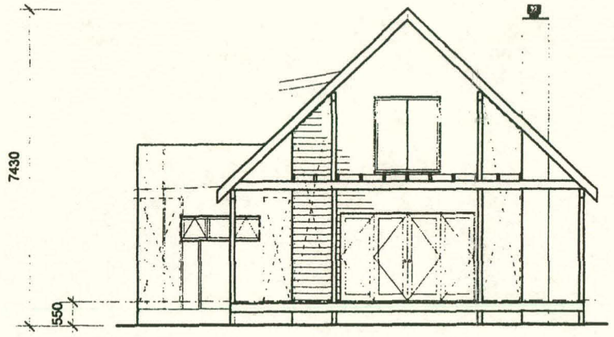
PROPOSED ANCILLARY FLAT FOR MR. GRAEME WILSON
AT LOT 2 HIGHBROOK ESTATE, OPP. KARAKARIKI RD., S.H.23, WHATAWHATA

FIRST FLOOR PLAN, FLOOR JOIST LAYOUT				3
DRAWN	CHECKED	DATE	SCALE	OF 5
S. Fowler	D. Cowie	March 2004	1:50 , 1:100	402

1



2



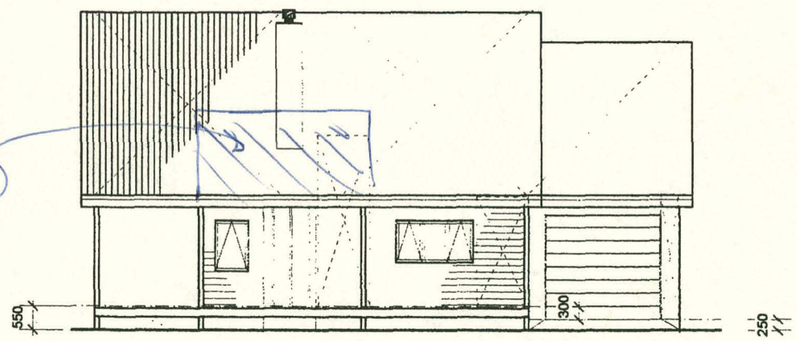
Longrun Colorsteel roofing, timber fascia with external gutter.

Hardies Linea w/b and tan. ply & batten exterior cladding.

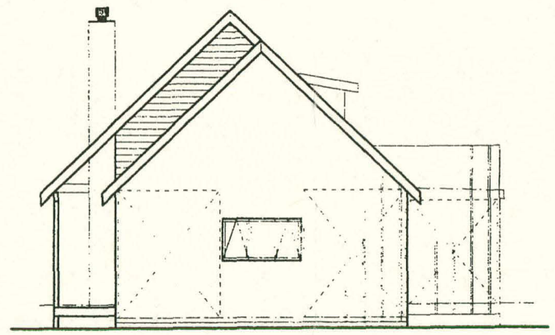
Aluminium joinery.

Timber base boards.

3



4



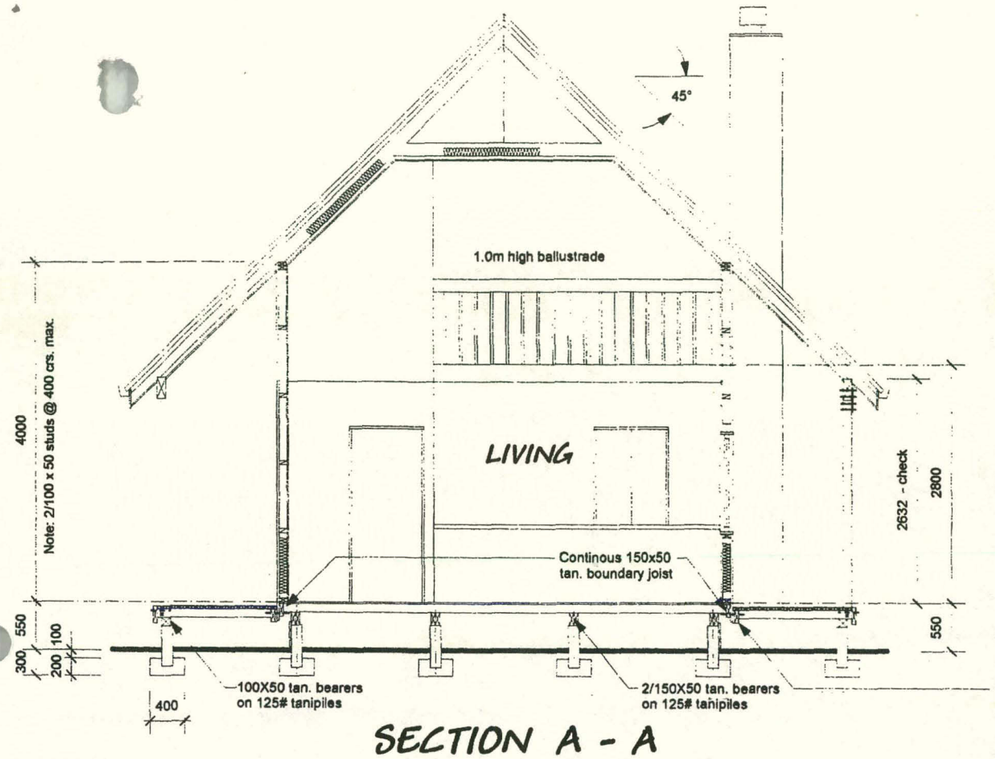
Don Cowie
Draughting & Design Service
N.Z.C.E.
20 Waimarie Street Hamilton
Ph. 07 847 8864 Mobile 025 6041 392

ELEVATIONS

PROPOSED ANCILLARY FLAT FOR MR. GRAEME WILSON
AT LOT 2 HIGHBROOK ESTATE, OPP. KARAKARIKI RD., S.H.23, WHATAWHATA

ELEVATIONS			
DRAWN	CHECKED	DATE	SCALE
S. Fowler	D. Cowie	March 2004	1:100

4 OF 5
402



SECTION A - A

Colorsteel longrun roofing iron on building paper and netting on 75 x 50 purlins @ 900 crs. max. on approved gangnail coved roof trusses @ 1000 crs. max.
R2.2 ceiling insulation with 13mm GIB Ultraline ceiling lining on GIB rondo 40mm ceiling battens @ 400crs.

Aluminium joinery.

Hardies Linea W/Bd. exterior on building paper on 100 x 50 timber wall framing.
R 2.0 wall insulation with 10mm Gib.-bd. interior lining.

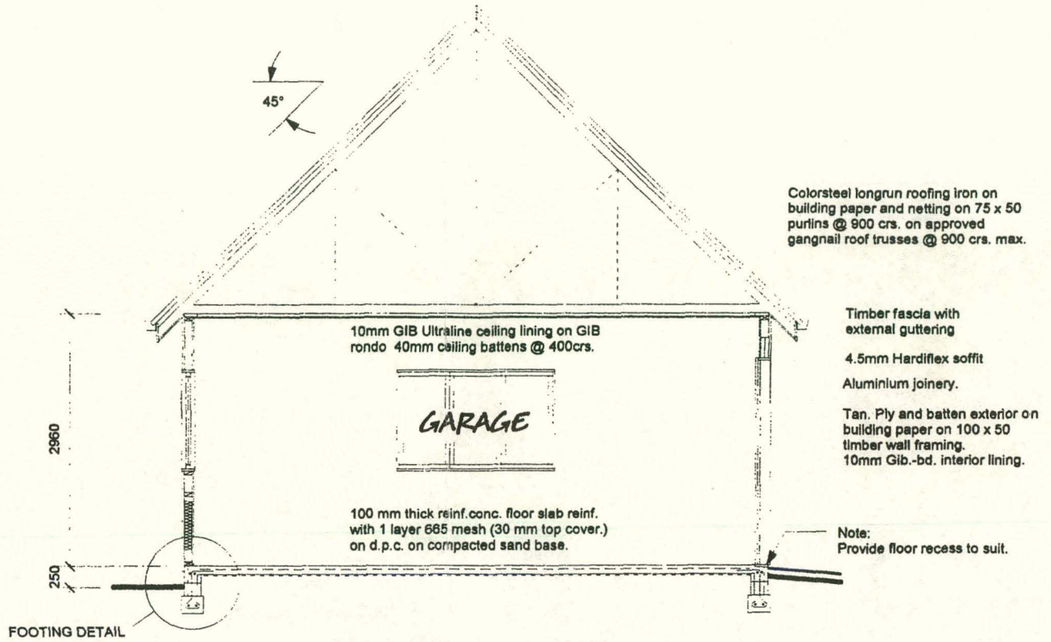
Timber fascia with external guttering
4.5mm Hardiflex soffit

250x100 tan verandah beam fixed to 100 x100 tan posts with galv. Bowmac B38 brackets and M12 dia. galv. bolts.

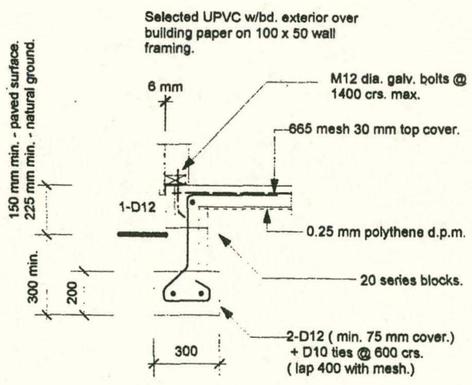
100x100 tan. verandah post, fixed to deck with 2 - M12 dia. s.s. bolts with 50x50x3.0 washers

Selected treated decking on 100x50 tan. deck joists @ 450 crs. with 200x50 tan. bdy joist, on 100x100 tan. bearers on 125# tanipiles

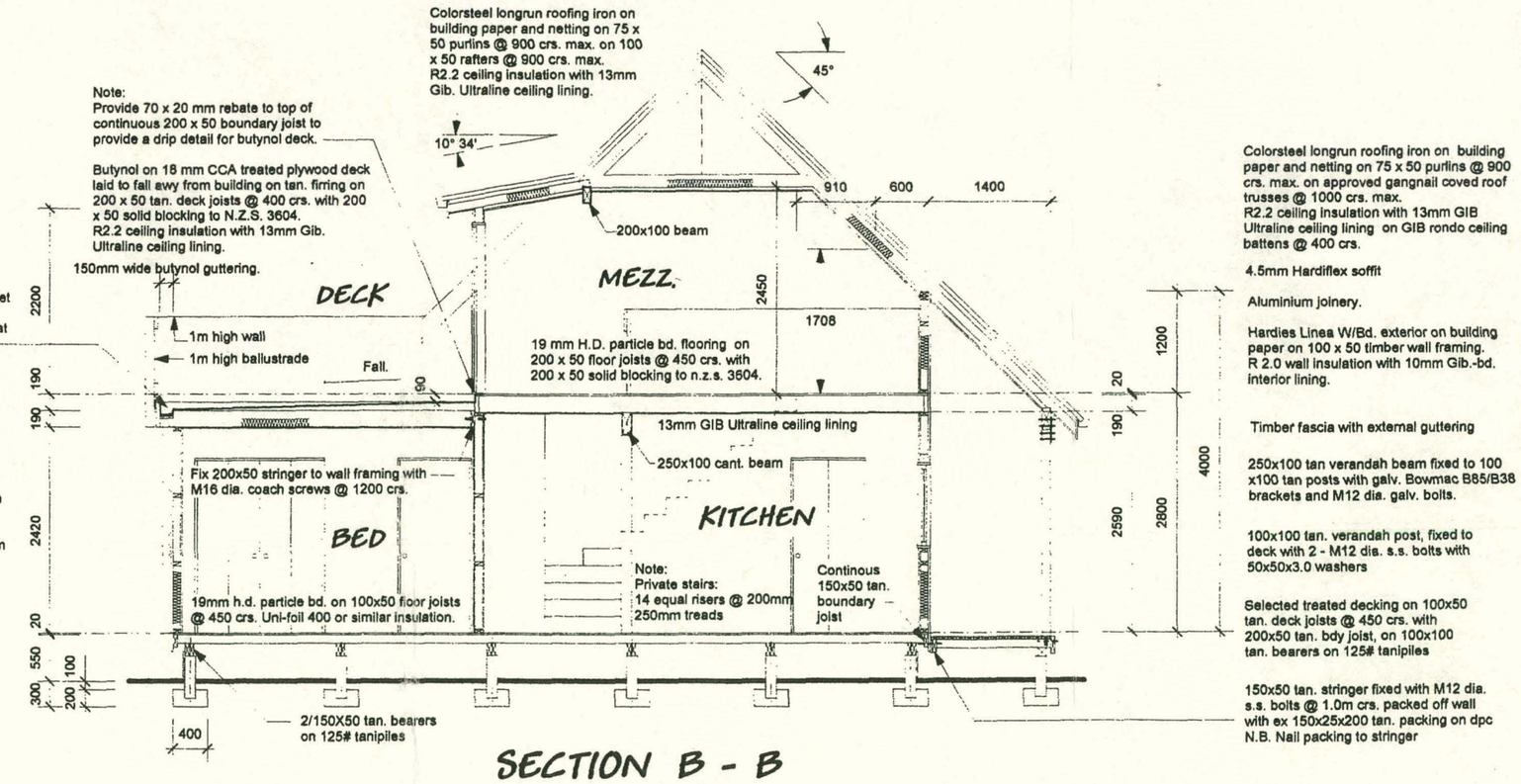
150x50 tan. stringer fixed with M12 dia. s.s. bolts @ 1.0m crs. packed off wall with ex 150x25x200 tan. packing on dpc
N.B. Nail packing to stringer



SECTION C - C



FOOTING DETAIL



SECTION B - B

Colorsteel longrun roofing iron on building paper and netting on 75 x 50 purlins @ 900 crs. max. on approved gangnail coved roof trusses @ 1000 crs. max.
R2.2 ceiling insulation with 13mm GIB Ultraline ceiling lining on GIB rondo ceiling battens @ 400 crs.

4.5mm Hardiflex soffit

Aluminium joinery.

Hardies Linea W/Bd. exterior on building paper on 100 x 50 timber wall framing.
R 2.0 wall insulation with 10mm Gib.-bd. interior lining.

Timber fascia with external guttering

250x100 tan verandah beam fixed to 100 x100 tan posts with galv. Bowmac B85/B38 brackets and M12 dia. galv. bolts.

100x100 tan. verandah post, fixed to deck with 2 - M12 dia. s.s. bolts with 50x50x3.0 washers

Selected treated decking on 100x50 tan. deck joists @ 450 crs. with 200x50 tan. bdy joist, on 100x100 tan. bearers on 125# tanipiles

150x50 tan. stringer fixed with M12 dia. s.s. bolts @ 1.0m crs. packed off wall with ex 150x25x200 tan. packing on dpc
N.B. Nail packing to stringer

Don Cowie
Draughting & Design Service
N.Z.C.E.
20 Waimarie Street Hamilton
Ph. 07 847 8864 Mobile 025 6041 392

PROPOSED ANCILLARY FLAT FOR MR. GRAEME WILSON
AT LOT 2 HIGHBROOK ESTATE, OPP. KARAKARIKI RD., S.H.23, WHATAWHATA

SECTIONS , FOOTING DETAIL

DRAWN	CHECKED	DATE	SCALE
S. Fowler	D. Cowie	March 2004	1:50 , 1:20

5
OF 5
402

Waikato DISTRICT COUNCIL

FILE

CODE COMPLIANCE CERTIFICATE

Section 95 Building Act 2004

The Building

Street address of building:	1437 B State Highway 23 WHATAWHATA
Legal description of land where building is located:	LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS
Valuation number:	06371/104.29
Property number:	2007123
Building name:	N/A
Location of building within site/block number:	N/A
Level/unit number:	N/A
Current, lawfully established, use:	Detached Dwellings
Number of occupants per level and per use if more than 1:	N/A
Year first constructed:	2004

The Owner

Name of owner: R K Gibson, C D Gillgren

Mailing address: 1437B State Highway 23
RD 9
Hamilton 3289

Street address/registered office: N/A

Phone numbers:

Landline:	N/A	Mobile:	021906036
Daytime:	N/A	After hours:	N/A
Facsimile number:	N/A	Email address:	N/A
Website:	N/A		

First point of contact for communications with the building consent authority

Name: 4 Seasons Hamilton

Mailing address: PO Box 10460, Te Rapa, Hamilton 3241

Phone numbers:

Landline:	07-8494591	Mobile:	N/A
Facsimile number:	07-8494596	Email address:	hamilton@4seasonsakl.co.nz

Building Work:

Project:	**New Heater**
Building consent number:	**BLD0089/14**
Issued by:	**Waikato District Council**

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that —

(a) the building work complies with the building consent

Signature: 

Name: **Nicholas Koning**
Position: Building Inspector
On behalf of: Waikato District Council **Date: 22 July 2014**

BUILDING CONSENT NO: BLD0089/14

Section 51, Building Act 2004

ISSUED BY: WAIKATO DISTRICT COUNCIL

The Building

Street address of building: 1437 B State Highway 23 WHATAWHATA

Legal description of land where building is located: LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS

Valuation Number: 06371/104.29 Property Number: 2007123

Building name: N/A Level/unit number: N/A

Location of building within site/block number: N/A

The Owner

Name of owner: R K Gibson, C D Gillgren

Mailing Address: 1437B State Highway 23, RD 9, Hamilton 3289

Street address/registered office: N/A

Phone numbers:

Landline:	N/A	Mobile:	021906036
Daytime:	N/A	After hours:	N/A
Facsimile number:	N/A	Email address:	N/A
Website:	N/A		

First point of contact for communications with the Building Consent Authority

Name: 4 Seasons Hamilton

Mailing Address: PO Box 10460, Te Rapa, Hamilton 3241

Phone numbers:

Landline:	N/A	Mobile:	N/A
Daytime:	(07)849 4591	Fax number:	(07)849 4596
Email address:	hamilton@4seasonsakl.co.nz		

Building Work

The following building work is authorised by this building consent:

Proposed work: **New Heater**

Project type:	Heater	$3,954.00

Total Value of work: $3,954.00

Specified intended Life, not less than 50 years

This building consent is issued under Section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building).

This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

Waikato District Council
Building Consent No: BLD0089/14

This Building Consent is subject to the following conditions:

Inspections:
When booking your inspections please phone (07) 824 8633 or (0800) 492 452 and quote your building consent number.

1 **At least 48 hours' notice** is required prior to any of the following mandatory inspections:

•Heater inspection

•Insert fires - *The chimney shall be inspected by a Building Inspector before the heating appliance is installed.*

•Final inspection (Code Compliance Certificate) to be called for - *The owner or builder shall be on site at time of inspection.*

Compliance Schedule:
A compliance schedule is not required for the building.

Building Consent Advisory Notes:

2 Lapse of building consent. A building consent lapses and is of no effect if the building work to which it relates does not commence within:

a) 12 months after the date of issue of the building consent
b) Any further period that the building consent authority may allow
The Council can exercise its discretion in either case.

3 Domestic smoke alarms must be installed before a final inspection is requested. The number of alarms required and their location in the dwelling is to be in accordance with the New Zealand Building Code.

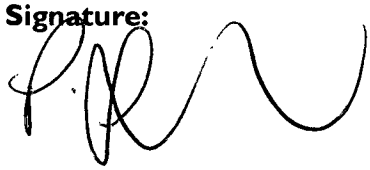
4 The heating appliance shall be installed in accordance with the manufacturer's instructions. The applicant shall inform the Council when the installation is ready to be inspected. The heating appliance shall be inspected prior to its being used. The ceiling plate is not to be fixed until the appliance has been inspected. Where heat shields are required, spacers shall be of a non-combustible material, i.e. not timber.

5 The flue shall comply with AS/NZS 2918, 2001, for sheet metal chimneys.

6 Inbuilt and free standing heaters shall be bolted to the hearth to prevent seismic movement.

Code Compliance Certificate will be issued after your final inspection has been carried out and all documentation has been received and approved.

Signature:

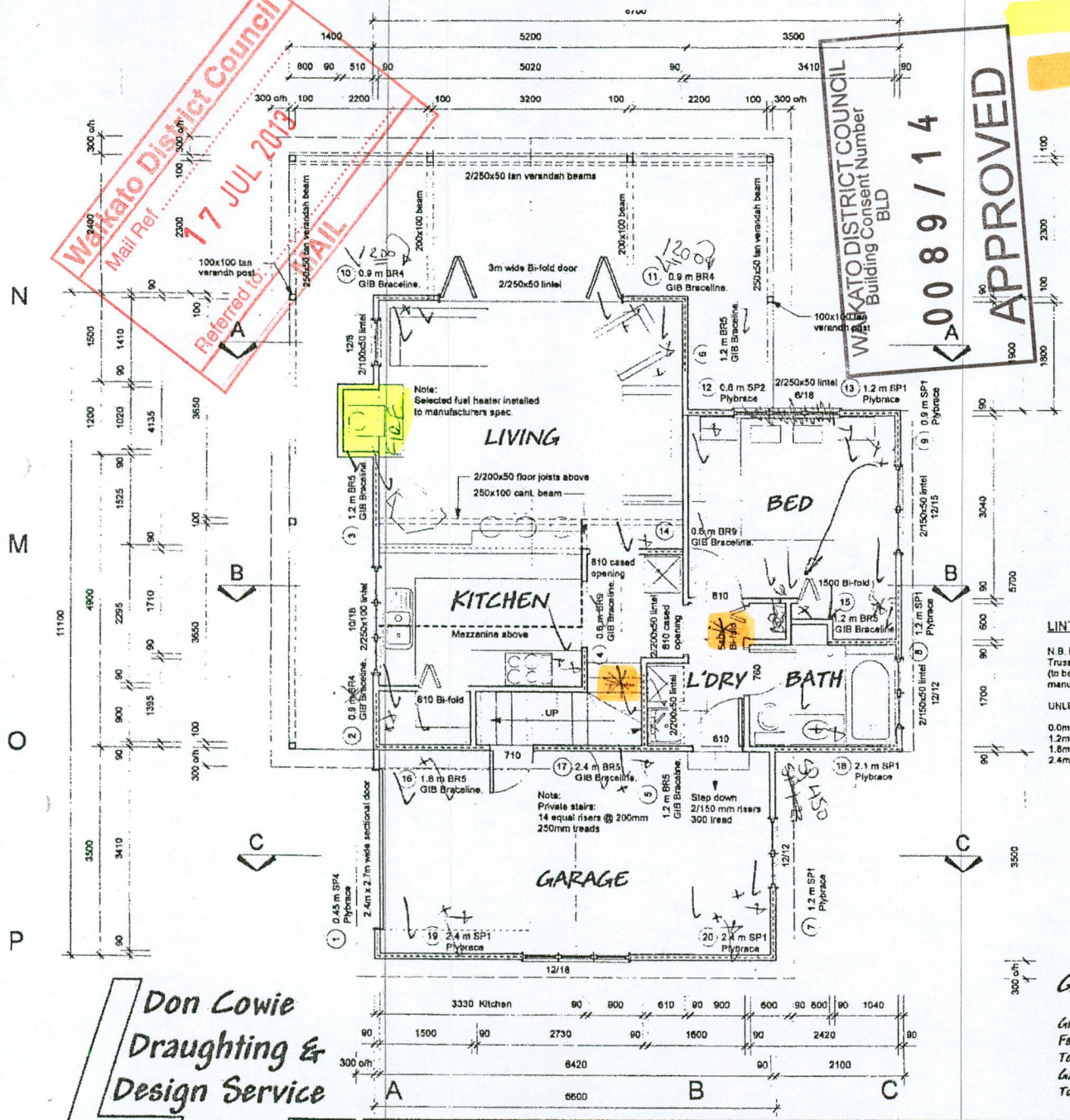


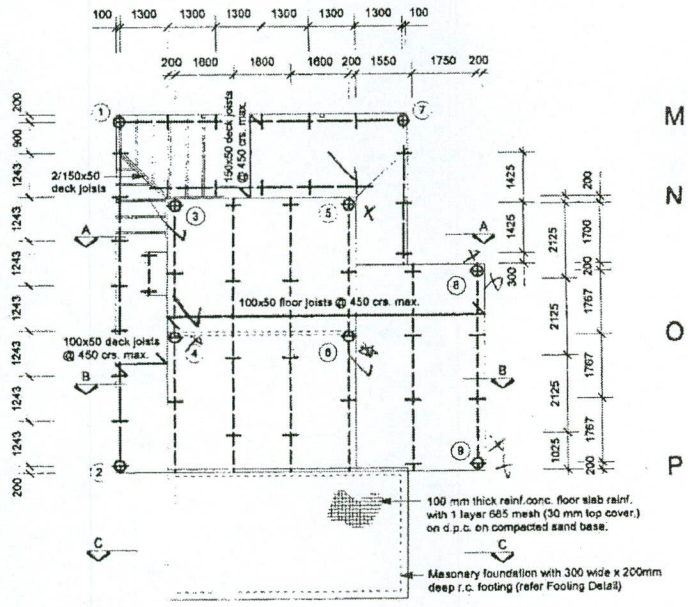
Name: **Trish Simon**
Position: **Regulatory Support Officer**

On Behalf of: **Waikato District Council**

Date: **25 July 2013**

FIRE
Smoke Alarms





FOUNDATION PLAN

LINTELS:

N.B. Light roof with max loaded dimension of 4m. Truss roof loads are supported by exterior walls. (to be designed by approved gangnail truss manufacturer)

UNLESS NOTED: (to be confirmed by framing man)

0.0m - 1.2m span use 2/ 100x50
1.2m - 1.8m span use 2/ 150x50
1.8m - 2.4m span use 2/ 200x50
2.4m - 3.0m span use 2/250x50

125ø ordinary tanipile with: 250x250x300 deep conc. footing for non load bearing walls. 400x400x300 deep conc. footing for load bearing walls

125ø anchor tanipile with 400x400x900 deep conc. footing

100x100 tan. bearers @ 1425 max. crs.

2/150X50 tan. bearers @ 2125 max. crs.

ELEVATION KEY

GROUND FLOOR PLAN

Gnd Fl. Area.....59.5 m2
Fst. Fl. Area..... 10.3 m2
Total Living Area.....69.8 m2
Garage Area.....23.7 m2
Total Floor Area.....93.5 m2

NOTE:
CONFIRM ALL DIMENSIONS ON SITE PRIOR TO ANY CONSTRUCTION.

Don Cowie
Draughting & Design Service
N.Z.C.E.
20 Waimarie Street Hamilton
Ph. 07 847 8864 Mobile 025 6041 392

PROPOSED ANCILLARY FLAT FOR MR. GRAEME WILSON
AT LOT 2 HIGHBROOK ESTATE, OPP. KARAKARIKI RD., S.H.23, WHATA WHATA

GROUND FLOOR PLAN, FOUNDATION PLAN				2
DRAWN	CHECKED	DATE	SCALE	OF 5
S. Fowler	D. Cowie	March 2004	1:50, 1:100	402

INSERT

EFFECTIVE Mar-11

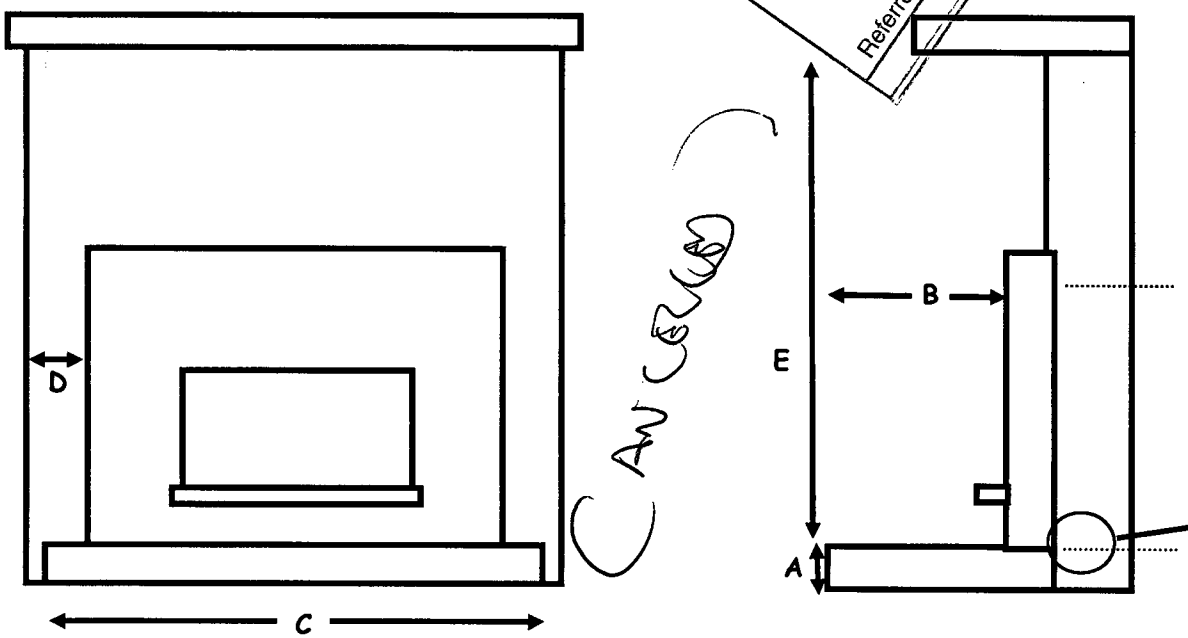
JAYLINE IS500

CLEAN AIR

		Alternative dimension		
A	Hearth Height	0	20	45
B	Hearth Depth	390	350	300
C	Hearth Width	840		
D	Side Clearance	50		
E	Mantel Height	1060	920 *	

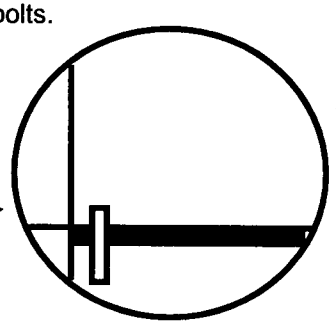
* With Mantle deflector

FLOOR PROTECTOR	Insulated
WATER BOOSTER	No
Clean Air Authorisation #	111085
EMISSIONS	
EFFICIENCY	67.0%



CANCELLED

FITTING SEISMIC RESTRAINT - The fire must be mechanically fixed to the floor by bolting or screwing. Drill to secure the appliance to the floor and floor protector using two 6 x 50mm dynabolts.



F	Fascia Height	650
G	Fascia Width	840
H	Fascia Depth	62
J	F/Box Height	570
K	F/Box Width	640
L	F/Box Depth	506

IF INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS THE HEATER COMPLIES WITH AS/NZS 2918:2001 INCLUDING Appendix F.

The information above has been taken from the Manufacturers Specification sheet: Mar-11
By Harris Home Fires for the JAYLINE IS500

INSTALLATION INSTRUCTIONS

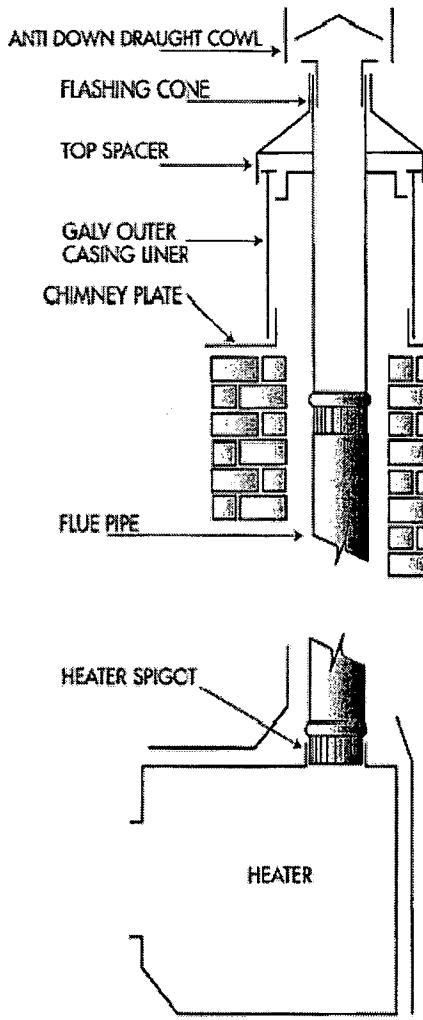
AS PER AS/NZS2918:2001

These instructions are to be read in conjunction with the manufacturer's instructions

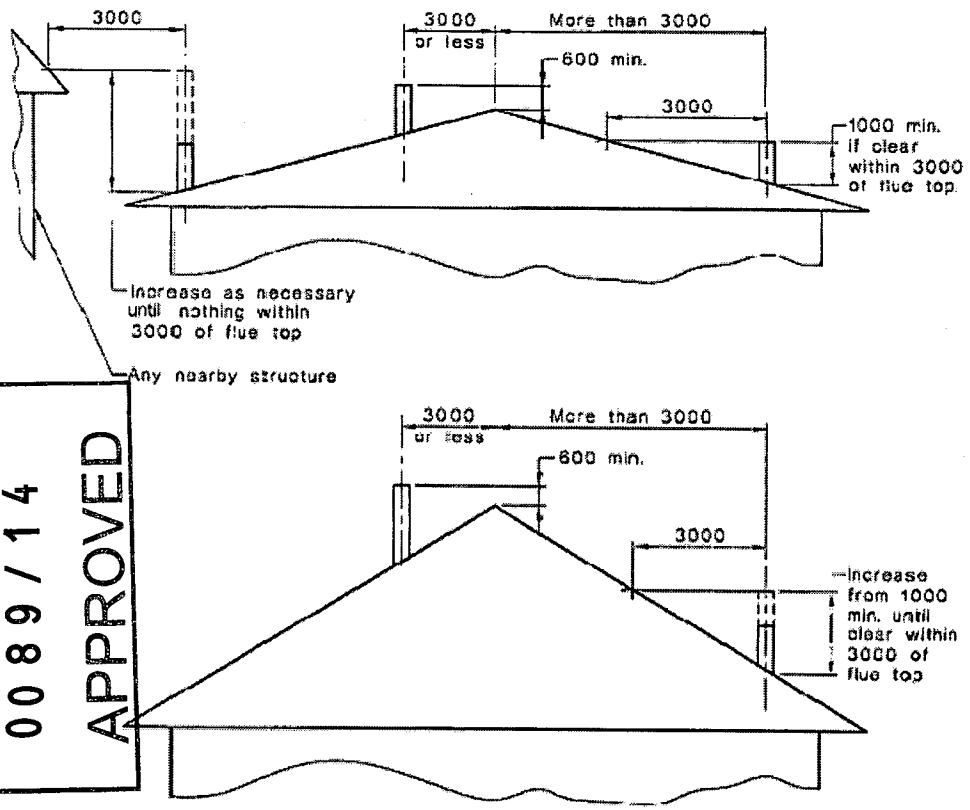
CAUTION: Mixing of appliance or flue system components from different sources or modifying the dimensional specifications of components may result in hazardous conditions. Where such action is considered the manufacturer should be consulted in the first instance.

WARNING: The appliance and flue system shall be installed in accordance with AS/NZS2918:2001 and the appropriate requirements of the relevant building code or codes.

1. Position heater in fireplace. Extend plumb line from top of chimney, ensuring heater spigot is in line with top of chimney. If not, flue pipe offsets will be required.
2. Assemble flue pipes ensuring all seams are in line and assembly is straight and tight with crimped ends pointing downwards. Secure flue pipes with at least 3 stainless steel or monel rivets and seal.
3. Fasten chimney plate supplied onto the chimney top. The chimney plate must be weather sealed with silicone or morar.
4. Install chimney liner on top of the chimney plate.
5. Ensure flue pipe is extended over the chimney liner by 180mm. Secure top spacer bracket to the flue pipe and ensure slots fit snugly inside the chimney liner.
6. Slide flashing cone over top of flue, until it rests firmly over top spacer. Secure with pop rivets or self tapping screws.
7. Fit anti-down draught cowl. Do not secure as it must be removed for cleaning.



MINIMUM HEIGHT OF FLUE SYSTEM OUTLET



DIMENSIONS IN MILLIMETRES

Notes

a) The flue cowl must be at least 600mm above the highest point of the roof if within 3 metres of it, or 1 metre above the penetration if more than 3 metres from the ridge.

b) No part of the building, or any adjacent building may be in or above a circular area of a horizontal radius of 3 metres from the flue exit.

NOTES:

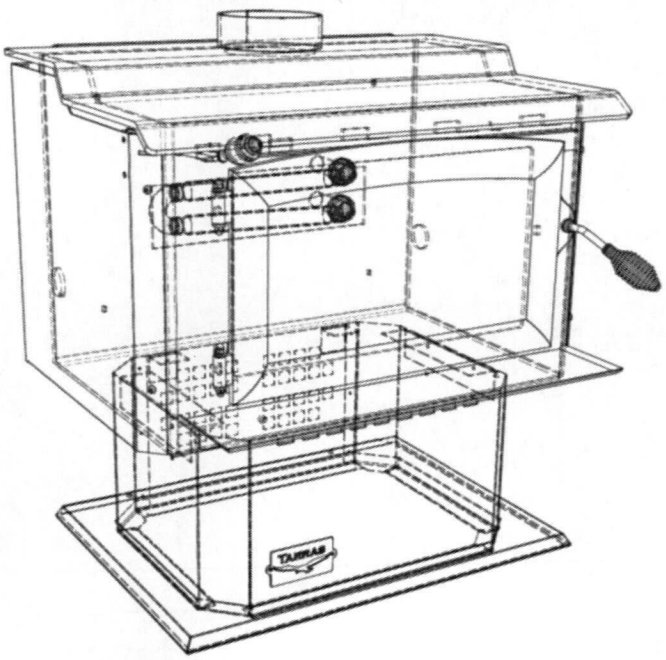
1. The flue pipe shall extend not less than 4.6m above the top of the floor protector.
2. The flue cowl must be at least 600mm above the highest point of the roof if within 3 metres of it, or 1 metre above the roof penetration if more than 3 metres from the ridge.
3. No part of the building, or any adjacent building may be in or above a circular area of a horizontal radius of 3 metres from the flue exit.

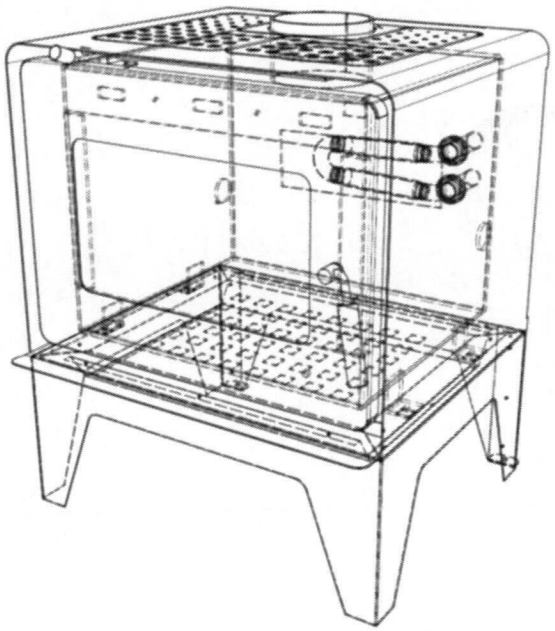
Issued: February 2014 V2.41

Specifications and Installation Instructions for Woodsman Solid Fuel Burners

WOODSMAN

Warming kiwi homes since 1887.





KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

Proudly Manufactured By:

harris HOME FIRES

Harris Home Fires
41 Braddon St
Addington
Christchurch 8024
New Zealand
Email sales@hhf.co.nz

P O Box 4043
Christchurch 8140
New Zealand

Phone 03 366 1796
Freephone 0800 3661796
Fax 03 366 1795

Contents

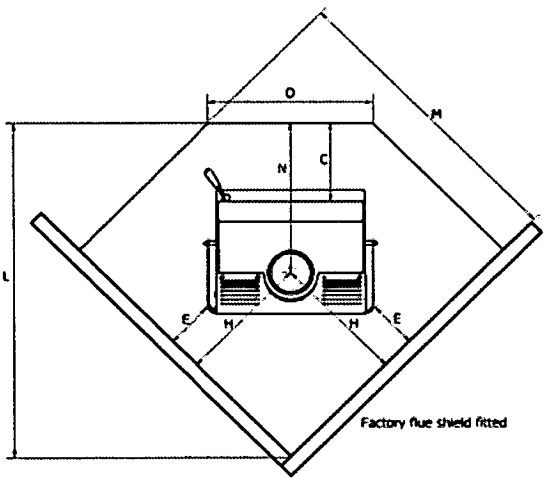
Testing and Certification

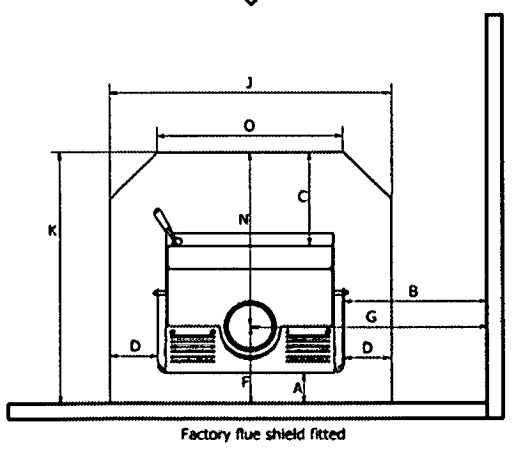
MODEL	AS/NZS 2918:2001, APP B	AS/NZ 2918:2001, APP E	AS/NZS 4012:1999	AS/NZS 4013:1999	ECan Cert Number
Brunner	Complies	N/A	71%	0.5g/kg	111242
Brunner WB	Complies	N/A	65%	0.5g/kg	111243
Tasman	Complies	N/A	71%	0.5g/kg	111475
Tasman WB	Complies	N/A	65%	0.5g/kg	111477
Aspen	Complies	N/A	71%	0.5g/kg	111306
Aspen WB	Complies	N/A	65%	0.5g/kg	111307
Totara	Complies	Complies	67%	0.9g/kg	110220
Matai ECR MkIII	Complies	N/A	71%	0.7g/kg	102148
Matai ECR MkIV	Complies	N/A	75%	0.8g/kg	102149
Matai ECR MkV	Complies	N/A	65%	0.7g/kg	102454
IMF	Complies	Complies	N/A	3.9g/kg	N/A
Flare - Wood	Complies	N/A	68%	0.97g/kg	134775
Flare - Wood WB	Complies	N/A	65%	0.89g/kg	135021
Flare - Multi	Complies	N/A	N/A	N/A	N/A
RMF	Complies	N/A	83%	3.9g/kg	N/A
Strongman	Complies	N/A	N/A	N/A	N/A
Tarras MKII	Complies	N/A	69%	0.37g/kg	120925
Tarras MKII WB	Complies	N/A	65%	0.5g/kg	120927
Brunner MKII	Complies	N/A	71%	0.5g/kg	142896
Brunner MKII WB	Complies	N/A	65%	0.5g/kg	142897
Tasman MKII	Complies	N/A	71%	0.5g/kg	142898
Tasman MKII WB	Complies	N/A	65%	0.5g/kg	142899
Tarras MKIII	Complies	N/A	69%	0.37g/kg	143492
Tarras MKIII WB	Complies	N/A	65%	0.5g/kg	143494

Minimum Safe Installation Clearances to COMBUSTIBLE Materials

	TARRAS MKII	BRUNNER MKII & TASMAN MKII	BRUNNER MKII & TASMAN MKII With Rear Deflector Fitted (see Page 7)	FLARE-WOOD	FLARE-MULTI	TARRAS MKIII	TARRAS MKIII With Rear Deflector Fitted (see Page 7)
A	198	200	120	100	100	230	160
B	530	450	450	320	350	480	460
C	300	300	300	300	300	300	300
D	67	138	138	110	110	67	67
E	210	230	240	120	150	250	220
F	340	345	265	281	281	372	302
G	913	758	758	635	665	863	843
H	554	535	545	449	479	611	581
J	898	850	850	850	850	898	898
K	1020	1025	945	933	933	1052	982
L	1464	1437	1451	1287	1329	1544	1500
M	1276	1220	1230	1122	1152	1304	1274
N	680	680	680	652	652	680	680
O	600	615	615	600	600	600	600
Flue Shield Requirements (See Page 6)	1200 With flue shield deflector fitted	1200 With flue shield deflector fitted	1200 With flue shield deflector fitted	1200 With flue shield deflector fitted	1200 With flue shield deflector fitted	1200 With flue shield deflector fitted	1200 With flue shield deflector fitted

	ECR MkIII, MkIV, MkV	BRUNNER & TASMAN (≤2013)	ASPEN	RMF	STRONGMAN
A	100	255	255	125	300
B	400	435	435	500	875*
C	300	300	300	300	GRAPH 1
D	150	118	118	150	150
E	200	190	230	180	380
F	251	404	404	276	441
G	690	743	743	790	1233**
H	512	481	521	492	711
J	880	850	850	880	1015
K	807	1084	1084	832	1364
L	1280	1360	1417	1252	1928
M	1110	1159	1219	1060	1616
N	556	680	680	556	923
O	580	615	615	580	715
Flue Shield Requirements (See Page 6)	900	1200	1200	900	1200

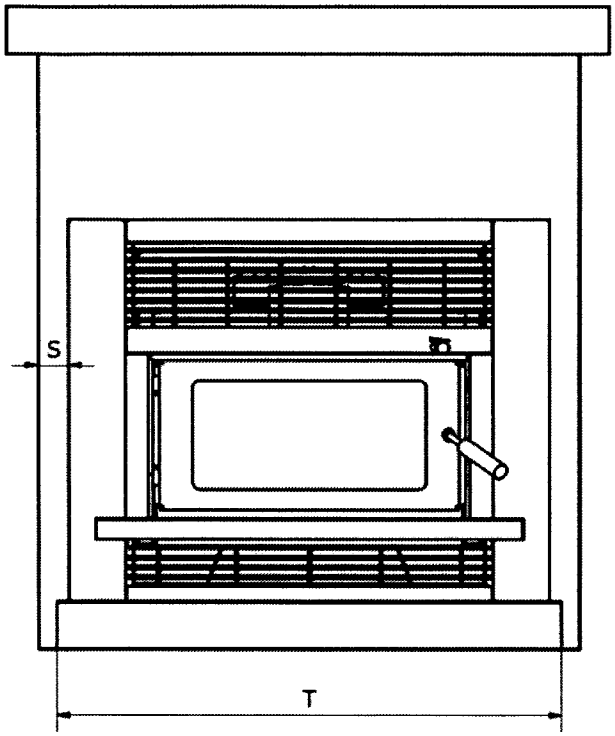


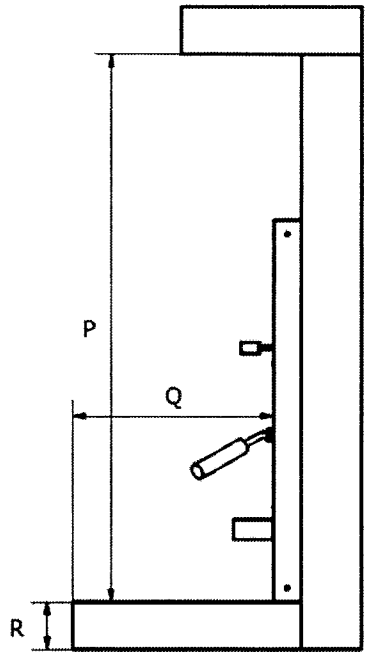


Dimensions **A**, **B** & **E** are taken from the combustible wall to the closest point of the appliance including panels
Dimension **C** is measured from the edge of the hearth to the closest point of the firebox door frame as in AS/NZS 2918:2001 3.3.2

All dimensions are given in millimetres .
*610mm with firebox side panels fitted.
**968mm with firebox side panels fitted.

Minimum Safe Installation Clearances to COMBUSTIBLE Materials





	IMF	Totara
P	980	1060*
Q	Graph 1	Graph 1
R	Graph 1	Graph 1
S	50	50
T	840	840

* Dimension P can be 920mm with a factory supplied heat deflector fitted

Ceiling Heights

All Woodsman free standing fires have been tested and approved to ASNZ 2918:2001 App B with a ceiling height of 2.4m and with the factory flue shield fitted in the below configurations. In some cases, the top of the flue shield terminates within 600mm of the ceiling height (refer to ASNZ 2918:2001 **4.5.2**) but all ceiling temperatures did not exceed the allowable limit in these cases and are therefore able to be installed. Reports are available on request for Councils.

If the ceiling height is less than 2.4m, then heat shielding is required as per AS/NZ 2918:2001 Table 3.2

Factory Flue Shields

Standard 900mm high flue shield:
ECR & RMF

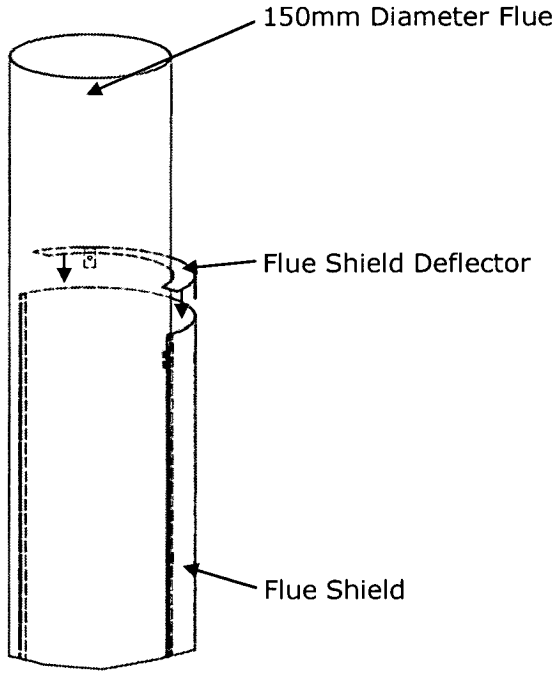
Standard 1200mm high flue shield:
Brunner, Tasman, Aspen & Strongman

1200mm high flue shield with flue shield deflector (REQUIRED)
Tarras MKII, Brunner/Tasman MKII & Flare (All Variants) - See Below

IMPORTANT - Flue shields should be no further than 10mm off the top of the fire box

Fitting the Flue Shield Deflector

for Tarras MKII, Tarras MKIII, Brunner/Tasman MKII and Flare (All Variants)



To fit the heat shield deflector:

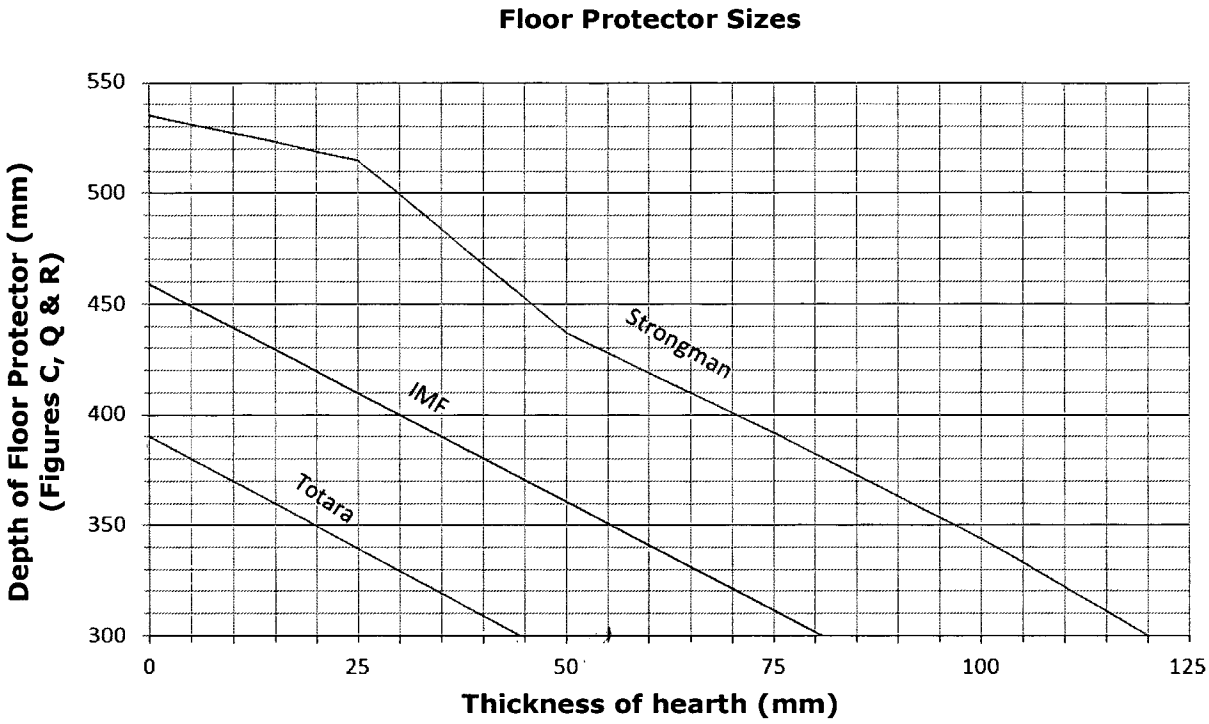
- Place the deflector on top of the heat shield and ensure no large gaps
- Fix in place by securing the tabs with rivets to the heat shield

WARNING

This part is required to be installed on the listed models with ALL types of flue kits. Failure to do so, may cause the ceiling to over heat. The part is located in the fire itself and not the flue kit packaging.

Floor Protector Graph

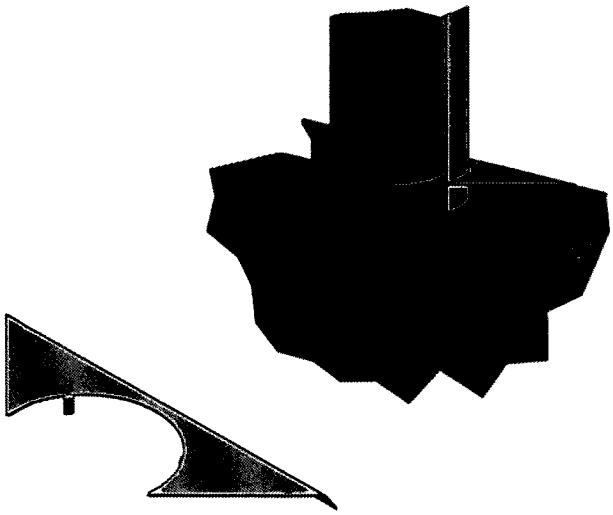
Graph 1



This graph refers to Page 4 dimension C and Page 5 diemnsion Q & R.

The floor protector distance out in front of the fire (taken from the door), is dependent on the thickness of the floor protector. The thicker the floor protector is above the surrounding combustible floor, the less this distance is out in front of the fire.

Optional Rear Deflector



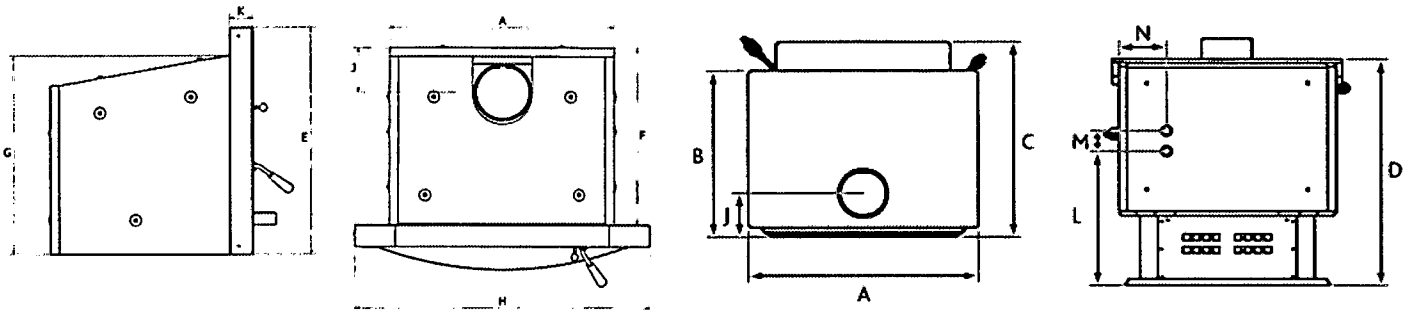
The optional rear deflector is used for reducing rear clearances for applicable fires (see page 4 for details). It is located loose in the firebox.

To fit the rear deflector, simply attach it to the rear shield of the fire using 2 rivets in the predrilled holes.

The rear deflector should be positioned tight up against the flue shield as shown.

Available for:
Brunner MKII, Tasman MKII & Tarras MKIII

Dimensions



		TOTARA	ECR MKIII, V	STRONG-MAN	RMF	IMF Deluxe	FLARE WOOD	FLARE MULTI	BRUNNER, TASMAN & ASPEN (≤2013)	BRUNNER MKII & TASMAN MKII	TARRAS MKII	TARRAS MKIII
A	Overall Stove Width	642	580	715	580	590	630	630	615	615	765	765
B	Stove Depth Door Frame to Rear		390	521	390		540	540	520	525	522	522
C	Overall Stove Depth Ledge to rear		450	590	450		602	602	633	630	627	640
D	Overall Stove Height		620	695	620		764	764	730	757	772	772
E	Insert Fascia Height	650				740						
F	Insert Depth	506				480						
G	Insert Maximum Height	570				590						
H	Insert Fascia Width	840				850						
J	Flue Centre to Back of Unit	136	150	141	150	115	181	181	149	145	142	142
K	Insert Fascia Depth	62				120/65						
L	Wetback Height		283				502	502	450	478	479	479
M	Wetback Centres		130				65	65	65	65	65	65
N	Wetback Position		290				133	133	106	107	180	180

Disclaimer;
While every attempt is made to ensure this information is as accurate as possible, a tolerance of +/- 5mm should be allowed for in these dimensions

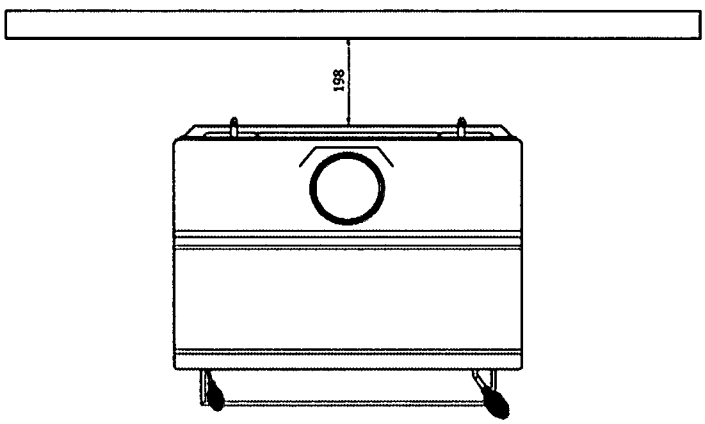
Reducing Clearances

The clearances that are provided on page 4 are to combustible materials. You can safely reduce those clearances by following the instructions located in AS/NZS 2918:2001 table 3.1 and 3.2

You can reduce the clearances by placing a non-combustible heat shield, with an air gap behind it and vented top and bottom, between the fire and the combustible wall. Masonry may be used as a heat shield material. The heat shield must extend a minimum of **450mm** beyond the top of the appliance and must be of appropriate width to ensure that the unshielded rear clearance is adhered to beyond the sides of the heat shield. See example below.

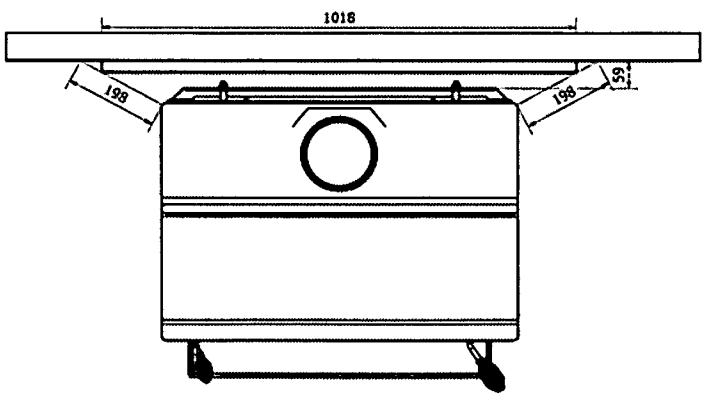
Clearance factors for heat shields which are within 45 degrees of the vertical

Heat Shield Construction	Minimum Air Gap Dimension	Clearance Factor
Single layer of continuous material	12mm	0.4
Single layer of continuous material	25mm	0.3
Two spaced layers of continuous material	12mm + 12mm	0.2



Unshielded Dimension for Woodsman Tarras MKII

Rear Clearance - 198mm (combustible to stove)



Heat shield with 25mm air gap with Woodsman Tarras MKII

Heat Shield - Single layer of continuous material with 25mm air gap.
Size 1018mm wide x 1222mm high

Reduced Rear Clearance - 59mm (combustible to stove)
Calculation: **198mm x 0.3 = 59mm**

WARNING - This is only an example, you must refer to the full AS/NZS 2918:2001 document for more details and consult your local building inspector. Where heat shields are used to reduce appliance dimensions, additional flue shielding may be required (refer 4.5.2).

Installation Instructions

This appliance should only be installed by a trained and NZHHA qualified installer.

Warning: the appliance and flue system shall be installed in accordance with AS/NZS 2918 and the appropriate requirements of relevant building code/codes.

Warning: appliances installed in accordance with this standard shall comply with the requirements of AS/NZS 4013 where required by the regulatory authority, i.e. the appliance shall be identifiable by a compliance plate with the marking "Tested to AS/NZS 4013".

Any modification of the appliance that has not been approved in writing by the testing authority is considered to be in breach of the approval granted for compliance with AS/NZS 4013.

Caution: mixing of appliance or flue system components from different sources or modifying the dimensional specification of components may result in hazardous conditions. Where such action is considered, the manufacturer should be consulted in the first instance.

Caution: cracked and broken components e.g. glass panels or ceramic tiles, may render the installation unsafe.

- Maintain a clearance of at least 1 metre between front of the appliance and building structure or any other substantial immovable object.
- If the appliance is installed on a heat sensitive floor, the floor should be protected with an insulation floor protector, which shall extend entirely beneath the heater. For the correct floor protector extension, refer to dimension C in FIG 1 & 2.
- Your appliance shall be seismically restrained, including the floor protector using the provided holes or brackets. The restraints should be sufficient enough to resist a seismic loading equal to 0.4 times the mass of the appliance. We recommend a minimum of 8mm dynabolts on concrete floors and 8mm coach screws for wooden floors of appropriate length.

WETBACK WARNINGS:

- Do not connect to an unvented hot water system.
- **NEVER** burn the appliance without the wetback connected to the water system. This will immediately damage the wetback and void the warranty.
- AS/NZS 2918:2001 states; "all water connections to an appliance shall be in accordance with the appropriate requirements of AS 3500.4.1 or NZS 4603 and the regulatory authority, as appropriate".

Minimum Material Specifications For Floor Protectors on a Floor of Combustible Material

MODEL	SPECIFICATION
BRUNNER TASMAN ASPEN TARRAS MKII	9mm Eterpan LD + 8mm ceramic tiles (or equivalent)
FLARE (All Variants) ECR (MkIII, IV, V) RMF TOTARA*	8mm ceramic tiles only (or equivalent)
STRONGMAN	24mm Eterpan LD (or equivalent)
BRUNNER MKII TASMAN MKII TARRAS MKIII	Ash Floor Protector. Any non-combustible material of any thickness

*The Totara is also approved with 1mm sheet steel with a 10mm spacing above combustible material. For use when extending hearths.

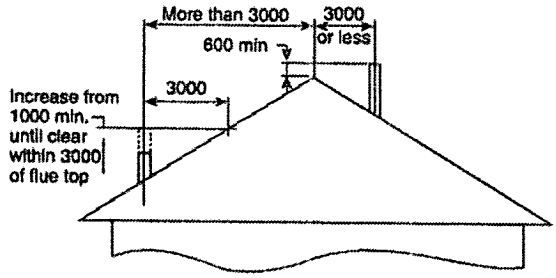
Minimum Flue Height

The top of the flue system should be at least 600mm above the highest point of the roof ridgeline, if the point of intersection of the flue system and the roof-line is less than 3 metres from the ridgeline horizontally.

If the point of intersection of the flue system and the roofline is greater than 3 metres horizontally, the top of the flue system shall be at least 1 metre above the point of intersection with the roofline. (refer FIG 3)

FIG 3.

DIMENSIONS IN MILLIMETRES



MINIMUM HEIGHT OF FLUE SYSTEM EXIT

These are considered to be **minimum dimensions,** and depending on local conditions, **taller flue system heights may be required for satisfactory performance.**

Flue Installation Detail

Your Woodsman appliance should be installed with a HeatSaver Flue System.

A HeatSaver Flue System is available from all authorised Woodsman dealers throughout New Zealand.

The HeatSaver Flue System contains a complete installation drawing and correct clearances from the ceiling level up. Minimum clearances from the appliance to nearby combustible surfaces are given in FIGS 1 & 2.

Use of a flue system other than a genuine HeatSaver Flue System may affect the safety of the installation, and may affect your Woodsman warranty.

Insist on a genuine HeatSaver Flue System.

Installation requirements for Woodsman fireplace inserts and flue system where timber framing is less than 50mm from the chimney structure.

Installation should be carried out by a qualified installer who will ensure:

- That the minimum clearances determined by tests in accordance with AS/NZS 2918:2001 are complied with to prevent overheating of nearby combustibles.
- That the minimum opening size of **600mm wide x 600mm high x 500mm deep** is available when firebricks are removed, and that extra provision also be made for plumbing where a hot water booster is fitted (where permitted).
- That any flue requirements specific to the model being installed are met in full - refer HeatSaver Flue System Instructions.
- Where the fireplace opening is in a heat sensitive wall, a non-metallic heat resistant material shall extend not less than 50mm beyond each side of the appliance and 150mm beyond the top of the appliance.
- Clearance of at least 1 metre between the front of the appliance and building structure, or any other substantial material object.
- That the insulating floor protector of non-combustible material is provided, extending not less than the dimensions shown in the chart. (Refer Table 2)
- A fireplace appliance shall not be connected to a flue common with an open fireplace.

Sealing Flue Joints

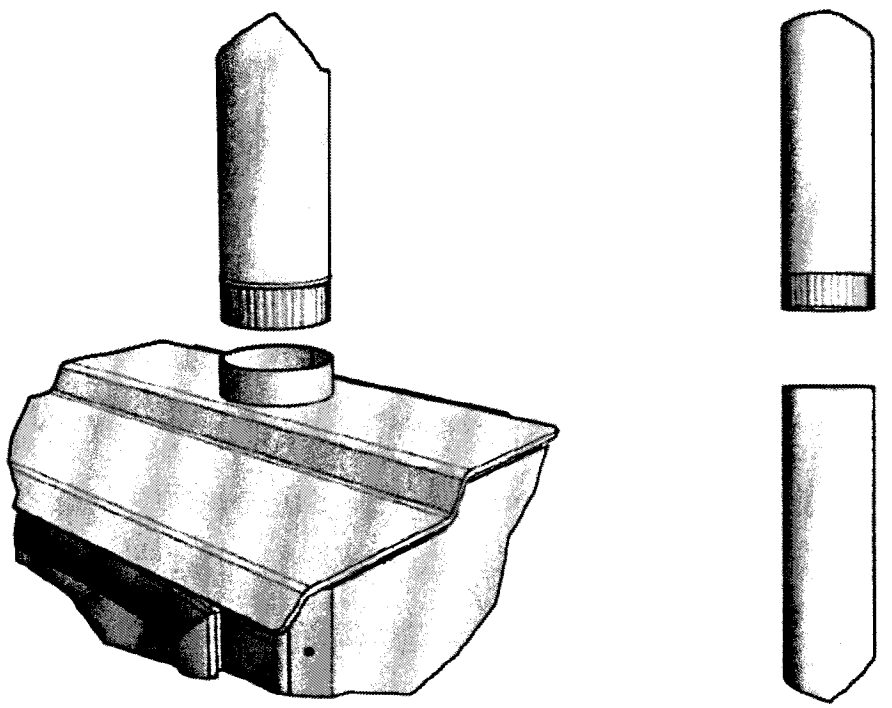
IMPORTANT

All Flue Joints Are Required To Be Sealed Using Flue Cement

It is extremely important that ALL flue joints are sealed at the time of installation using flue cement or a suitable exhaust cement.
If flue joints are not sealed properly, it can lead to performance issues with the fire such as;

- Lower heat output of the fire, due to decreased performance
- Blocked flue
- Smoke coming out the door when open, due to decreased suction
- Hard to light

The formation of soot and creosote will not seal the flues, especially on the lower lengths, as the high temperatures inhibit its formation.



Any issues that arise as a result of the flues not being sealed, are not covered by the warranty and are not the responsibility of the manufacturer.
It is the installers responsibility to ensure that this is done at the time of installation.

Waikato DISTRICT COUNCIL
Te Kaunihera oo Takiwaa o Waikato

FILE

Form 7
CODE COMPLIANCE CERTIFICATE
Section 95 Building Act 2004

The Building

Street address of building:	1437 B State Highway 23 WHATAWHATA
Legal description of land where building is located:	LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS
Valuation number:	06371/104.29
Property number:	2007123
Building name:	N/A
Location of building within site/block number:	N/A
Level/unit number:	N/A
Current, lawfully established, use:	Outbuildings
Number of occupants per level and per use if more than 1:	N/A
Year first constructed:	2017

The Owner

Name of owner:	A C Brown, J L Coutts
Contact person:	Aaron
Mailing address:	1435 State Highway 23, RD 9, Hamilton 3289

Street address/registered office: 1435 State Highway 23, RD 9, Hamilton 3289

Phone numbers:

Landline:	N/A	Mobile:	027-2454571
Daytime:	N/A	After hours:	N/A
Facsimile number:	N/A	Email address:	aaronbrown@alliedsecurity.co.nz
Website:	N/A		

First point of contact for communications with the building consent authority

Name:	Versatile Buildings Limited - Frankton
Mailing address:	PO Box 5398, Frankton, Hamilton 3242

Phone numbers:

Landline:	N/A	Mobile:	N/A
Facsimile number:	07-8462002	Email address:	iridgway@versatile.co.nz; -

Building Work:

Project:	**Garage**
Building consent number:	**BLD1524/17**
Issued by:	**Waikato District Council**

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that —

(a) the building work complies with the building consent

Signature:

Name: **Tim Goodman**
Position: Building Inspector
On behalf of: Waikato District Council **Date: 27 October 2017**

Waikato DISTRICT COUNCIL
Te Kaunihera oo Takiwaa o Waikato

Form 5

BUILDING CONSENT NO: BLD1524/17

Section 51, Building Act 2004

ISSUED BY: WAIKATO DISTRICT COUNCIL

The Building

Street address of building:	1437 B State Highway 23 WHATAWHATA
Legal description of land where building is located:	LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS
Valuation Number: 06371/104.29	Property Number: 2007123
Building name:	N/A
Location of building within site/block number:	N/A
Level/unit number:	N/A

The Owner

Name of owner:	A C Brown, J L Coutts
Contact person:	N/A
Mailing Address:	1435 State Highway 23, RD 9, Hamilton 3289

Street address/registered office: N/A

Phone numbers:

Landline:	N/A	Mobile:	027-2454571
Daytime:	N/A	After hours:	N/A
Facsimile number:	N/A	Email address:	aaronbrown@alliedsecurity.co.nz
Website:	N/A		

First point of contact for communications with the Building Consent Authority

Name:	Versatile Buildings Limited - Frankton
Mailing Address:	PO Box 5398, Frankton, Hamilton 3242

Phone numbers:

Landline:	N/A	Mobile:	N/A
Daytime:	07-8466055	Fax number:	07-8462002
Email address:	iridgway@versatile.co.nz		

Building Work

The following building work is authorised by this building consent:

Garage

Project type:	Garage	$18,000
Total Value of work:		$18,000

This building consent is issued under Section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building).

This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

Waikato District Council
Building Consent No: BLD1524/17

This Building Consent is subject to the following conditions:

1. Inspections:
When booking your inspections please phone (07) 824 8633 or (0800) 492 452 and quote your building consent number. Whilst we will endeavour to provide inspections in a timely manner, please provide **at least 48 hours notice** prior to any of the following mandatory inspections.

- Excavation, Siting, Foundation and PreFloor Building (prior to pouring concrete) - *Owner/builder to locate boundary pegs prior to council carrying out a foundation/siting inspection.*

- Final Building (Code Compliance Certificate) to be called for - *Some final inspections require Council to have access into the building. If no-one is onsite to allow access to the interior of the building it is likely the inspection will fail.*

2. The following documents from third parties need to be provided to the BCA to certify that the building work complies with the plans and specifications and in order for Council to issue a CCC:

Certificates / Memorandums / Statements / Letters:

- Code Compliance Certificate application
- Electrical Compliance Certificate (if applicable)

Compliance Schedule:
- A compliance schedule is not required for the building.

Advisory Notes:

- Stormwater shall be disposed of in an approved manner.

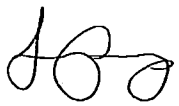
- All timber treatment shall comply with NZS 3602:2003.

Lapsing of a building consent:
A building consent lapses and is of no effect if the building work to which it relates does not commence within:

a) 12 months after the date of issue of the building consent or
b) Any further period that the building consent authority may allow.

Code Compliance Certificate will be issued after your final inspection has been carried out and passed, you have applied for your Code Compliance Certificate and all documentation has been received and approved.

Signature:



Name: **Lisa Pudney**
Position: **Building Administrator**

On Behalf of: **Waikato District Council**

Date: **11 May 2017**

Waikato Building Consents

Working Together

As Laid Drainage

Building Consent Number: Bld 1524/17 Date: ../../.. No. of pages: ..

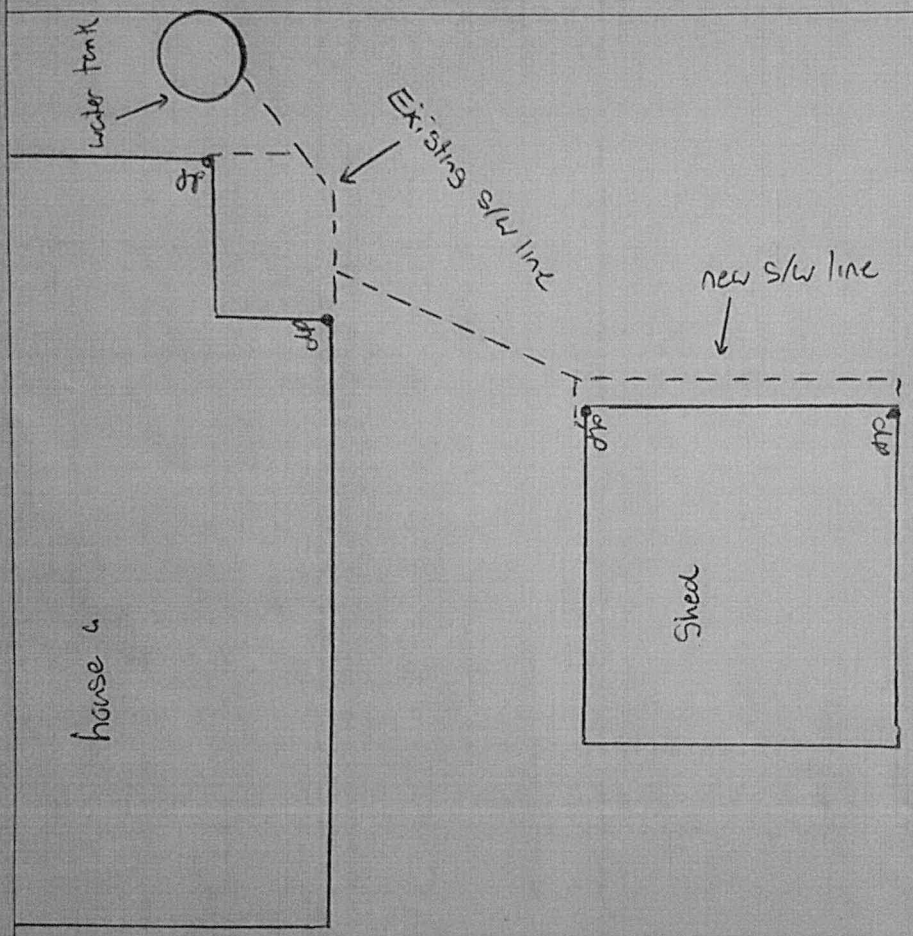
Building Address: 1435 SH 23 whatawhata

Drain Layer Name: Jamie Ross [Please print clearly] Signature: JRoss

Registration Number: 17601 Business Name: Tee Drainage

To Council: [Tick]

☐ Hamilton ☐ Hauraki ☐ Matamata-Piako ☐ Otorohanga ☐ Thames-Coromandel ☐ Waipa ☑ Waikato ☐ Waitomo



E-MAILED

HAURAKI matamata piako district council Waitomo OTOROHANGA Waipa Waikato THAMES COROMANDEL Hamilton City Council

Electrical Workers Registration Board

SAFETY | COMPETENCY | COMPLIANCE

Electrical Certificate of Compliance and Electrical Safety Certificate

Reference/Certificate ID No:

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

LOCATION AND CONTACT

Location Details	1435 State HighWAY 23	Contact Address	
Contact Name	Aaron Brown	Postcode	
Name of Electrical worker:	O.Robinson	Registration/Practising licence number:	E263766
Organisation/ company:	Robinson Electrical		
Phone:	027717 8359	Email:	
Name of person(s) supervised:			

CoC

Type of work:	( ) Additions	( ) Alterations	(X) New work
The prescribed electrical work is:	( ) Low risk	(X) General	( ) High risk (specify):
Reference Standards:	( ) Part 1 of AS/NZS 3000		(X) Part 2 of AS/NZS 3000
	( ) Additional Standards:		

Description of work: (including date/s of work and type of supply system)

1X Sub board 6MM² 2C+E S-bMains
4X Light outlets
5X Power Points

I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct in that the installation, or part of the installation:

Select those that apply:

- ~~Has been installed in accordance with the specified certified design~~[1]
- ✓ Has an earthing system that is correctly rated (where applicable)
- ✓ Contains fittings that are safe to connect to a power supply
- ✓ Relies on a supplier Declaration of Conformity[1]
- ✓ Has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010
- ✓ Is safe to connect

Test Results	
Polarity (independent earth):	
Insulation resistance:	✓
Earth Continuity:	✓
Bonding:	
Fault Loop Impedance:	✓
Other (specify): RCD	✓

Electronic/Other reference: J.A Russell

Certifier's signature:

Date: 19 / 10 / 2017

[1] Attach or reference. If it is impractical to attach a copy of a particular manufacturer's instructions, or of any certified design or supplier declaration of conformity, provide a reference to where the documents can be found, in a readily accessible format, by electronic means.

ESC

I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: O.Robinson

Registration/Practising licence number: E263766

Certifier's signature:

Certificate Issue Date: 19 / 10 / 2017

Connection Date: 19 / 10 / 2017.

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.

MR 14132 04/17

Waikato Building Consents

Working Together

As Laid Drainage

Building Consent Number: Bld 1524/17 Date: / / No of pages:

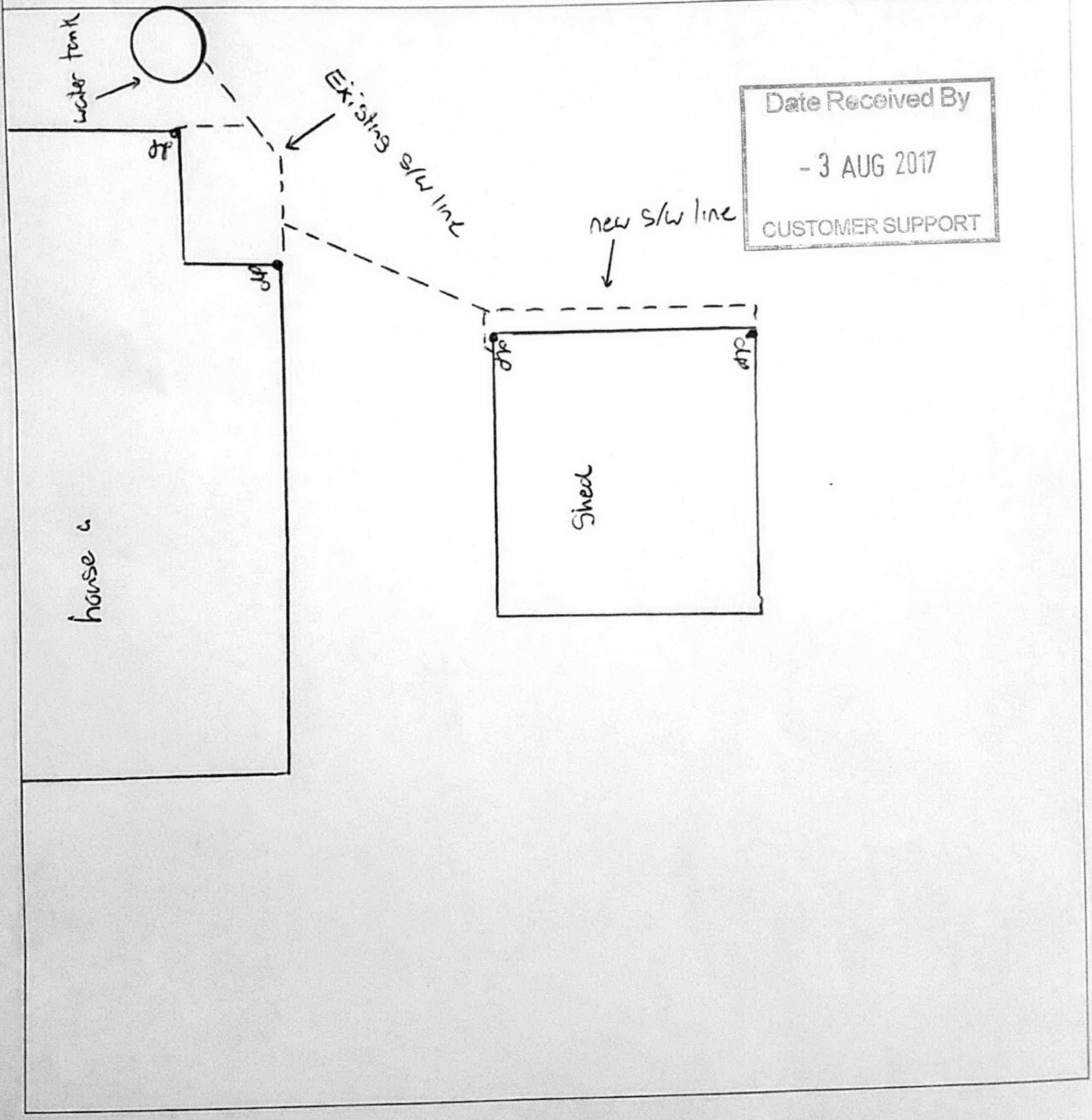
Building Address: 1435 SH 23 whatawhata

Drain Layer Name: Jamie Ross [Please print clearly] Signature:

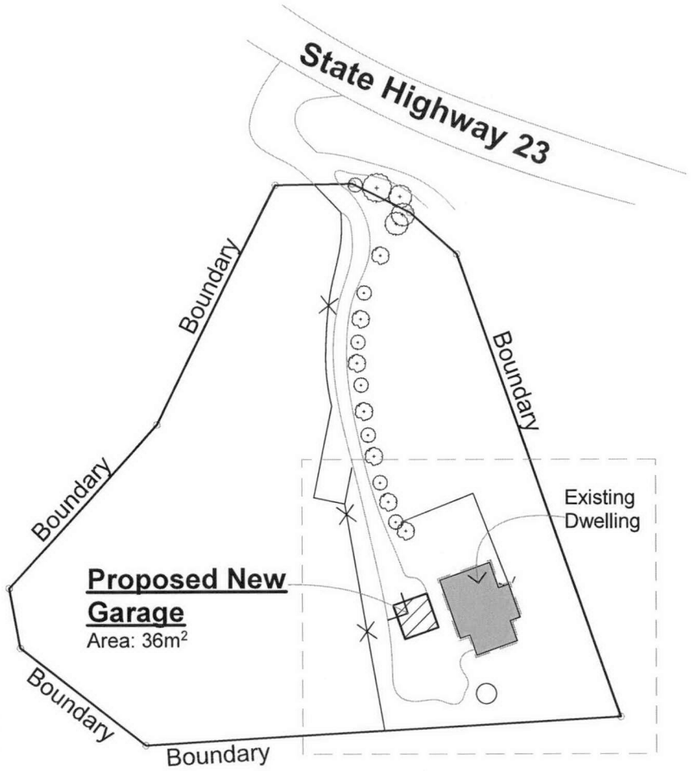
Registration Number: 17601 Business Name: Tee Drainage

To Council: [Tick]

☐ Hamilton ☐ Hauraki ☐ Matamata-Piako ☐ Otorohanga ☐ Thames-Coromandel ☐ Waipa ☑ Waikato ☐ Waitomo

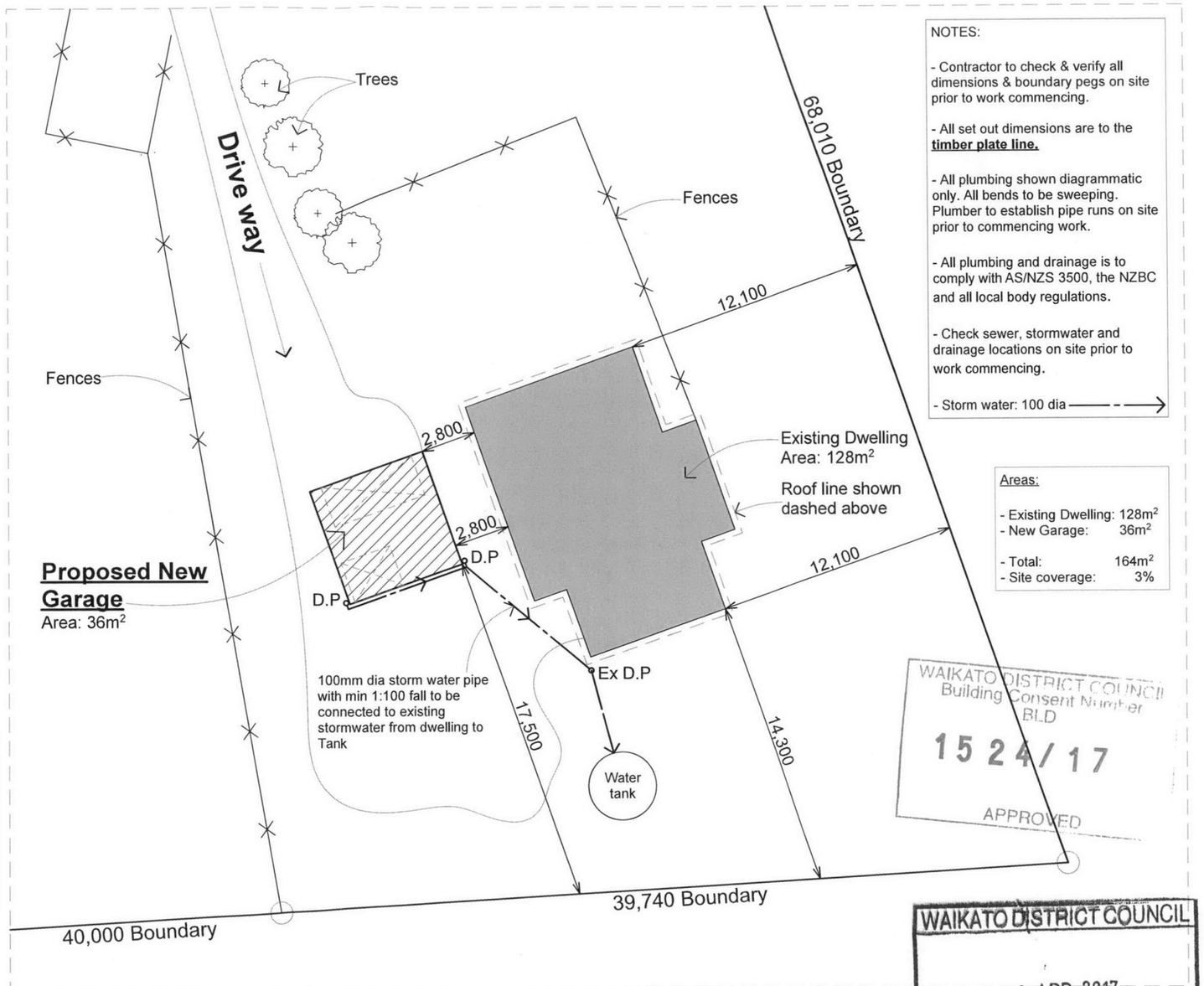


DIMENSIONS IN mm UNLESS OTHERWISE STATED



Site Location Plan

Scale 1 : 1000



NOTES:

- Contractor to check & verify all dimensions & boundary pegs on site prior to work commencing.
- All set out dimensions are to the **timber plate line.**
- All plumbing shown diagrammatic only. All bends to be sweeping. Plumber to establish pipe runs on site prior to commencing work.
- All plumbing and drainage is to comply with AS/NZS 3500, the NZBC and all local body regulations.
- Check sewer, stormwater and drainage locations on site prior to work commencing.
- Storm water: 100 dia ——— - - ——→

Areas:

- Existing Dwelling:	128m²
- New Garage:	36m²
- Total:	164m²
- Site coverage:	3%

New Proposed Garage for:
A. Brown
1435 SHW 23, Whatawhata
Legal Description:
Total Sq: 6,182 m²
Lot 2
DP: 77487
High Windzone
Zone 1 E/Q

NORTH

Site Plan

Scale 1 : 250

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For:
Aaron Brown
No.1435 State Highway 23
Whatwhata

Site Plan

Sheet 2

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

IPENZ ENGINEERS NEW ZEALAND | NEW ZEALAND INSTITUTE OF ARCHITECTS INCORPORATED | ACENZ

Building Code Clause(s) B1 and B2

PRODUCER STATEMENT - PS1 - DESIGN

(Guidance notes on the use of this form are printed adjacent)

ISSUED BY: MiTek New Zealand Limited (Design Firm)

TO: Spanbild New Zealand Limited (Owner/Developer)

TO BE SUPPLIED TO: Waikato District Council (Building Consent Authority)

IN RESPECT OF: Proposed Building (Garage) (Description of Building Work)

AT: 1435 SHW 23, Whatawhata, New Zealand (Address)

LOT 2 **DP** 77487 **SO**

We have been engaged by the owner/developer referred to above to provide Engineering Design services in respect of the requirements of clauses B1 and B2 of the Building Code for
All ☐ or Part only ☑ (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with:

☑ Compliance Documents issued by the Ministry of Business, Innovation & Employment

B1/VM1, B2/AS1, AS/NZS 1170 (Parts 0, 1, 2 & 3), NZS 3603:1993, NZS 3604:2011

The proposed building work covered by this producer statement is described on the drawings titled

VB2000 - Design and numbered Sheets 1, 3-4, 7-19

together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

(i) Site verification of the following design assumptions;
Building IL1, Light roof, Max. height 4.2m

(ii) All proprietary products meeting their performance specification requirements;
and are selected in accordance with NZS3604:2011 Section 4 Durability

(iii) Timber treatment shall be selected in accordance with B2/AS1 Table 1A and relevant sections of NZS3602:2003

I believe on reasonable grounds that a) the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code and that b), the persons who have undertaken the design have the necessary competency to do so. I also recommend the following level of construction monitoring/observation:

☐ CM1 ☐ CM2 ☐ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ☑ as per agreement with owner/developer (Architectural)

I, In Ling Ng (Name of Design Professional) am: ☑ CPEng 146585 #

☐ Reg Arch #

I am a Member of : ☑ IPENZ ☐ NZIA and hold the following qualifications: CP Eng, IntPE, BE(Hons)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.

The Design Firm is a member of ACENZ: ☐

SIGNED BY In Ling Ng ON BEHALF OF MiTek New Zealand Limited (Design Firm)

Date 6 April 2017 (signature) In Ling Ng

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000*.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

PRODUCER STATEMENT PS1 October 2013

EXPLANATION

This design covers the structural aspects of a Versatile 600 Series building.
The sequence of design information is broken down into the following categories:

- Foundation.
- Wall Framing.
- Truss Design.
- All Structural Fixings.
- Building Bracing Design for both Roof and Walls.

All other aspects of the structure are constructed in accordance with the standard Versatile Buildings details.

These buildings have been designed for a Building Importance Level 1, with a 50 year working life. Refer to AS/NZS 1170.0:2002

DESIGN LOADS

Dead Loads for Light Roof:
Truss Top Chord= 0.15kPa (includes weight of trusses, purlins , associated framing and zincalume roof).
Truss Bottom Chord=0.20kPa for trusses @ 1200crs with ceiling.

Live Loads:
Truss Top Chord= 1.1kN concentrated load, 0.25kPa uniform load.
Truss Bottom Chord=0.9kN concentrated load below 1200mm head height and 1.4kN concentrated load above 1200mm head height.

Wind Loads:
Building designed for Very High wind conditions.

Seismic loads:
Building designed for Seismic Zone 1.

Snow loads:
Buildings designed for None, Sg = 0.0kPa

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/ 17
APPROVED

Refer to MiTek New Zealand Limited for any design modifications required for increase in snow loads or wind loads above those stated on the drawings.

DESIGN REFERENCES

- NZS3603:1993
- NZS3604:2011
- AS/NZS1170 Part 0:2002
- AS/NZS1170 Part 1:2002
- AS/NZS1170 Part 2:2011
- AS/NZS1170 Part 3:2003
- ANSI/TPI1 - 2002

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

MiTek® MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

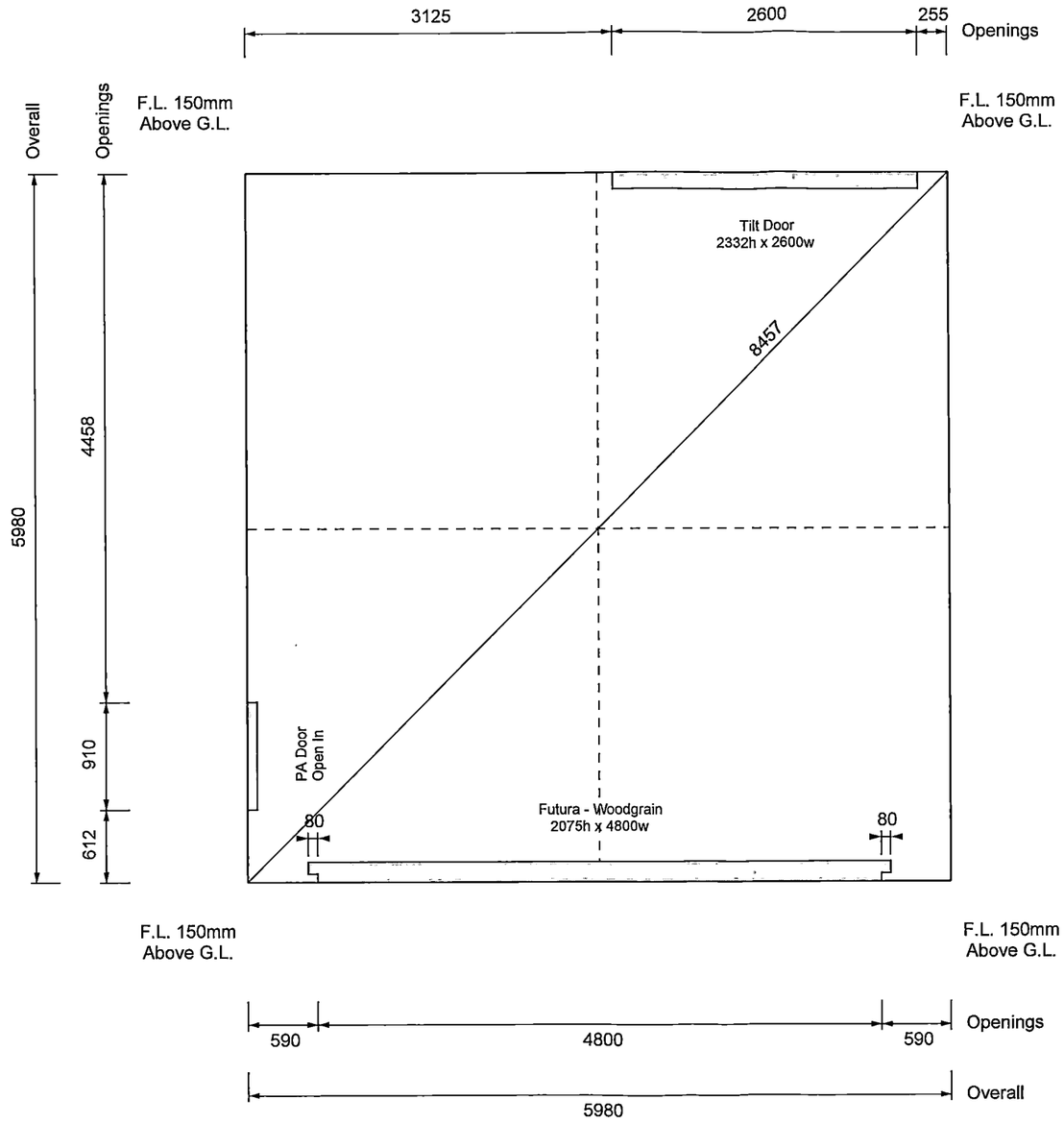
VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Producer Statement

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS



LEGEND

	Diagonal: 8457
- - - - - -	Expansion Cut

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
1524/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

SCALE A3-1:50

3
4 2
1

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000

Concrete Floor Plan

Sheet 5 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

IPENZ ENGINEERS NEW ZEALAND | NEW ZEALAND INSTITUTE OF ARCHITECTS INCORPORATED | ACENZ

Building Code Clause(s) B1

PRODUCER STATEMENT - PS1 - DESIGN

(Guidance notes on the use of this form are printed adjacent)

ISSUED BY: Calibre Consulting Limited (Project Ref: 707370)
(Design Firm)

TO: Spanbild New Zeleand Limited
(Owner/Developer)

TO BE SUPPLIED TO: Waikato District Council
(Building Consent Authority)

IN RESPECT OF: Stand alone, non-habitable importance level 1 (IL1 - 50 year design life), building slab and foundation
(Description of Building Work)

AT: 1435 SHW 23, Whatawhata
(Address)
LOT 2 **DP** 77487 **SO**

We have been engaged by the owner/developer referred to above to provide Structural Engineering Design services in respect of the requirements of
(Extent of Engagement)
Clause(s) B1 (Refer to Note 1 re: durability) of the Building Code for
All ☐ or Part only ☑ (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with:

☑ Compliance Documents issued by the Ministry of Business, Innovation & Employment B1/VM1, B1/VM4
(verification method / acceptable solution)

The proposed building work covered by this producer statement is described on the drawings titled VB2000 IL1 Foundation and numbered Sheets 5-6; together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

(i) Site verification of the following design assumptions
Subsoil is good ground except that ultimate bearing capacity is 300kPa or 100kPa and design loadings as noted

(ii) All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that a) the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code and that b), the persons who have undertaken the design have the necessary competency to do so. I also recommend the following level of construction monitoring/observation:

☐ CM1 ☐ CM2 ☐ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ☑ as per agreement with owner/developer (Architectural)

I, John McCurran (Name of Design Professional) am: ☑ CPEng 48451 #
☐ Reg Arch #

I am a Member of : ☑ IPENZ ☐ NZIA and hold the following qualifications: BE(Civil)
The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
The Design Firm is a member of ACENZ: ☑

SIGNED BY John McCurran ON BEHALF OF Calibre Consulting Limited (Design Firm)

Date 6 April 2017 (signature) Building Consent lodgement must be prior to 15 April 2017

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000*.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

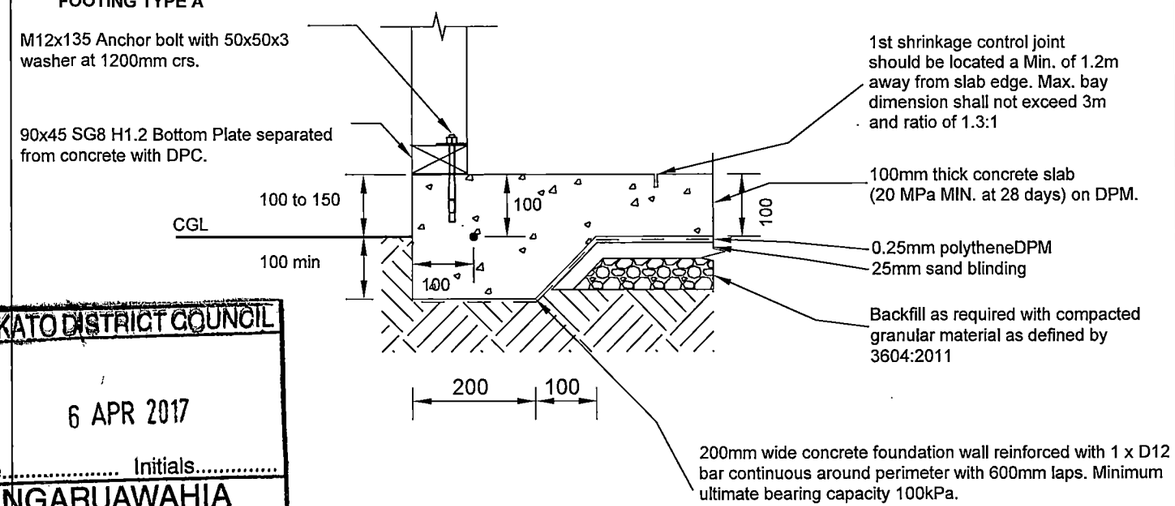
PRODUCER STATEMENT PS1 October 2013

GARAGE FOUNDATION DETAIL

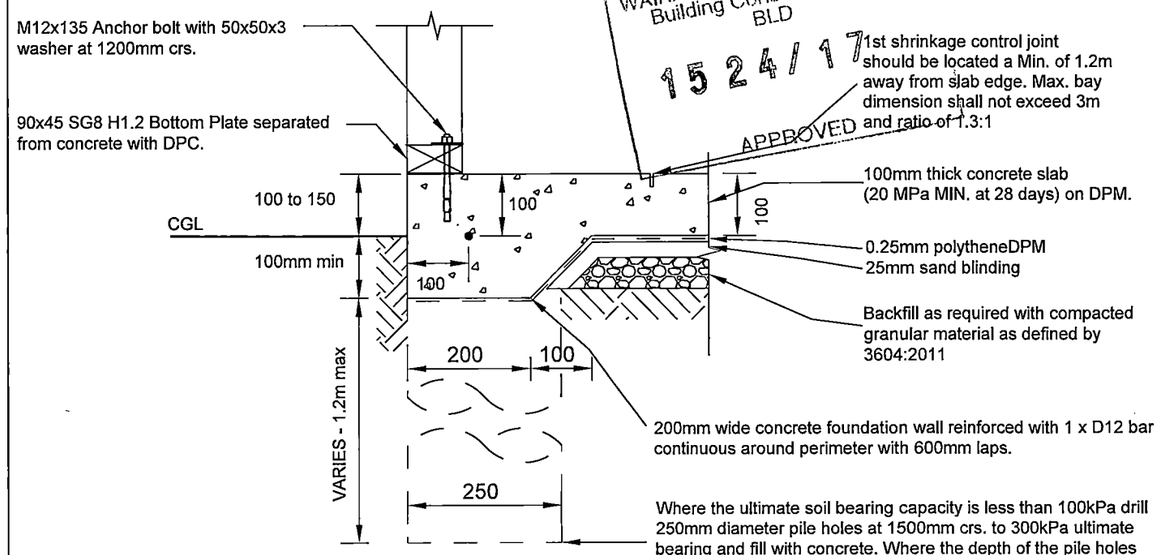
Notes:

1. **Concrete Covers have been selected in accordance with NZS 3101, Part 1 Section 3.**
2. **Strip the site, removing vegetation, turf, soils containing organic matter and any loose or soft material, trim to a firm subgrade. Backfill as required with compacted granular material as defined by 3604:2011.**
3. **Footing Type A shall be found in good ground defined by NZS 3604 but having a minimum ultimate bearing capacity of 100kPa.**
4. **Where the ultimate bearing capacity is less than 100kPa use Footing Type B.**

FOOTING TYPE A



FOOTING TYPE B



SCALE: A3-1:10

MiTek® **MiTek New Zealand Limited**
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

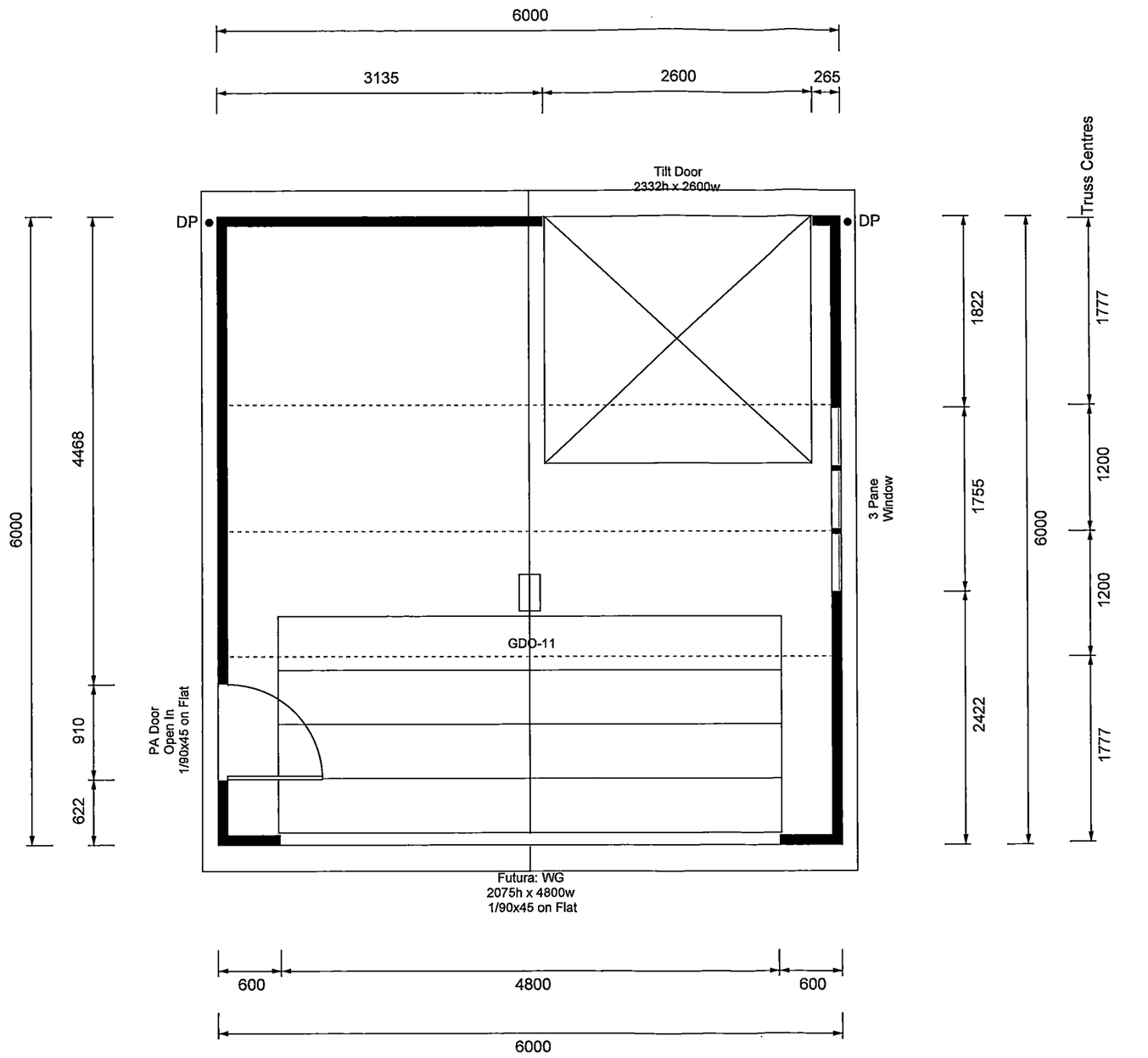
For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - IL1 Foundation

Foundation Details

Sheet 6 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS



LEGEND	
Sectional Door	
WG	Woodgrain Finish
GDO11	GDO11 Auto Opener
PVC Downpipe	
DP	65mm dia

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

SCALE A3-1:50

3
4 2
1

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

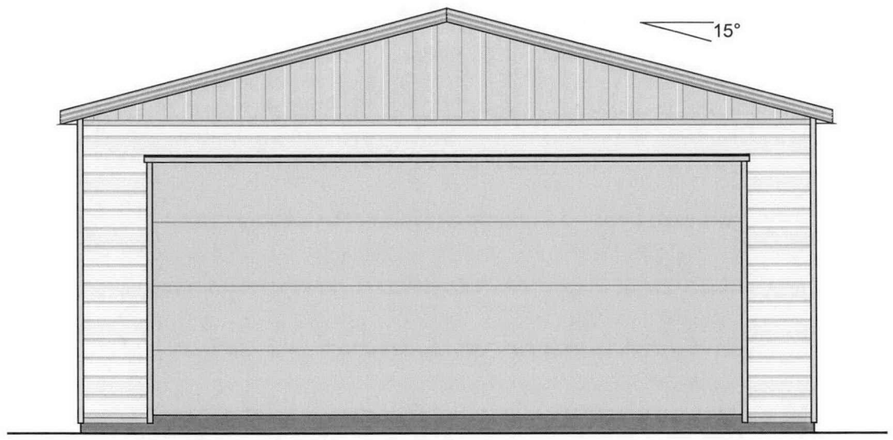
For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Floor Plan General

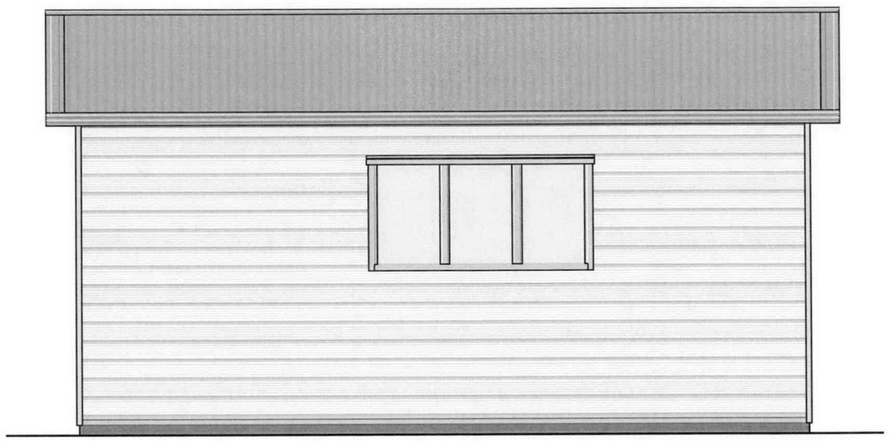
Sheet 7 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS



Futura: WG
2075h x 4800w

ELEVATION VIEW 1



3 Pane
Window

ELEVATION VIEW 2

Tilt Door
2332h x 2600w

ELEVATION VIEW 3

PA Door
Open In

ELEVATION VIEW 4

SCALE A3-1:50

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Elevations

Sheet 8 of 22

Cl/SfB

MAY 2012

Thermakraft

THERMAKRAFT 213 BITUMINOUS HEAVY WEIGHT BUILDING PAPER

APPLICATION AND INSTALLATION

Product Description

THERMAKRAFT 213 BITUMINOUS HEAVY WEIGHT BUILDING PAPER is specifically designed for use in Domestic and Commercial type buildings.

THERMAKRAFT 213 is a black breathable, absorbent bituminous wall and roofing underlay.

THERMAKRAFT 213 will provide the following functions:

- Reduce wind entry into the cavity, thereby assisting the performance of thermal insulation.
- Highly water vapour permeable, thereby allowing excess water vapour which might otherwise condense in the structure, to escape.
- Provides a temporary protection against wind, dust, rain and other weathering elements until the external cladding is applied.

THERMAKRAFT 213 is not designed for use in extreme weather conditions.

Applications

THERMAKRAFT 213 is suitable as a wall and roofing underlay with all cladding types, and it can be used as a wall and roofing underlay where Fire Retardancy is **NOT** required.

THERMAKRAFT 213 is suitable as a roofing underlay when installed to the Roofing Code of Practice, supported on **Thermakraft Safety Mesh** 300mm x 150m or hexagonal netting 50mm or 75mm, or **Thermakraft Arctic White Thermastrap 203**, or **Thermakraft Thermastrap 201**.

THERMAKRAFT 213 must not be left exposed to the elements for more than 7 days as a roofing underlay, or 28 days as a wall underlay. Cladding on the same day is recommended.

THERMAKRAFT 213 cannot be used as an Air Barrier. Use **Thermakraft Synthetic Wall Underlays** (refer **Thermakraft Customer Services** on **0800 806 595**) or use **Thermakraft 215 Bituminous Self Supporting Roofing Underlay.**

NOTE: **THERMAKRAFT 213** must not be used with a roof pitch below 10 degrees. For applications with a Roof pitch <10 degrees, **Thermakraft** recommends **Thermakraft** COVERTEK407 or **Thermakraft 215 Self Supporting Roofing Underlay**. If Fire Retardancy (F1 <5) is required, use **Thermakraft** COVERTEK407.

Installations Roofing

THERMAKRAFT 213 can only be used at pitches of 10 degrees or above, and may run horizontally on netting starting at the gutter and working up the roof slope with a minimum 150mm lap. **THERMAKRAFT 213** may be run vertically on netting starting at the gutter to the ridge with a minimum 150mm lap. Secure to rafters/trusses using appropriate fixing clouts or clips. Wire netting must be stretched and tight.

Control of Condensation

In climatic regions where condensation risks are high, such as cold or high humidity areas, care needs to be taken in specifying the correct design and installation to prevent moisture build-up in the roof cavities.

Factors which adversely affect the condensation risk in roofing systems include:

- Humid, and/or cold climatic regions
- Warm/Skillion roof construction
- Low roof cavity air volume and restricted air movement
- Omitting Vapour Control Layers
- Ceiling penetrations and entry of warm air into roof cavities
- Occupancy activities which have high moisture loading on conditioned spaces
- Low pitched roof
- Bulk insulation
- Building structures ability to naturally dry Construction Moisture

Skillion and Warm Roof Construction are particularly sensitive to moisture accumulation and the design and installation of roof construction needs to take into account the higher condensation risks. Refer MRM Code of Practice for details.

E. & O. E.

Cl/SfB

MAY 2012

Thermakraft

THERMAKRAFT 213 BITUMINOUS HEAVY WEIGHT BUILDING PAPER

TECHNICAL SPECIFICATIONS

Technical Data

THERMAKRAFT 213 BITUMINOUS HEAVY WEIGHT BUILDING PAPER complies with the requirements of NZBC E2/AS1 Table 23.

Nominal Grammage 230g/m2

NZBC E2/AS1 TABLE 23 AS A WALL UNDERLAY REQUIREMENTS		
NZBC E2/AS1 TABLE 23 WALL UNDERLAY PROPERTIES	**PROPERTY PERFORMANCE REQUIREMENTS**	**PROPERTY PERFORMANCE**
Absorbency	≥ 150 gsm	Pass
Vapour Resistance	≤7 MN.s/g	Pass
pH of Extract	≥6 and ≤9	Pass
Shrinkage	≤0.5%	Pass
Water Resistance	≥100mm	Pass

NZS2295:2206 Classification		
Flammability Index		**Non Fire Retardant**
Wind Zone	R1 and W2	Up to Very High
NZS2295:2006 Classification	R1 and W2	Heavy Weight

Durability/Limitations

For **THERMAKRAFT 213** to meet the Performance Requirements of NZBC Clause B2, Durability B2.3.1(a) 50 years and B2.3.1(b) 15 years, E2 External Moisture providing;

- installed in accordance to the Application and Installation Guidelines,
- run length no greater than 10 metres,
- is not left exposed for more than (7 days) roof,
- is not left exposed for more than (28 days) wall,
- installed in medium wind zones or below,
- when used on LOSP treated timber, the timber must be free of solvent,
- installed by a licensed building practitioner,
- installed in accordance with the Roofing Code of Practice.

E. & O. E.

Cl/SfB

MAY 2012

Thermakraft

THERMAKRAFT 213 BITUMINOUS HEAVY WEIGHT BUILDING PAPER

APPLICATION AND INSTALLATION

Installations
Wall

THERMAKRAFT 213 should be fixed to the exterior face of the framing, running horizontally. Start at the lower edge 20mm past the perimeter joists and run to the top of the framing. A minimum of 75mm overlapping is recommended. Fix with **Thermakraft Arctic White Thermastrap 203** or **Thermastrap 201** to the outside face of the studs with 8-12mm staples at 300mm centres.

NOTE: For wall cavity systems, NZBC Acceptable Solution E2/AS1 Paragraph 9.1.5.5 requires where stud spacings are greater than 450mm centres, an intermediate means of restraining the building underlay and insulation from bulging into the drained cavity shall be installed.
An acceptable means of achieving this is by fixing **Thermakraft Arctic White Thermastrap 203** or **Thermakraft Stud Strap** horizontally at 300mm centres.

Storage

THERMAKRAFT 213 should be stood on end in dry conditions.
Protect from the weather and direct sunlight.

Roll Dimensions

1370mm x 73.0m = 100m² 23kg
1370mm x 36.5m = 50m² 11.5kg (2 per pack)
1340mm x 19.0m = 25m² 5.7kg (3 per pack)

For more information regarding **Thermakraft COVERTEK407 FIRE RETARDANT SELF SUPPORTING ABSORBENT BREATHABLE SYNTHETIC NON WOVEN ROOFING UNDERLAY** refer to the "DESIGNER and USER GUIDELINES" - Direct and Cavity Fix, or contact **Thermakraft Customer Services** on **0800 806 595.**

E. & O. E.

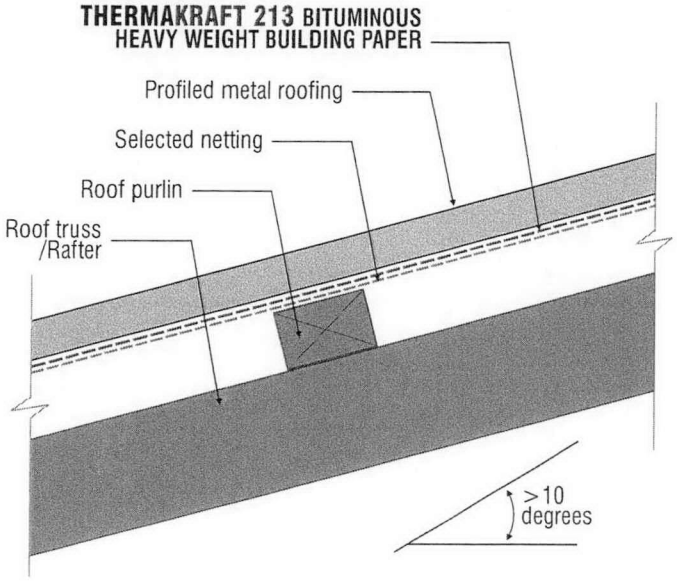
CI/SfB

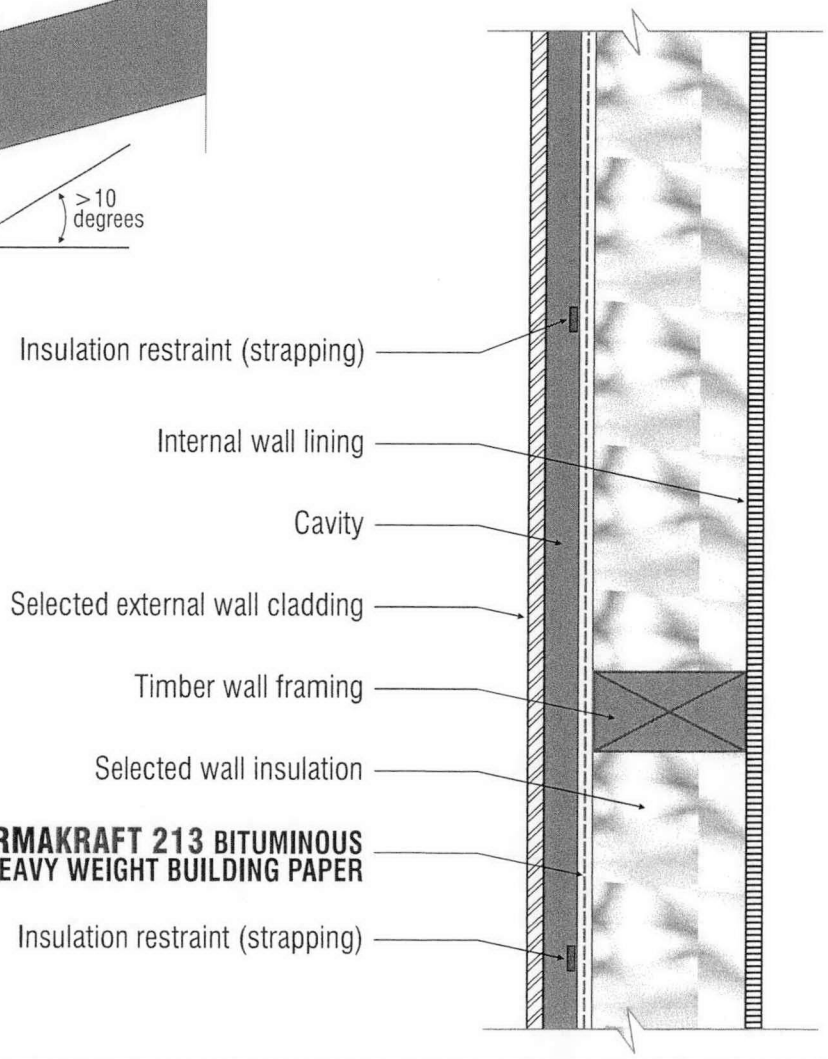
MAY 2012

Thermakraft

THERMAKRAFT 213 BITUMINOUS HEAVY WEIGHT BUILDING PAPER

TECHNICAL SPECIFICATIONS





Thermakraft Industries (NZ) Ltd

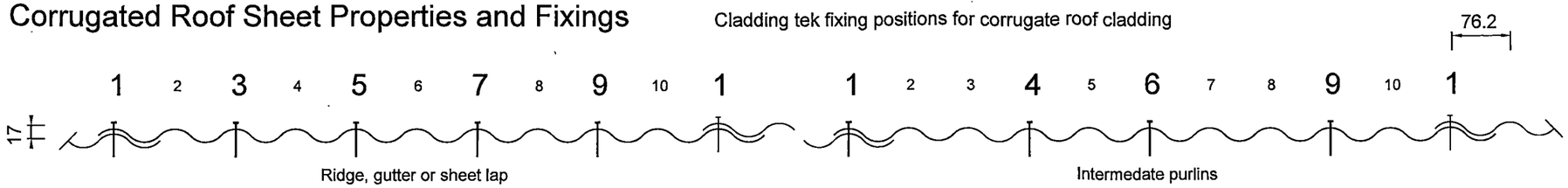
11 Turin Place, East Tamaki, Auckland, New Zealand
PO Box 58-112, Botany, Manukau 2163, New Zealand
Phone: 09-273 3727 Fax: 09-273 3726 Free Phone: 0800 806 595
Email: sales@thermakraft.co.nz Website: www.thermakraft.co.nz

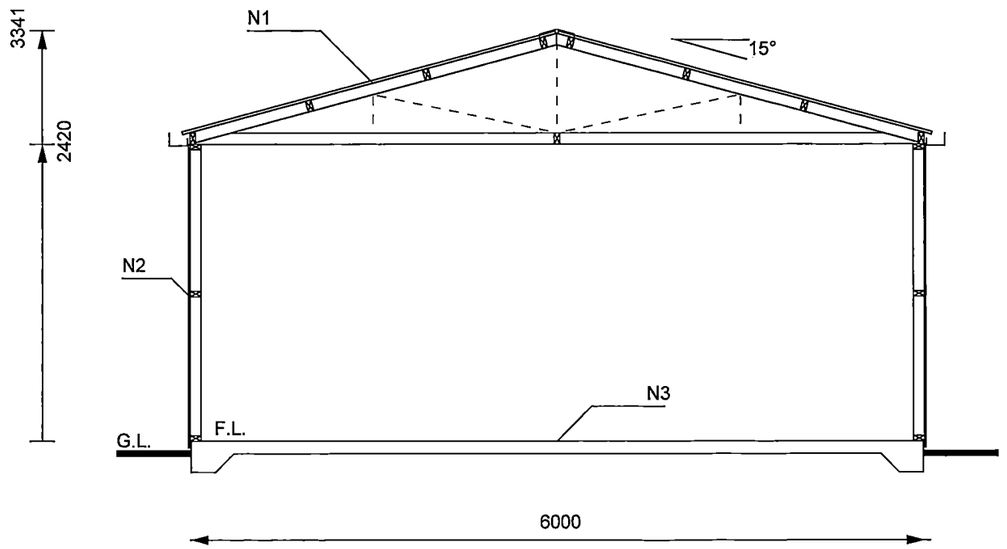
E. & O. E.

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

Corrugated Roof Sheet Properties and Fixings

Cladding tek fixing positions for corrugate roof cladding





NOTES

N1 : ROOF
- Corrugated 0.40mm roofing over roofing underlay over 90x45 SG8 H1.2 purlins @ 1000mm centres max, fixed between trusses.

- For purlin fixings and bottom chord truss stiffeners refer to 'Roof Framing' sheet 12 of 22.
- For truss centres refer to 'Floor Plan General' sheet 7 of 22.
- For truss design and fixings refer to 'Truss Design' sheet 13 of 22 and 'Truss Fixing Details' sheet 14 of 22.

N2 : WALLS
- Superclad cladding over 90x45 SG8 H1.2 studs @ 600mm centres max with 1 row of 90x45 NLB H1.2 dwangs.

N3 : FLOOR
- For foundation details refer to 'Foundation Details' sheet 6 of 22.
- H1.2 Bottom plate to be fixed to the foundation with M12x135 Anchor bolt with 50x50x3 washer at 1200mm crs.

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

SCALE A3-1:50

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

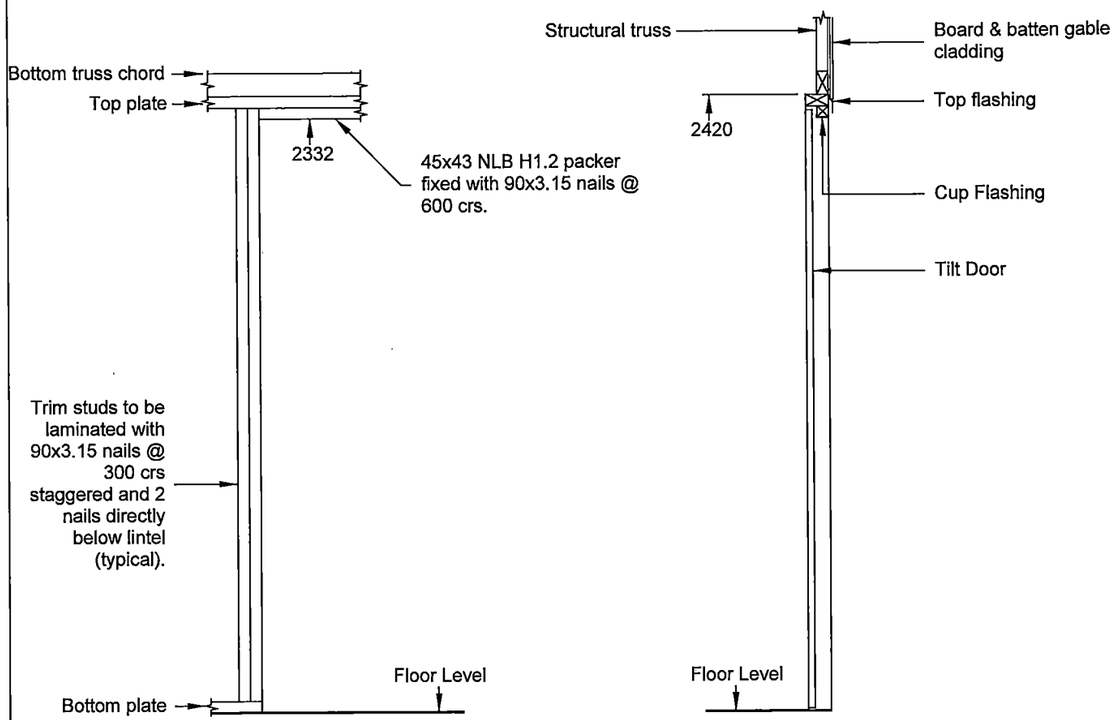
VB2000 - Design

Unlined Cross Section

Sheet 9 of 22

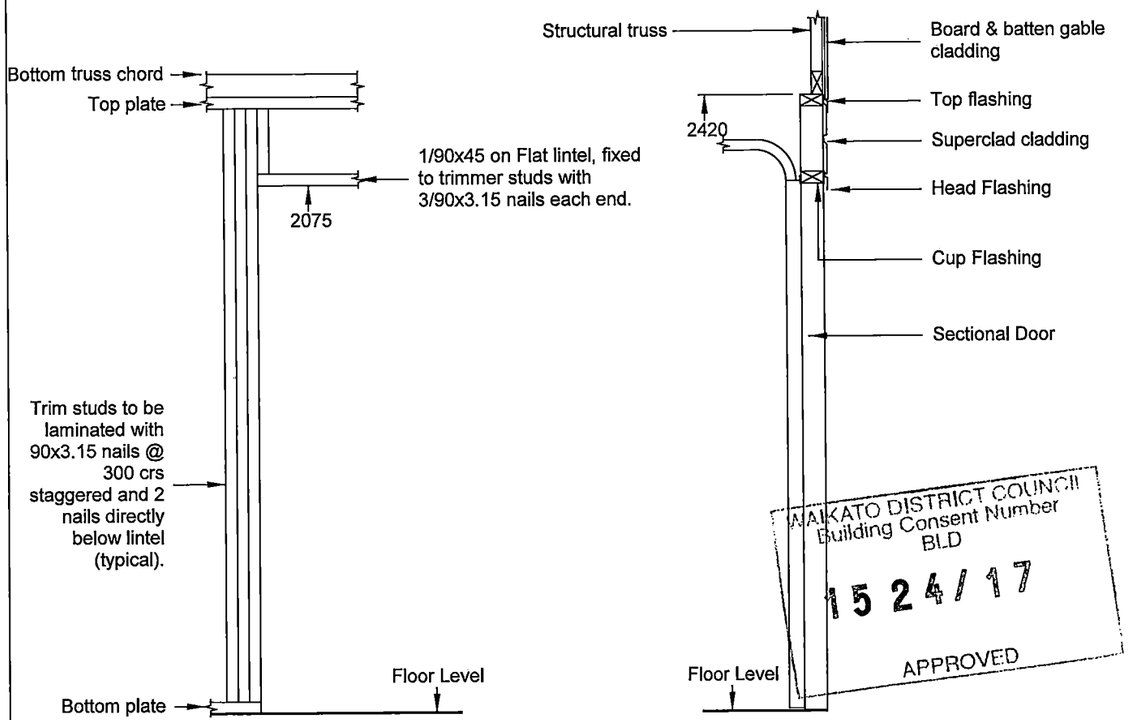
DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

TILT DOOR



SCALE A3-1:25

SECTIONAL DOOR



WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

SCALE A3-1:25

MiTek® **MiTek New Zealand Limited**
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

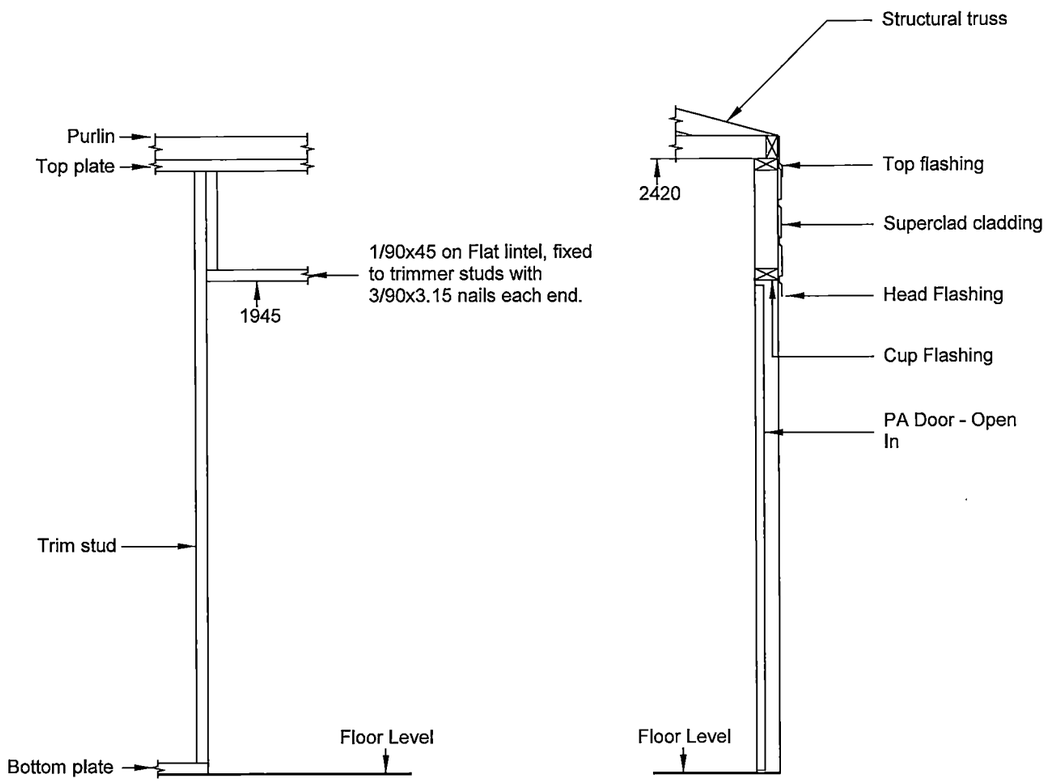
VB2000 - Design

Opening Details

Sheet 10 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

PA DOOR



SCALE A3-1:25

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Opening Details

Sheet 11 of 22

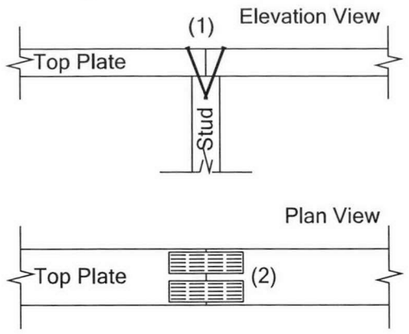
DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

TOP PLATE AND ROOF FRAMING

TOP PLATE DETAILS

All top plates to be 90x45 SG8 H1.2.

Load Bearing Walls - Butt Joint Fixing Details

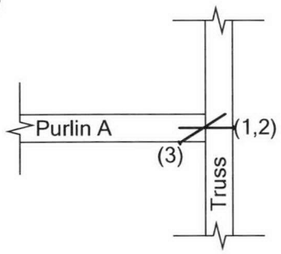


1. Skew nail top plates to stud with 4/90x3.15mm nails
2. Fix 2/4T5 Tylok plates over the joint.

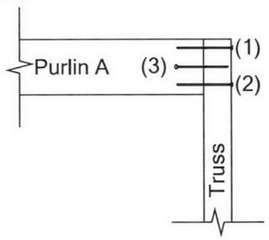
PURLIN DETAILS

All purlins 90x45 (on edge) SG8 H1.2 at 1000mm centres max fixed between trusses.

Plan View

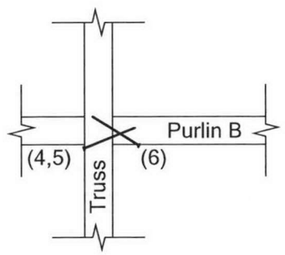


Elevation View

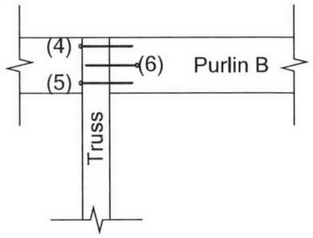


1. Nail 2/90x3.15mm nails (1,2) through the truss chord into the end of purlin A.
2. Skew nail 1/90x3.15mm nail (3) from purlin A into the truss chord.

Plan View



Elevation View

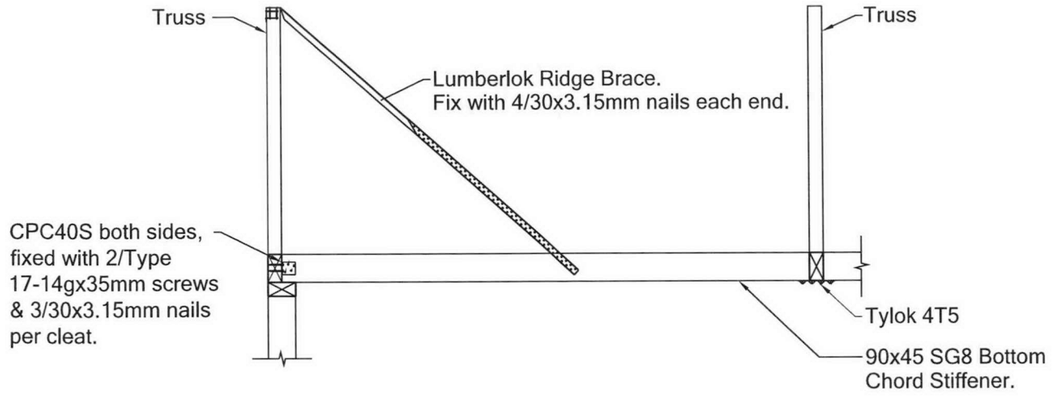


1. Skew nail 2/90x3.15mm nails (4,5) through the truss chord into the end of purlin B.
2. Skew nail 1/90x3.15mm nail (6) from purlin B into the truss chord.

SCALE: A3-1:10

STANDARD TRUSS STIFFENER

All truss stiffeners 90x45 SG8 H1.2. Refer to Truss Design (sheet 13 of 22) for centres



MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Roof Framing

Sheet 12 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

TRUSS DESIGN

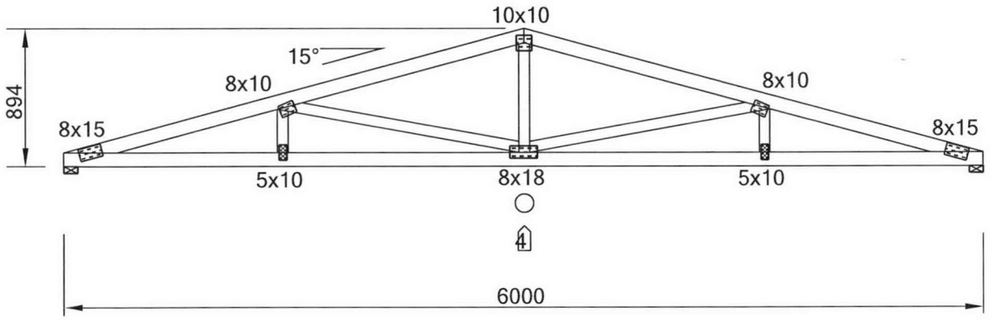
DESIGN LOADS

Dead Loads for Light Roof:
- Truss Top Chord= 0.15kPa (includes weight of trusses, purlins , associated framing and zincalume roof).
- Truss Bottom Chord=0.20kPa for trusses @ 1200crs with ceiling.

Live Loads:
- Truss Top Chord= 1.1kN concentrated load, 0.25kPa uniform load.
- Truss Bottom Chord=0.9kN concentrated load below 1200mm head height and 1.4kN concentrated load above 1200mm head height.

Wind Loads:
- Roof= Cfig = -1.1

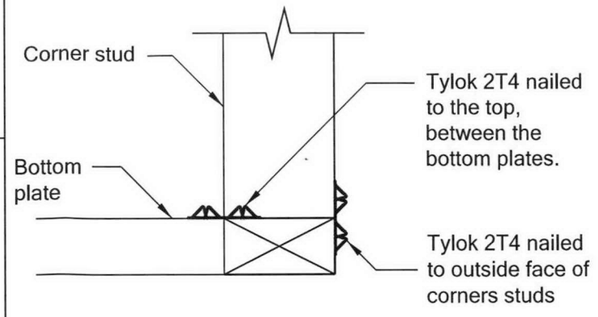
TRUSS DESIGN



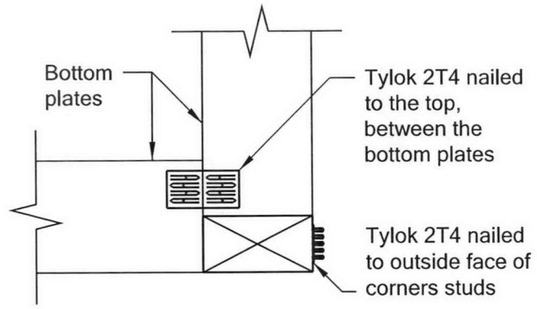
Scale: A3-1:40

NOTE:
1. ○ Indicates location of Bottom chord brace (truss stiffener).
2. 2 Indicates the truss camber (typical).
3. All truss plates are Gang-Nail GNQ type.
4. Nail plates are to be fully pressed home on both sides of joints.
5. The nail plate axis must be located in the specified or indicated direction.
6. Top and Bottom chords to be 90x45 SG10 H1.2 Radiata pine.
7. All webs to be 70x45 SG8 H1.2 Radiata pine.

GABLE TRUSS CORNER STUD / BOTTOM PLATE FIXING

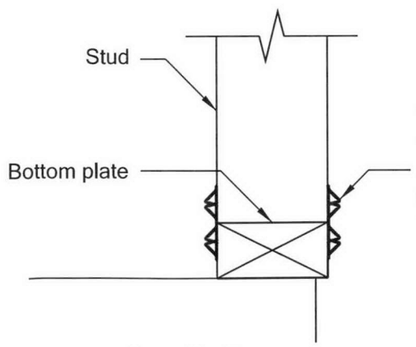


Corner Cross Section



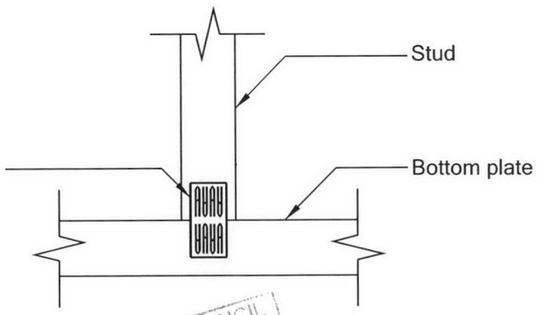
Corner Plan

TRUSS STUD / BOTTOM PLATE FIXING



Cross Section

Tylok 2T4 nailed to each face of studs directly under or closest to trusses.



Stud Face

SCALE: A3-1:5

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

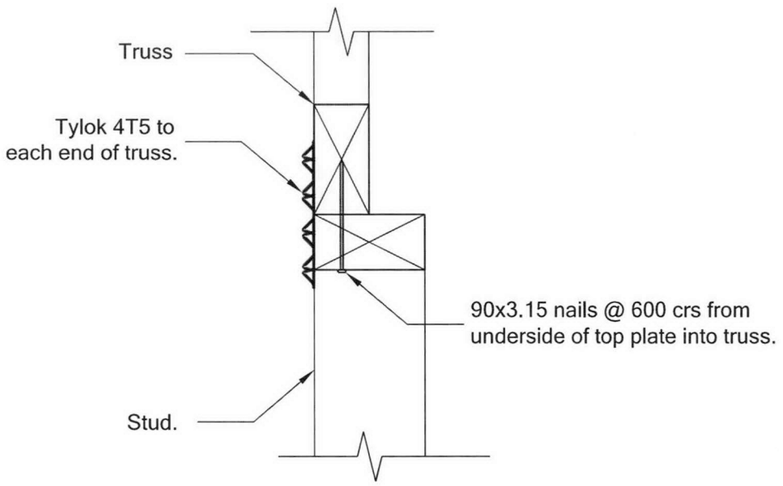
Truss Design

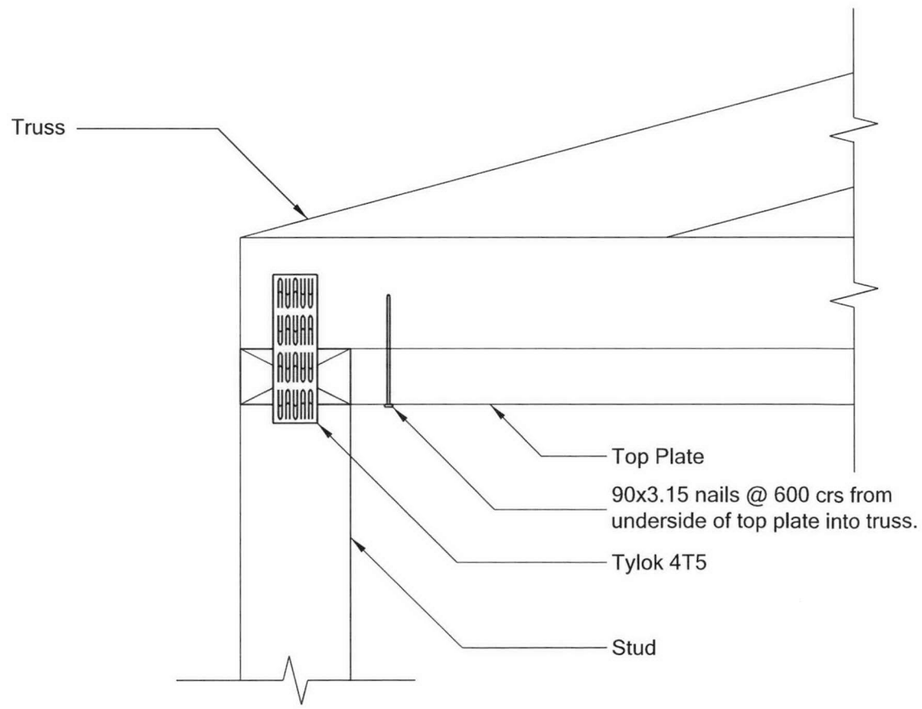
Sheet 13 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

TRUSS FIXING DETAILS

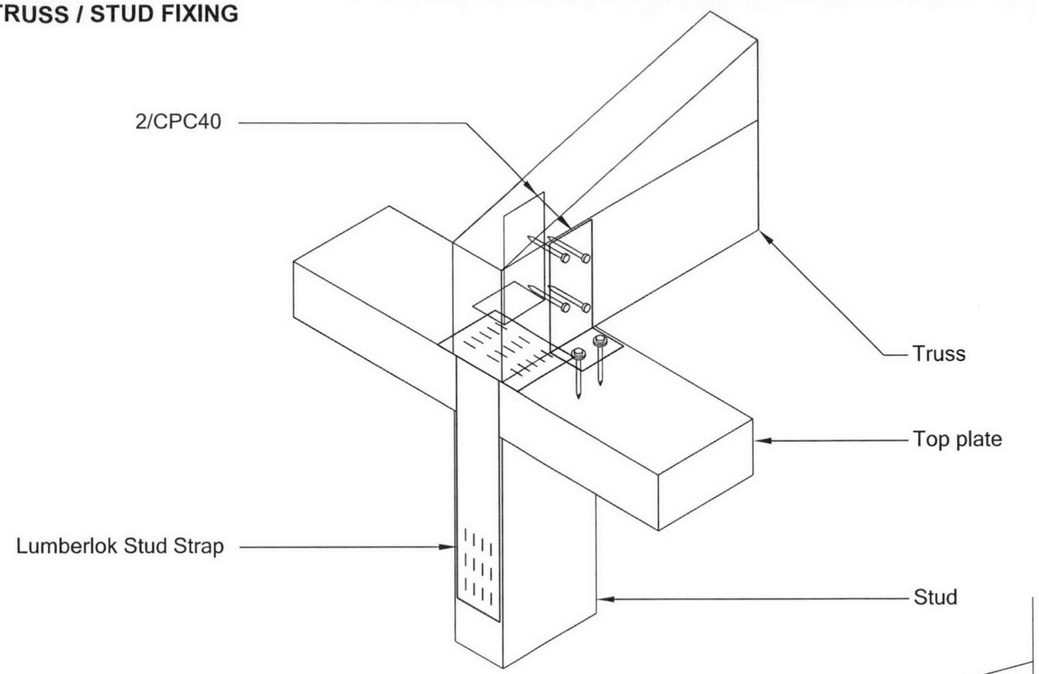
GABLE TRUSS / CORNER STUD FIXING

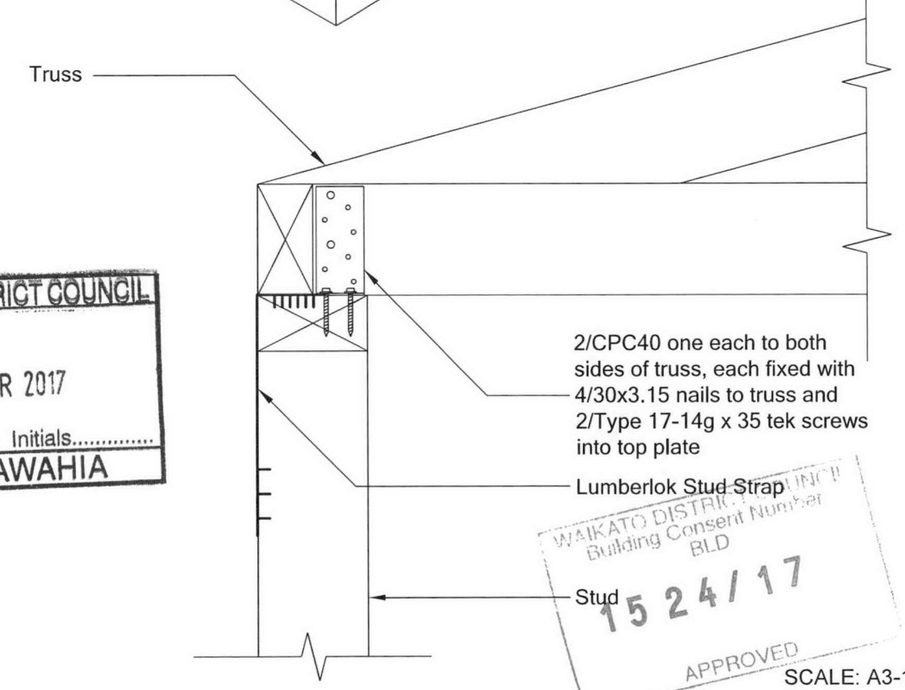




SCALE: A3-1:5

TRUSS / STUD FIXING





SCALE: A3-1:5

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Truss Fixing Details

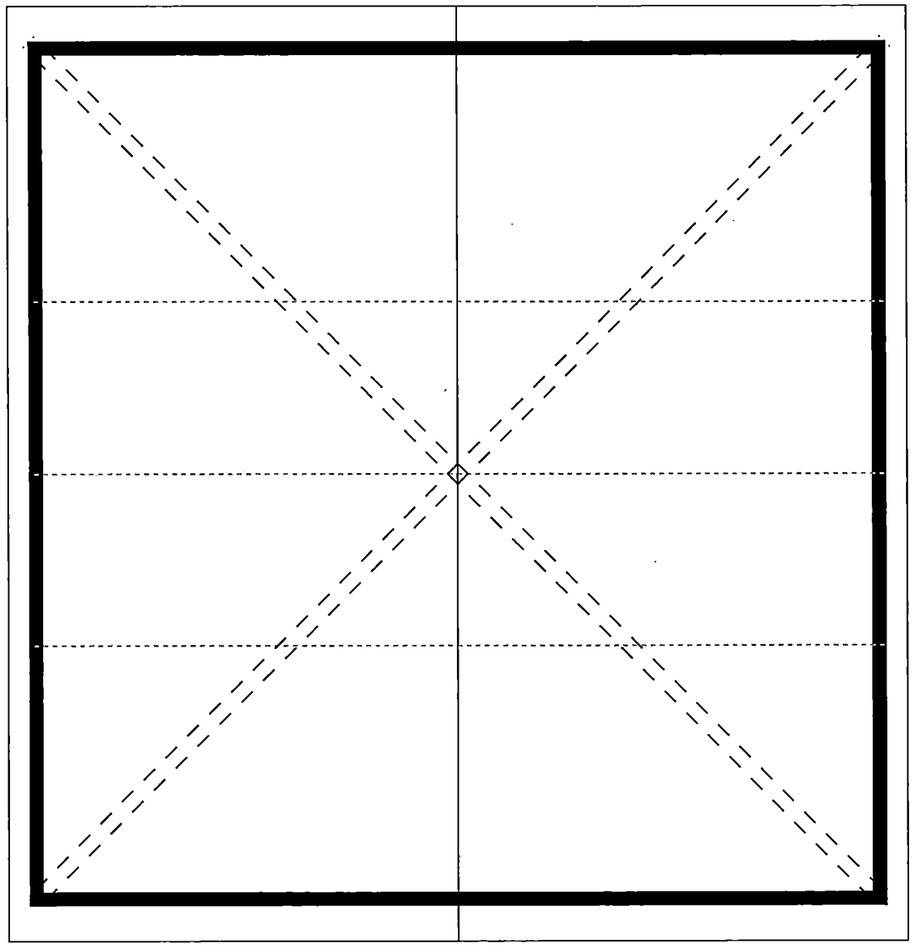
Sheet 14 of 22

ROOF BRACING

EXPLANATION

Using a diaphragm approach, the roof is braced using a series of Lumberlok Strip Brace patterns in the plane of the truss top chords to transfer the bracing demand to the top plates. The loads at the top plate level are then transfered to the foundation through the wall bracing system.

ROOF BRACING PATTERN LAYOUT



Scale: NTS

FIXINGS

Each single row of Lumberlok Strip Brace to be tensioned up and laid over the top of the purlins. Fix each end with 5/30x3.15 nails and fix crossings with 2/30x3.15 nails.

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Roof Bracing

Sheet 15 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

WALL BRACING DEMAND

EARTHQUAKE BRACING DEMAND

Using NZS 3604:2011, Section 5 Bracing Design, Table 5.10 - Bracing demand for various combinations of cladding for single and two-storey buildings on concrete slab-on-ground (2 kPa floor load, soil type D/E, earthquake zone 3)

Roof cladding	Single storey cladding	Roof pitch degrees	Single storey walls
Light roof	Light	15°	6 BU/m2

Multiplication factors	EQ zone = 1 Soil class = D&E Deep to very soft	0.5
Earthquake demand		3 BU/m2

Using factors based on ratios in AS/NZS1170.0:2002, part 5 from BIL2 - 50 years working life to BIL1 - 50 years working life.

Building Importance Level 1 modification factor.	0.5
EARTHQUAKE DEMAND REQUIRED (Along and Across)	1.5 BU/m2
BL 6.000m x BW 6.000m = 36m2	**36m2 x 1.5 BU/m2** **54 BU**

WIND BRACING DEMAND

Using NZS 3604:2011, Section 5 Bracing Design, Table 5.6 - Wind bracing demand for single or upper storey wall (BU/m).

Single or Upper Floor level to apex (H)	Roof height above eaves (H)	High Wind Zone Across	High Wind Zone Along
4 m	2 m	40 BU/m	45 BU/m

In wind zones other than High, multiply the figure above by the appropriate factor given opposite.	Very High = 1.3	
Wind demand with wind zone factor applied.	**Across** 52 BU/m	**Along** 58.5 BU/m

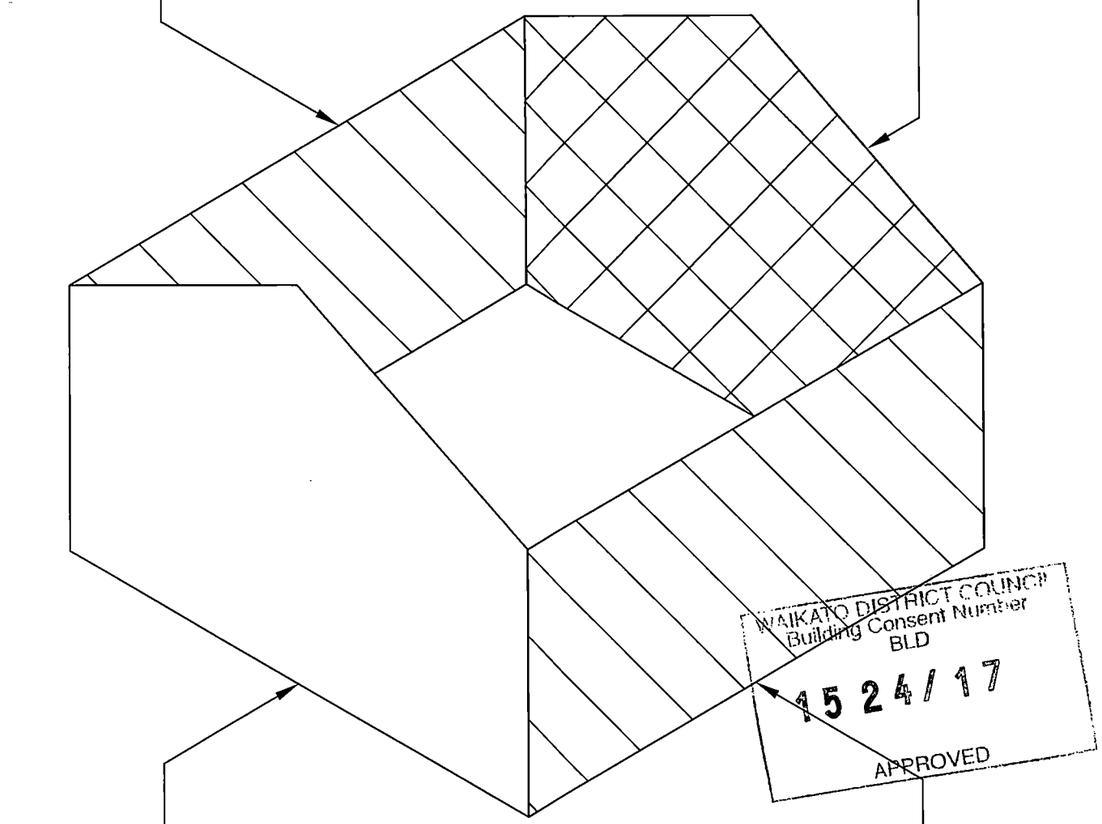
Using factors based on ratios in AS/NZS1170.0:2002, part 2 from BIL2 - 50 years working life to BIL1 - 50 years working life.

Building Importance Level 1 modification factor.	0.849	
WIND DEMAND REQUIRED	**Across** 44.1 BU/m	**Along** 49.7 BU/m
	BL 6.000m x 44.1 BU/m **265 BU**	**BW 6.000m x 49.7 BU/m** **299 BU**

BRACING UNITS DISTRIBUTION

VIEW	50% ALONG (BU)	
4	Wind	Earthquake
	150	27

VIEW	100% ACROSS (BU)	
3	Wind	Earthquake
	265	54



VIEW	0% ACROSS (BU)	
1	Wind	Earthquake
	0	0

VIEW	50% ALONG (BU)	
2	Wind	Earthquake
	150	27

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

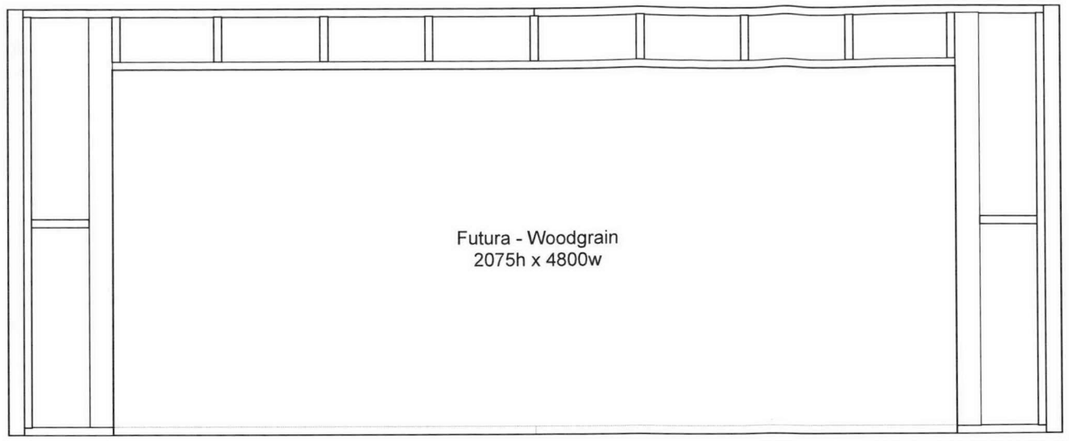
VB2000 - Design

Wall Bracing Demand

Sheet 16 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

BU ACHIEVED - VIEW 1

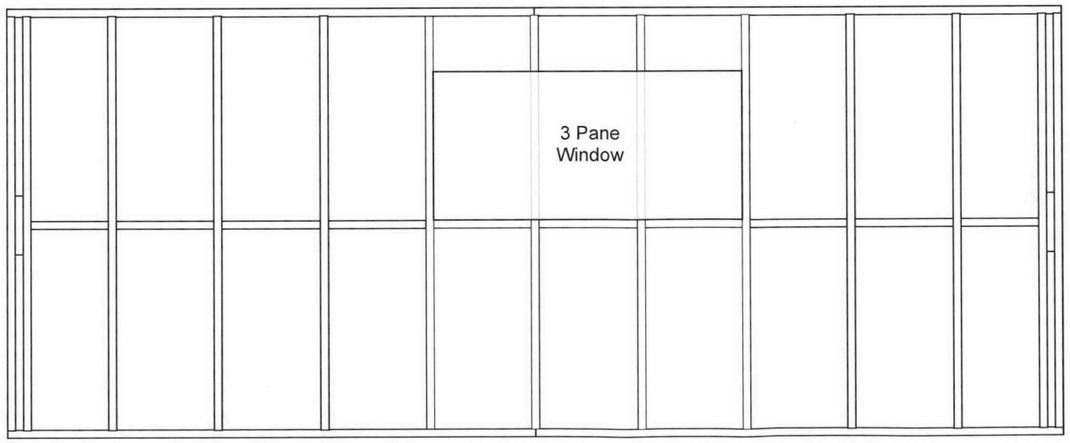


Cladding	
Wind BU	
EQ BU	
Hardware	
Wind BU	
EQ BU	

SUMMARY - ACROSS (BU)		
	Wind	EQ
Required	0	0
Achieved	0	0

Scale NTS

BU ACHIEVED - VIEW 2



Cladding	SC6-24 x 2.4m		SC6-24 x 1.8m
Wind BU	91		68
EQ BU	72		54
Hardware			
Wind BU			
EQ BU			

SUMMARY - ALONG (BU)		
	Wind	EQ
Required	150	27
Achieved	159	126

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

Scale NTS

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

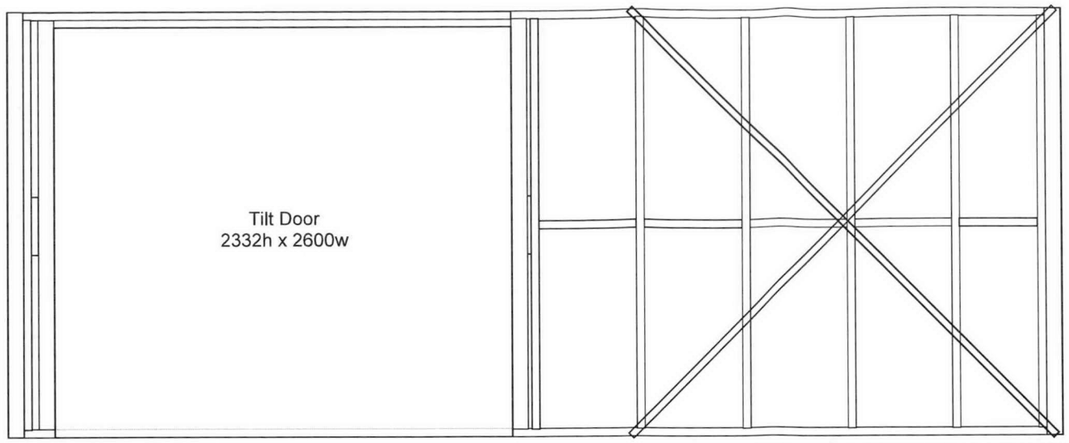
VB2000 - Design

Wall Bracing Achieved

Sheet 17 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

BU ACHIEVED - VIEW 3



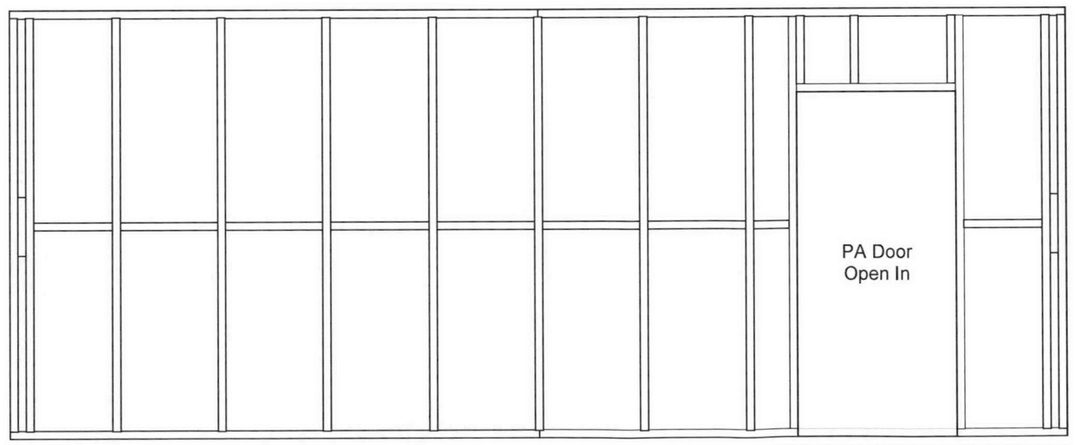
Cladding		SC6-24 x 3.1m
Wind BU		118
EQ BU		93

Hardware		MBX6-45-24
Wind BU		169
EQ BU		56

SUMMARY - ACROSS (BU)		
	Wind	EQ
Required	265	54
Achieved	287	149

Scale NTS

BU ACHIEVED - VIEW 4



Cladding	SC6-24 x 4.4m	
Wind BU	167	
EQ BU	132	

Hardware		
Wind BU		
EQ BU		

SUMMARY - ALONG (BU)		
	Wind	EQ
Required	150	27
Achieved	167	132

Scale NTS

MiTek® MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Wall Bracing Achieved

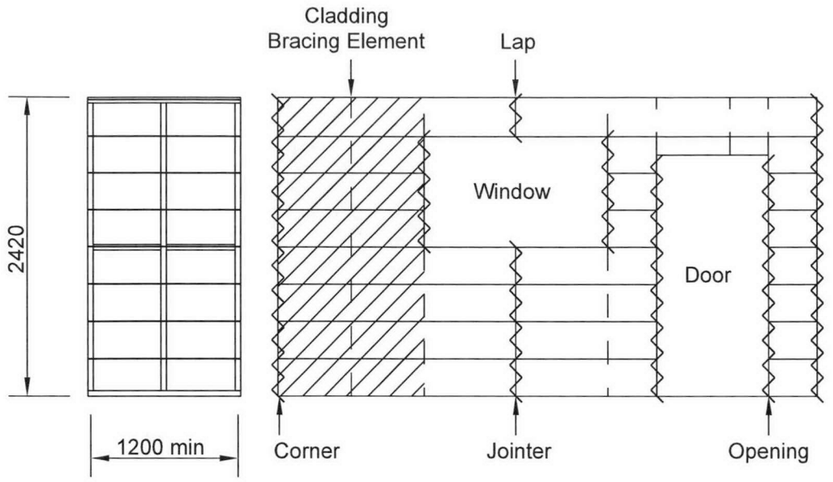
Sheet 18 of 22

DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

BRACING ELEMENT: SC6-24

Superclad Cladding

Total BU/m	Wind	38
	Earthquake	30



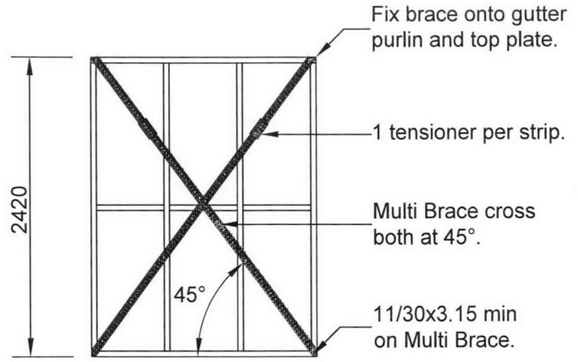
Corners, openings, jointers and laps must be nailed through all cladding layers with 32x2.8 flat head twist shank galv nails at 150mm crs.

All other internal studs to be nailed through the inner cladding layer only at 300mm crs.

NTS

BRACING ELEMENT: MBX6-45-24

Total BU/m per Cross	Wind	169
	Earthquake	56



Scale A3-1:50

MiTek New Zealand Limited

MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

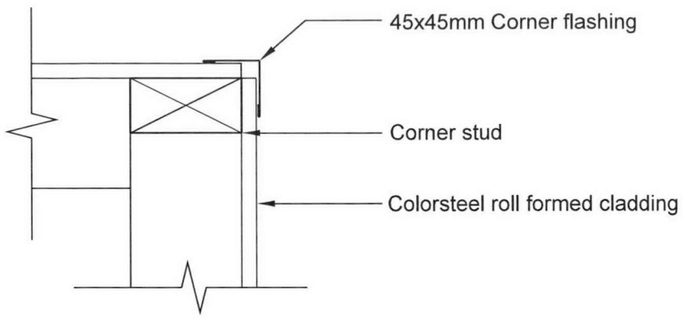
For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000 - Design

Bracing Elements

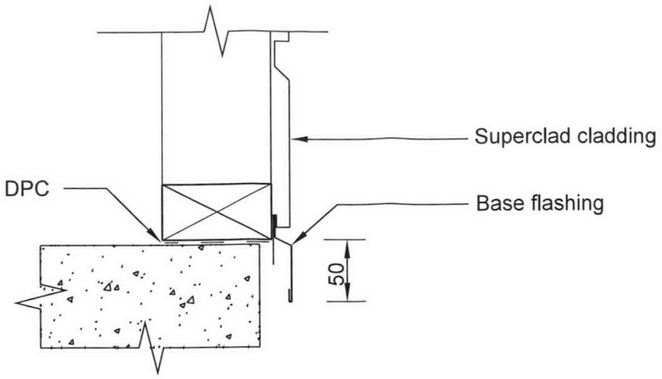
DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

CORNER FLASHING DETAIL (NON HABITABLE)



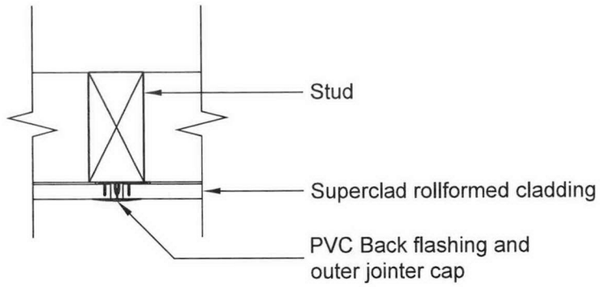
Scale A3-1:5

BASE FLASHING DETAIL

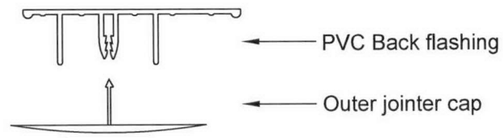


Scale A3-1:5

SUPERCLAD JOINTER DETAIL

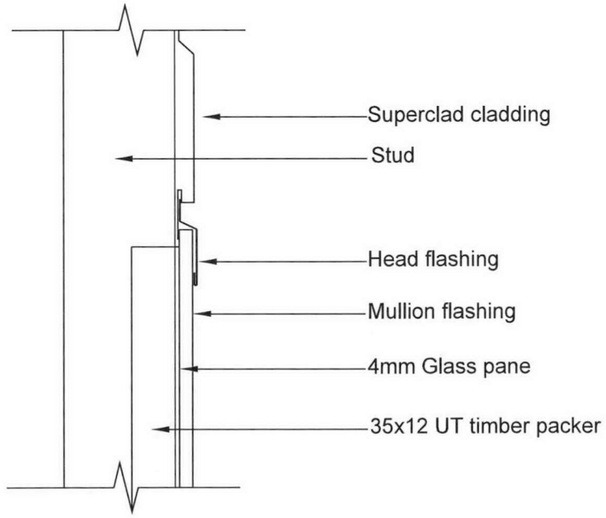


Scale A3-1:5



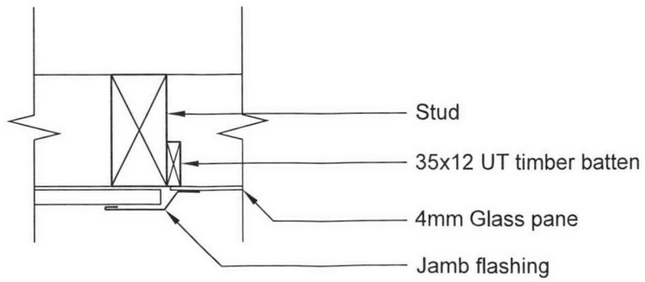
NTS

STANDARD WINDOW HEAD DETAIL



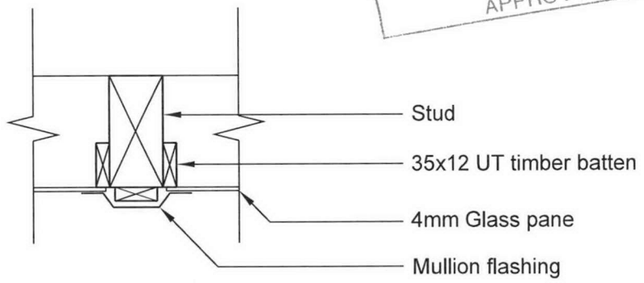
Scale A3-1:5

STANDARD WINDOW JAMB DETAIL



Scale A3-1:5

STANDARD WINDOW MULLION DETAIL



Scale A3-1:5

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

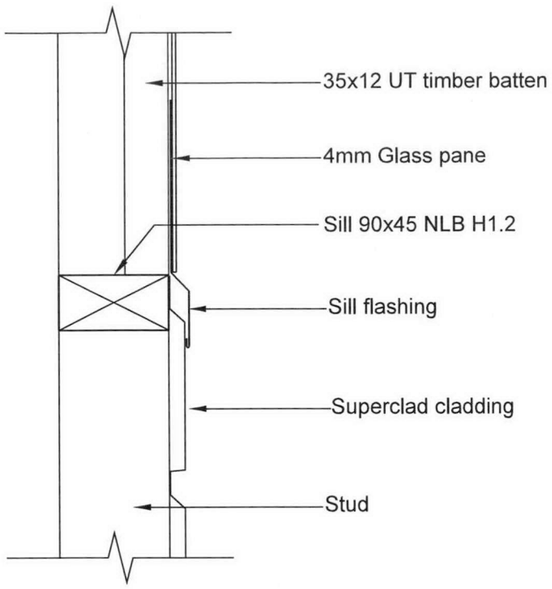
VB2000

Flashing Details

Sheet 20 of 22

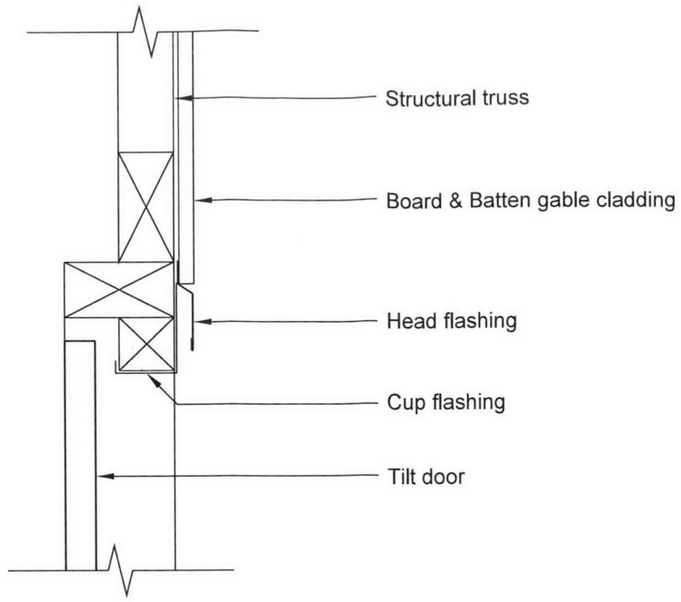
DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

STANDARD WINDOW SILL DETAIL



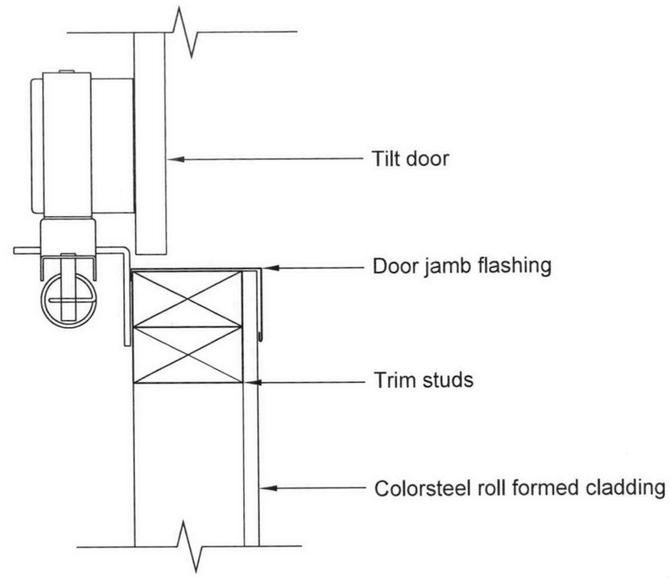
Scale A3-1:5

TILT DOOR HEAD DETAIL



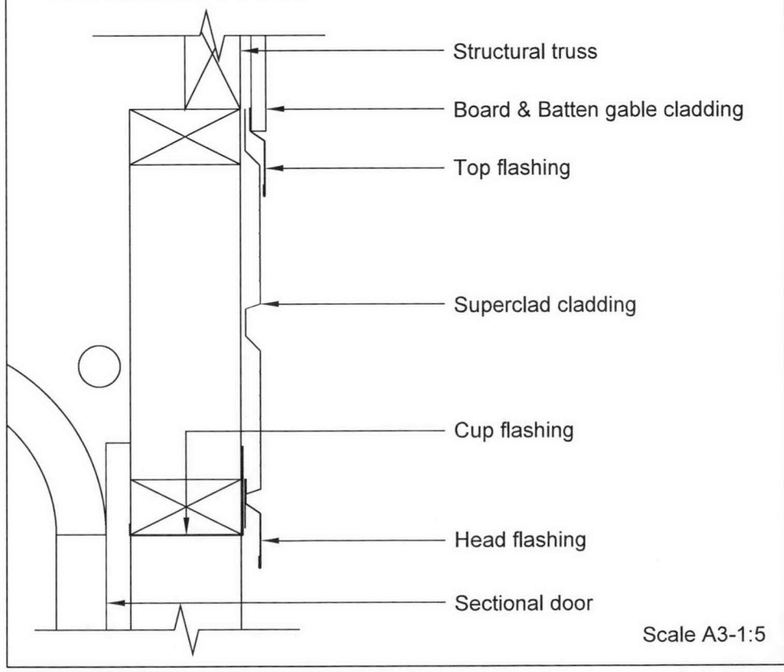
Scale A3-1:5

TILT DOOR JAMB DETAIL



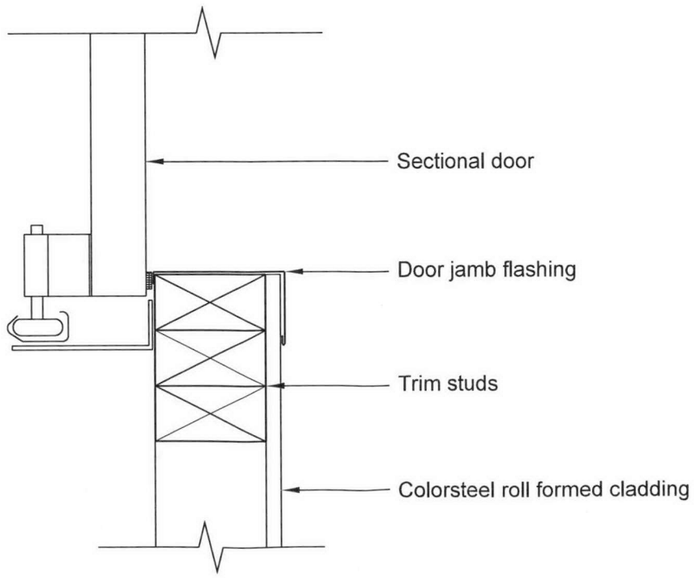
Scale A3-1:5

SECTIONAL DOOR HEAD DETAIL



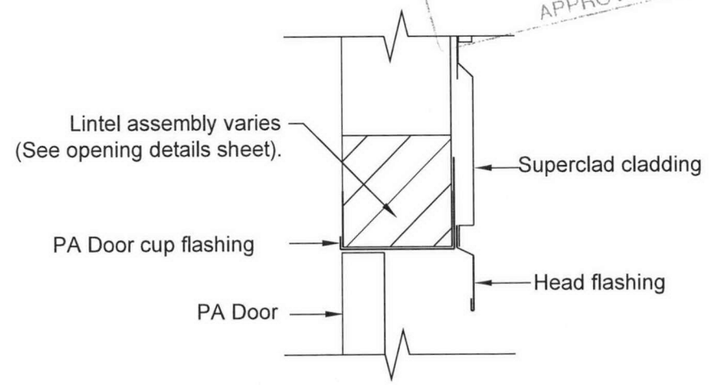
Scale A3-1:5

SECTIONAL DOOR JAMB DETAIL



Scale A3-1:5

PA DOOR HEAD DETAIL



Scale A3-1:5

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

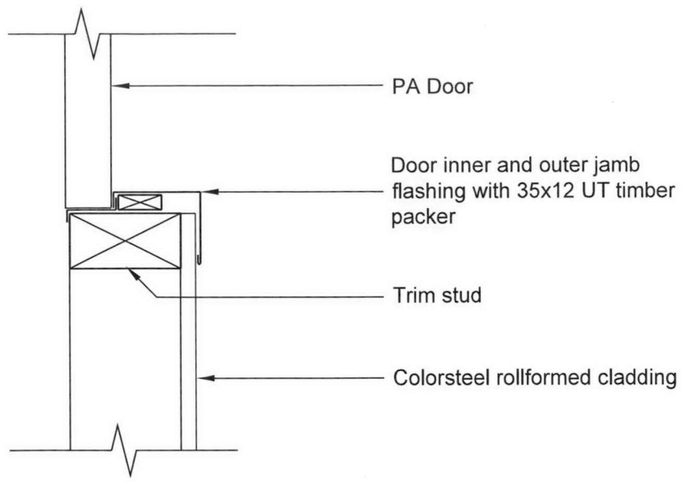
VB2000

Flashing Details

Sheet 21 of 22

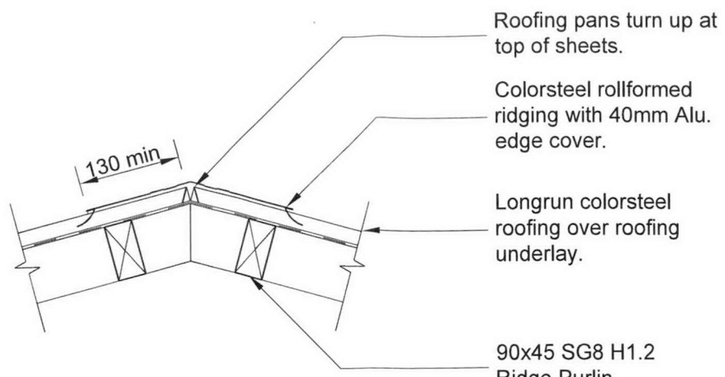
DIMENSIONS IN mm UNLESS OTHERWISE STATED THIS IS A C.A.D. DRAWING AND MUST NOT BE ALTERED BY MANUAL METHODS

PA DOOR JAMB DETAIL (OPEN IN)



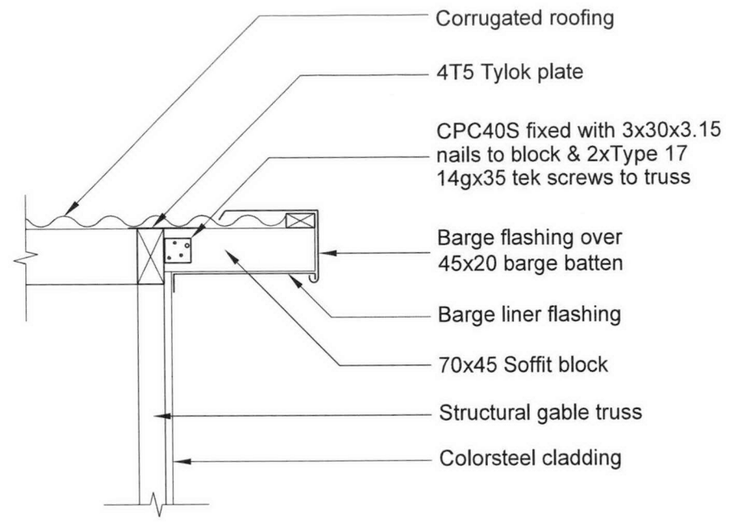
Scale A3-1:5

RIDGING DETAIL



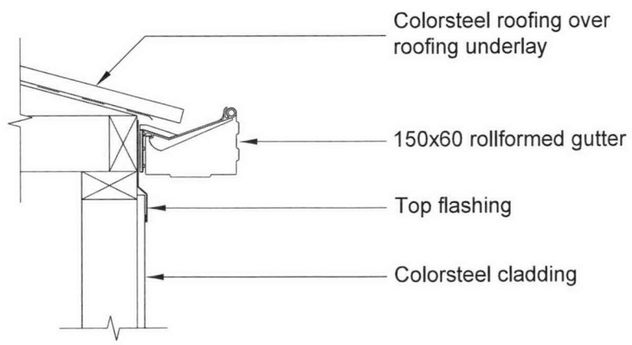
Scale A3-1:10

SOFFIT BARGE DETAIL



Scale A3-1:10

GUTTER DETAIL



Scale A3-1:10

WAIKATO DISTRICT COUNCIL
Building Consent Number
BLD
15 24/ 17
APPROVED

WAIKATO DISTRICT COUNCIL
6 APR 2017
Time..... Initials.....
NGARUAWAHIA

MiTek New Zealand Limited
MITEK® LUMBERLOK® BOWMAC®

VERSATILE® HOMES & BUILDINGS

For: Aaron Brown
1435 SHW 23
Whatawhata

VB2000

Flashing Details

Sheet 22 of 22

Mark T Mitchell

Consulting Geotechnical Engineer

1202/1 Victoria Street
P.O. Box 9123
Hamilton New Zealand
Facsimile 07 839 3125
Telephone 07 838 3119

Ref: W - 4102
16 October, 1996

Equity Pacific Trust
C/o McCracken Surveys L td
PO Box 19182
Hamilton

Attention: Mr David McCracken

Dear Sirs,

Re: Site Investigation and Geotechnical Appraisal
Proposed Subdivision of Part Lot 1 DPS 7669 and Part Lot 1 DPS 2226
State Highway 23 (opposite Karakariki Road), Whatawhata

In accordance with your request, we have undertaken a Site Investigation and Geotechnical Engineering Appraisal of the above referenced property. It is proposed that approximately 25 hectares of the existing farm be subdivided into twenty seven lots with boundaries as shown on the attached Site Plan, Drawing No. 4102-01. The existing farmhouse and buildings are located on the new lot 1.

Potential building sites have been identified and are depicted by a 17 metre diameter circle within each of the proposed residential lots. The land comprises of gently rolling hillocks with some flat ground to the northwest bordering the Tunaeke Stream.

This letter report provides geotechnical engineering data submitted as part of the Resource Consent Application to the Waikato District Council.

1. Field Investigation and Soil Conditions

Two test borings were drilled within the vicinity of the proposed building site areas for Lots 4 and 5 . A further four borings were drilled along the proposed road alignment to assess soil conditions through major cut areas . The bore holes are designated Nos.1 to 6 and their locations are shown on the attached Site Plan, Drawing No. 4102-01. Bore Hole logs are presented on Figs. A-1 to A-3. Shear strength tests were also carried out in conjunction with the test borings and test results are shown on the Bore Hole logs.

The soils at this site overlie, at several metres deep, soils of the Puketoka Formation geologic formation, which make up the rolling hills of the general area. Within the higher, sloping ground areas of the site, soils consist of yellow-brown silty Clay soils which have been derived from the weathering of volcanic ash. These soils are typically of a moderately high shear strength in the upper 1 to 2 metres, but typically have a lower shear strength at depth. The soils within the lower part of the site have originated as alluvium and slope-wash from the nearby silty clay soils.

The soils within rolling hills area consists of about 150mm of Topsoil overlying firm to stiff, silty CLAY. These CLAY soils generally have lower shear strengths below about 1.5 metres depth.

The soils within the lower parts of the site consists of about 100mm of Topsoil overlying soft to firm, silty CLAY and clayey SILT. The soil test results indicated that there is a general decrease in soil strength below 1 metre depth.

Groundwater was encountered at the time of field investigations at about 0.6 metres depth in Bore Holes Nos. 2 and 3, located in the lower parts of the site. No groundwater was encountered in the test holes drilled in the higher parts of the site.

2. Slope Stability Review

The soils which make up the steeper slopes in the Southern part of the property are derived from weathering of the volcanic ash and the pumiceous soils of the Puketoka Formations. These formations are in excess of 100,000 years old, and the escarpments which occur within the hills would have developed prior to the time when the general Waikato basin became infilled with more recent Hinuera Formation soils. Thus the slopes which are present would have developed in excess of 20,000 years ago.

However the soils on the outer slopes have become weathered with time and over the years have been subject to heavy rainfalls and occasional removal of vegetation. This has resulted in occasional near-surface landslips on the steeper slopes. The effects of the more recent soil creep and other near-surface soil movements can be seen on the steeper slopes within the property, particularly above the shallow ponds which occur within Lots 4 and 5. The bare ground surfaces in that area appear to have been initiated by stock movements, which have disturbed and altered the natural outflows of groundwater. This ground disturbance appears to have temporarily blocked off the seepage flows and the resulting build up of groundwater has prompted the surface slipping.

In general, any development which is to be located near a sloping area should take into consideration that the steeper slopes are subject to erosion and foundations will need to be designed accordingly.

3. Residential House Foundations

The foundation soils within the majority of the proposed house site areas are expected to be competent, but specific foundation investigations are recommended where residential structures are to be situation in the lower parts of the site as the soil conditions in those areas are expected to be variable.

On the basis of test results from the test borings, we advise that within the higher parts of the site, house foundations are likely to be able to be designed and constructed in accordance with NZS 3604:1981, the NZ Code of Practice for Light Timber Framed Buildings not requiring specific design. No foundation deepening on account of potential ground instability is expected to be required, except where foundations are located within 6 metres of a steeper slope or an excavated or filled slope, or within 10 metres of a location where soil movement is apparent. In these situations, a Specific Engineering Design of Foundations will be required.

4. General Recommendations for Site Development

The proposed roadway will primarily be located within the lower part of the site, but with right-of-ways rising from the main roadway to the higher areas. Soil conditions below the roadway and right-of-way areas will therefore be variable.

a. Roadway Construction

Three bore holes, Nos. 1, 2 and 6 have been drilled along the main road alignment. The topsoil depth varies between 100 and 150mm and the soils below this layer consist of soft to firm, slightly clayey silt soils which have a low to medium California Bearing Ratio (CBR) value. Undercutting of the road subgrade in the order of 300 to 500mm below subgrade level would normally be required for these soils. However undercutting of the road in the lower area of the site is not appropriate and instead, the formation level of the road should be raised by this amount. The base of the filling may consist of soil excavated from the upper site areas, but the final layers should consist of compacted pit sand.

The soils conditions in the higher right-of-way areas, such as to Lots 26 and 27, are expected to be similar to those encountered in Bore Hole No 5. These soils have a reasonably high shear strength down to about 1.5 metres below ground level, but are of a low shear strength will involve a cut depth of about .

The existing ground slope along the alignment of the right-of-way to Lots 26 and 27 is about 1 on 9, which is an acceptable gradient for the proposed roadway. Therefore the extent of cutting in this locality will be minor and the design 1 on 3 cut slope is appropriate for the soil conditions.

b. Subsoil Drainage

Where fill is to be placed within the shallow gullies, all soft and organic soils are to be removed and then subsoil drains constructed in order to control groundwater levels during filling operations and to maintain stability to the new fill.

Where the road pavement level is to be located at, or close to existing ground level, the subbase layers will be located at a level which is close to the winter groundwater levels. Under these circumstances, subsoil drains should be located below kerb locations so as to lower the groundwater level below the roadways. This provision will also result in improved Benkleman Beam values of the final pavement.

c. Site Effluent Disposal

All lots are to be serviced by on-site disposal of sewage effluent. The silty clay soils which make up the higher ground areas are expected to have soakage rates in the order of 50mm per hour, which is in the category of moderately severe in terms of the NZ Standard for Household Septic Tank Systems, NZS 4610. Shallow seepage trenches may be used in these soils, provided an upstream cut-off drain is installed so as to intercept any surface or subsurface water flows which might otherwise flow into the seepage trench area.

Within the lower parts of the subdivision, winter groundwater levels are expected to be relatively high and this situation is unlikely to change with site development as a significant contribution to groundwater is from both surface and subsurface water flows from the surrounding higher ground.

Therefore, where septic tank drainfields are located in the lower parts of the site, and engineer-designed, raised ground, evapo-transpiration effluent bed will be required. If however the effluent disposal sites are able to be kept well drained over the winter period by means of open drains then conventional drainfields could be used.

As a general guideline, the winter groundwater level will need to be maintained at deeper than 600mm below existing ground level before conventional drainfields can be used. The groundwater level which was observed in Bore Hole No 3 (lot 5) earlier in October was 650 mm and the mid-winter level would have been shallower. Therefore for a drainfield located in the vicinity of Bore Hole No 3, an evapo-transpiration effluent bed will be required.

5. Conclusion

The proposed subdivision has been inspected and soil tests carried out. On the basis of this information we advise that on each of the proposed lots there is an adequate area of stable ground on which a residential dwelling may be constructed.

Yours faithfully

Mark T Mitchell
Consulting Geotechnical Engineer

cc: McCracken Surveys

SOIL DESCRIPTION

BORE HOLE LOG No 1

TOPSOIL

Soft to firm, dark yellowish brown, slightly clayey SILT.
Becoming yellowish brown at 0.3 m.

Firm, light yellowish brown, slightly silty CLAY.

Firm, light yellowish brown, CLAY.
Pale grey streaks appearing at 0.8 m and mottled.

Firm, light grey and light yellowish brown CLAY.
Iron stained. Colour dominated by light yellowish brown at 1.7 m.

Bottom of Bore Hole completed 8/10/96

BORE HOLE LOG No 2

TOPSOIL

Firm, dark grey and light brown mottled slightly clayey SILT.

Firm, yellowish brown and grey fine silty CLAY.

Firm, yellowish brown medium SILT.

Yellowish brown silty CLAY.

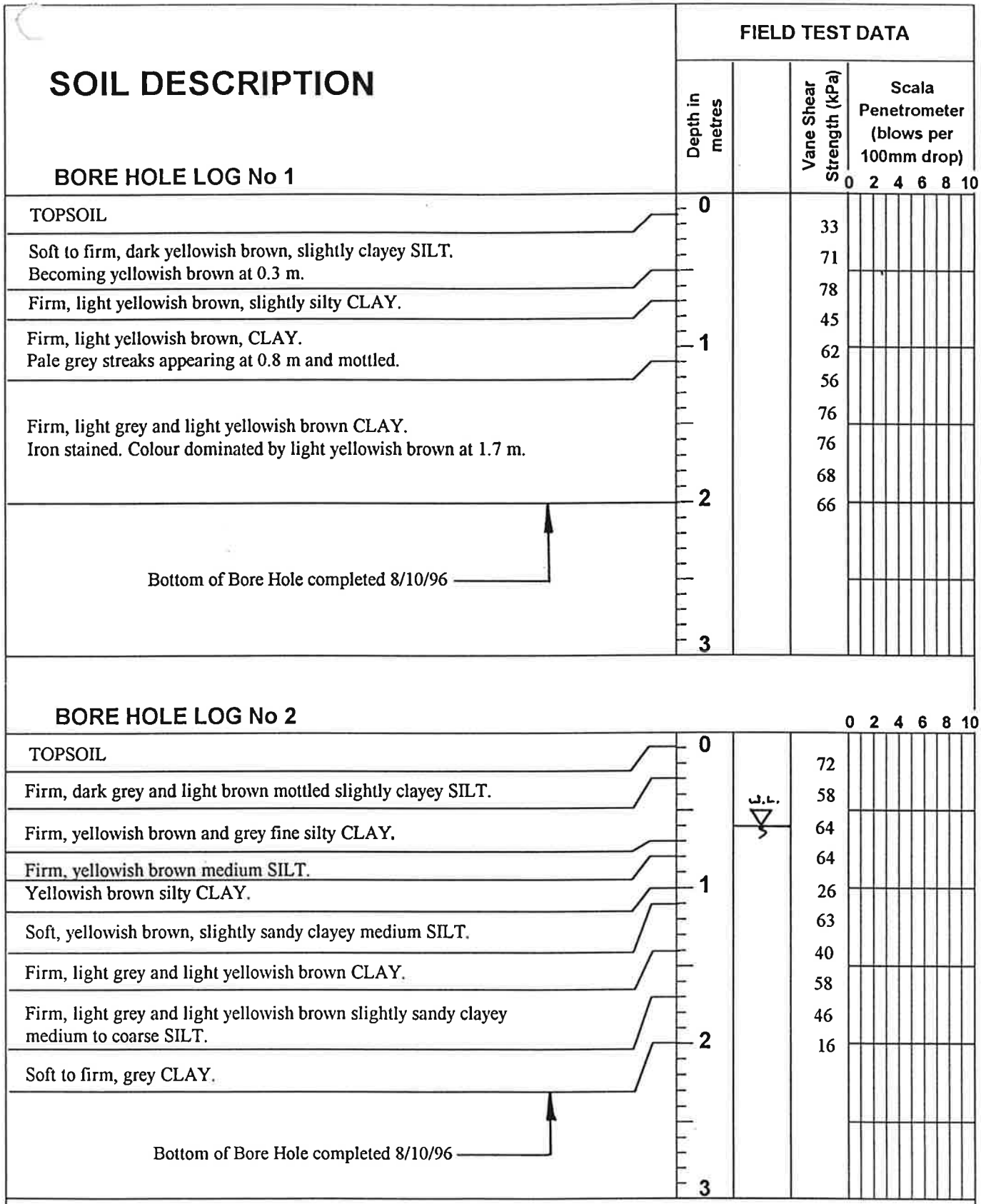
Soft, yellowish brown, slightly sandy clayey medium SILT.

Firm, light grey and light yellowish brown CLAY.

Firm, light grey and light yellowish brown slightly sandy clayey medium to coarse SILT.

Soft to firm, grey CLAY.

Bottom of Bore Hole completed 8/10/96



NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

BORE HOLE LOG No 1 & 2

GEOCON SOIL TESTING LTD
Civil Engineering Laboratory
1202 Victoria St, P.O. Box 9123, Hamilton

EQUITY PACIFIC TRUST
Proposed Residential Subdivision DPS 2226
Opposite Karakariki Road, SH 23, Whatawhata
October 1996 W.4102

Fig A-1

SOIL DESCRIPTION

BORE HOLE LOG No 3

TOPSOIL

Firm, dark greyish brown, silty CLAY.

Firm, light grey fine to medium clayey SILT. Yellowish brown streaks.

Firm, light grey and yellowish brown mottled CLAY.

Soft to firm, grey mottled fine to medium sandy CLAY.

Bottom of Bore Hole completed 8/10/96

BORE HOLE LOG No 4

TOPSOIL

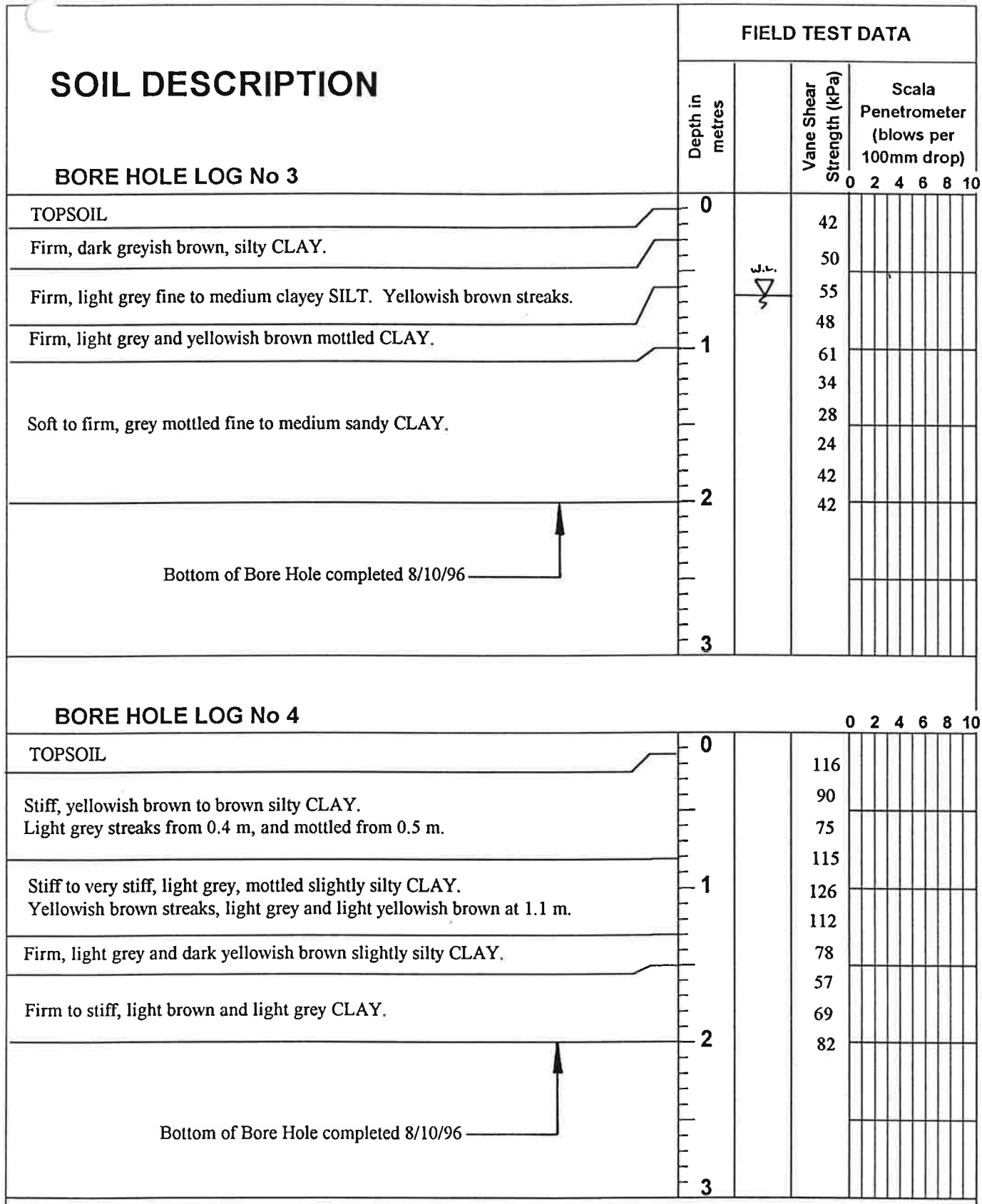
Stiff, yellowish brown to brown silty CLAY.
Light grey streaks from 0.4 m, and mottled from 0.5 m.

Stiff to very stiff, light grey, mottled slightly silty CLAY.
Yellowish brown streaks, light grey and light yellowish brown at 1.1 m.

Firm, light grey and dark yellowish brown slightly silty CLAY.

Firm to stiff, light brown and light grey CLAY.

Bottom of Bore Hole completed 8/10/96



NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

BORE HOLE LOG No 3 & 4

GEOCON SOIL TESTING LTD
Civil Engineering Laboratory
1202 Victoria St, P.O. Box 9123, Hamilton

EQUITY PACIFIC TRUST
Proposed Residential Subdivision DPS 2226
Opposite Karakariki Road, SH 23, Whatawhata
October 1996 W.4102

Fig A-2

SOIL DESCRIPTION

BORE HOLE LOG No 5

Depth (m)	Soil Description	Vane Shear Strength (kPa)
0	TOPSOIL	78
	Firm to stiff, dark yellowish brown silty CLAY, becoming light brown at 0.5 m.	100
1	Stiff, yellowish brown sticky CLAY, light yellowish brown at 0.9 m with light grey streaks.	74
		100
	Firm to stiff, light yellowish brown and light grey mottled CLAY, reddish brown streaks at 1.3 - 1.4 m.	83
		82
		89
		76
2	Firm, pale grey and reddish brown mottled CLAY.	55
		52
	Bottom of Bore Hole completed 8/10/96	
3		

BORE HOLE LOG No 6

Depth (m)	Soil Description	Vane Shear Strength (kPa)
0	TOPSOIL	83
	Stiff, dark yellowish brown silty CLAY.	74
	Firm, mottled dark yellowish brown clayey SILT,light yellowish brown at base.	67
	Firm, yellowish brown sandy CLAY.	64
	Firm, light yellowish brown and light grey slightly sandy CLAY.	63
1	Firm, light yellowish brown and light grey silty CLAY.	42
	Firm, light yellowish brown and light grey CLAY.	76
		20
	Firm, light yellowish brown and light grey silty CLAY.	16
	Soft, dark brown sticky CLAY.	56
2	Firm, light yellowish brown silty clay.	
	Bottom of Bore Hole completed 8/10/96	
3		

FIELD TEST DATA

Scala Penetrometer (blows per 100mm drop) 0 2 4 6 8 1

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

BORE HOLE LOG No 5 & 6

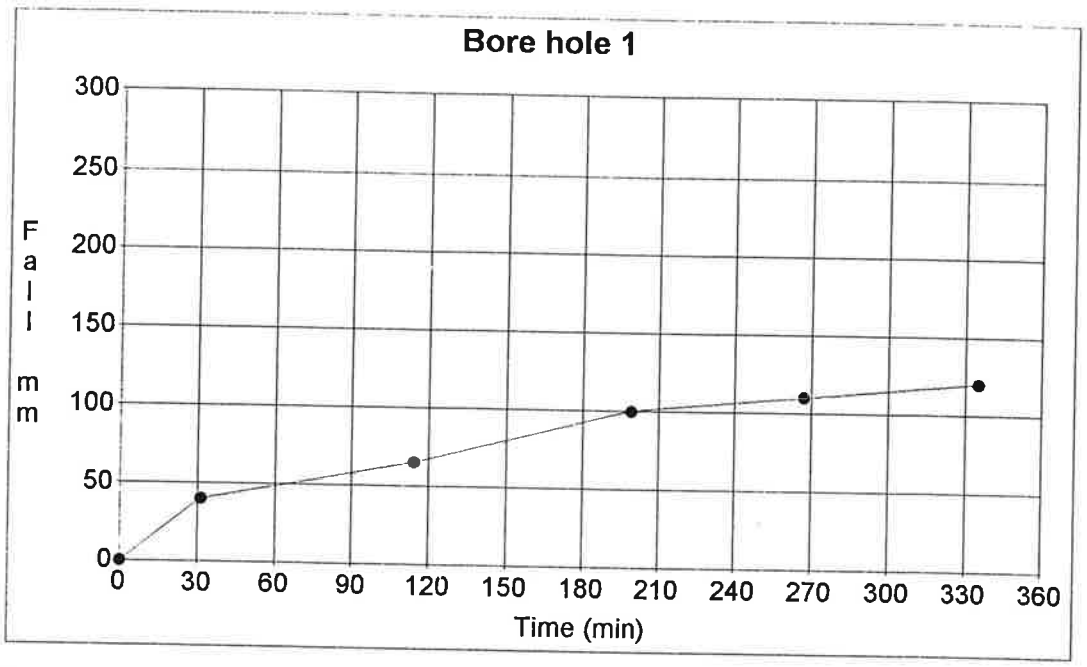
GEOCON SOIL TESTING LTD
Civil Engineering Laboratory
1202 Victoria St, P.O. Box 9123, Hamilton

EQUITY PACIFIC TRUST
Proposed Residential Subdivision DPS 2226
Opposite Karakariki Road, SH 23, Whatawhata
October 1996 W.4102

Fig A-3

PERCOLATION TESTS

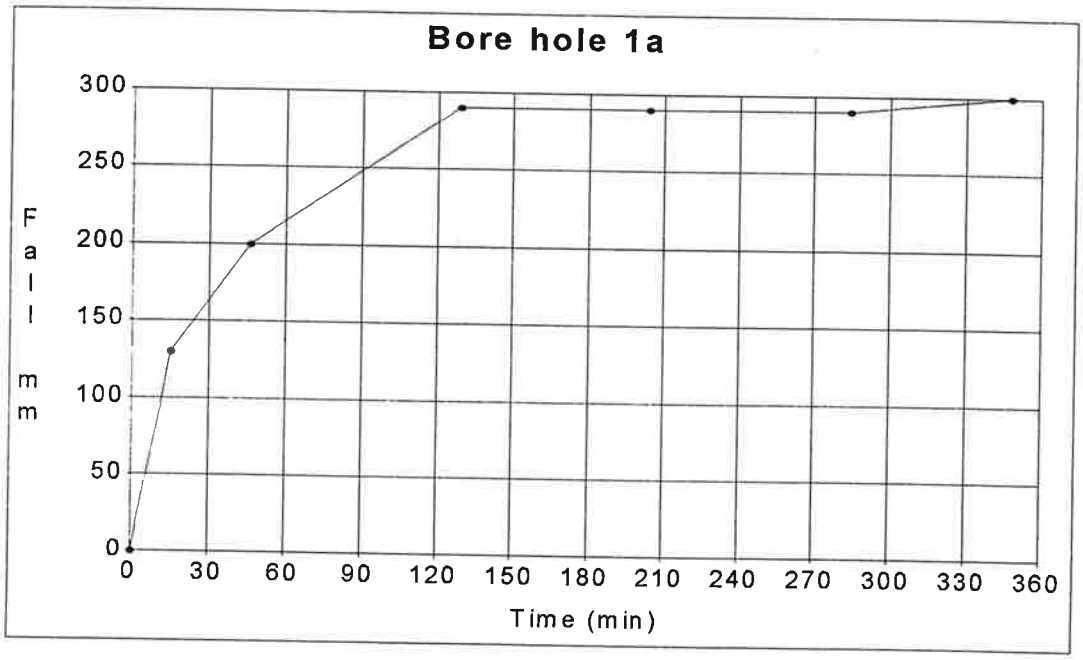
Bore hole 1



Min gradient on graph 120mm-65mm/335min-114min = 15mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.2	firm in situ	dark brown
clay	0.40	nutty	tan
clay	0.90	plactic	grey

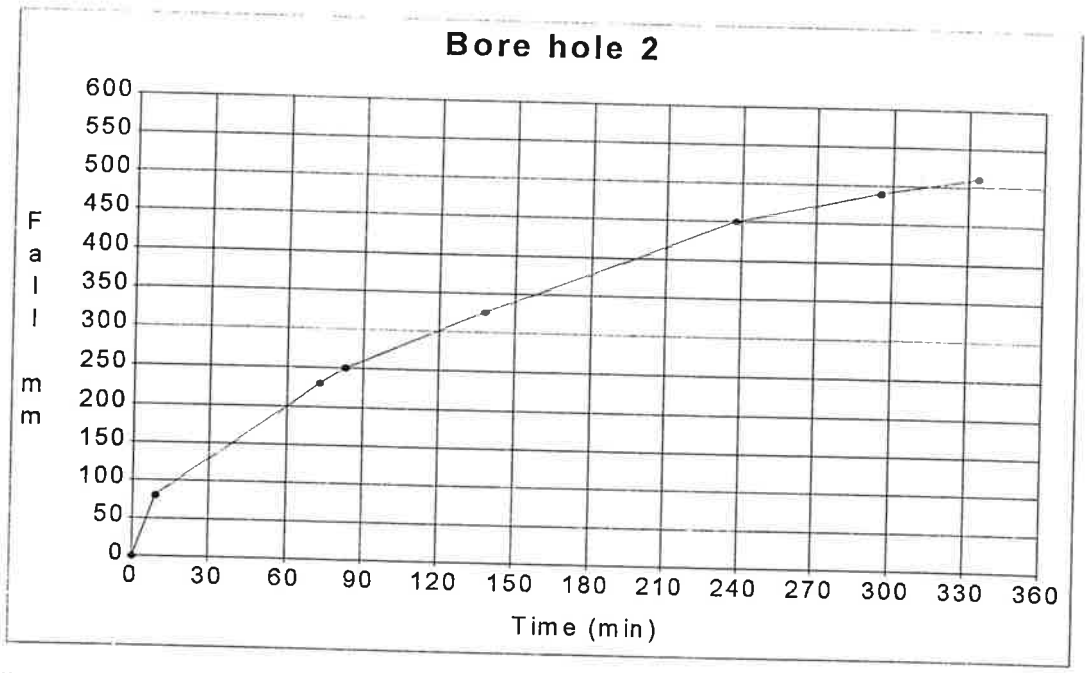
Bore hole 1a



Min gradient on graph 300mm-200mm/348min-46min = 20mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.18	firm in situ	dark brown
clay	0.60	nutty	grey
clay	0.90	plastic	grey

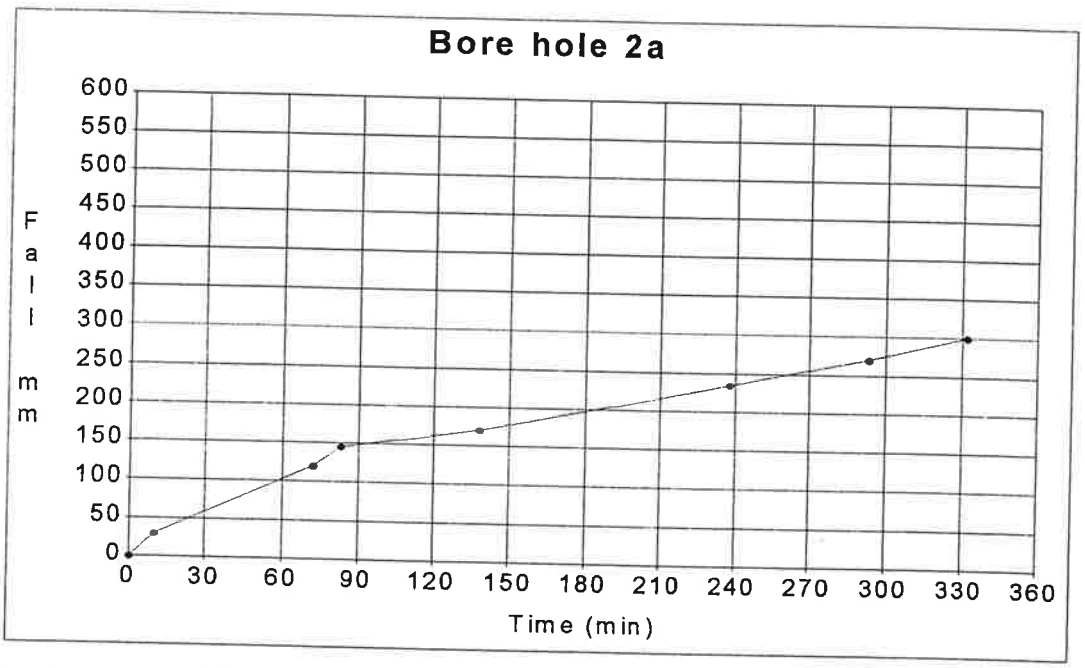
Bore hole 2



Min gradient on graph 510mm-250mm/334min-83min = 62mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.20	firm in situ	dark brown
clay	0.55	nutty firm	grey
clay	.90	plactic	grey

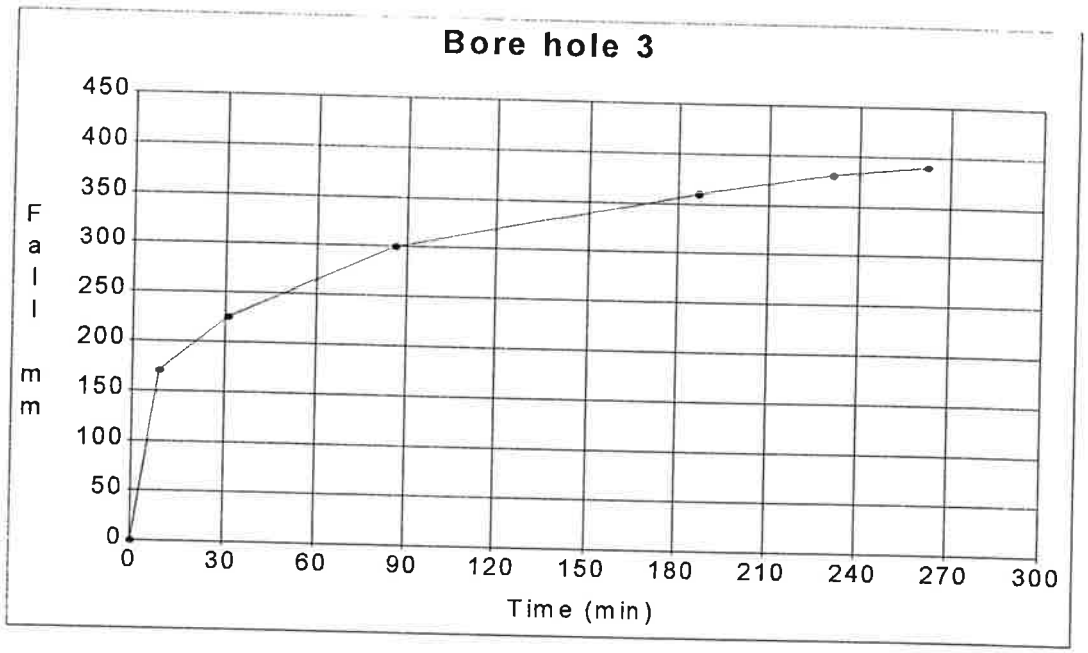
Bore hole 2a



Min gradient on graph 300mm-120mm/334in-83min = 43mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.19	firm in situ	dark brown
clay	0.55	nutty	brown
clay	0.90	plactic	grey

Bore hole 3

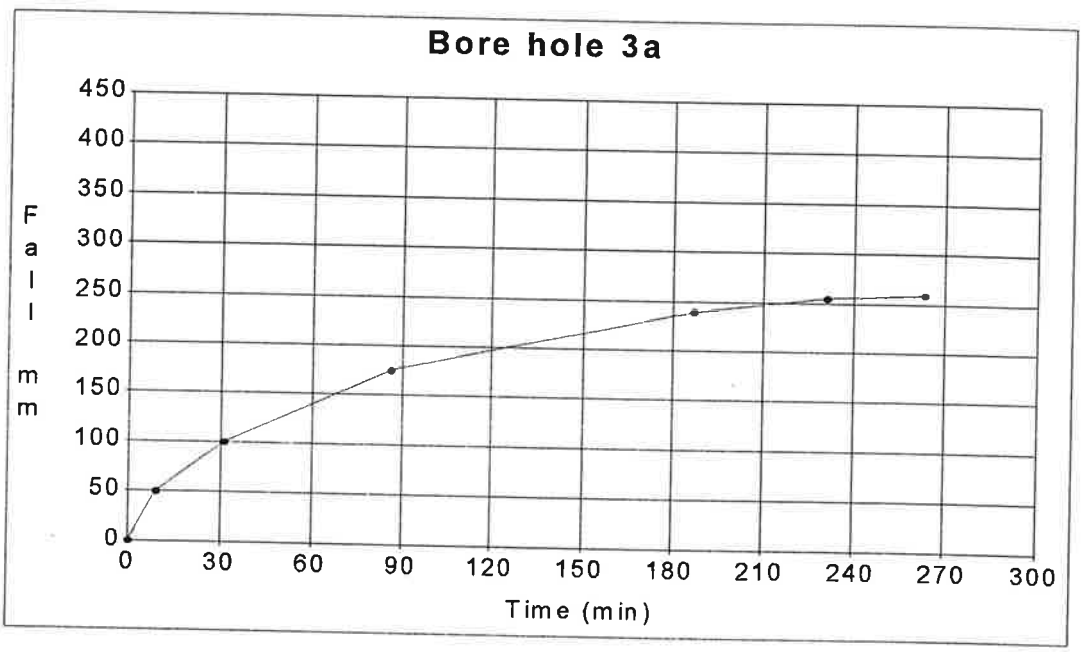


Min gradient on graph 390mm-225mm/262min-31min = 42mm/hr
Bore dimensions:- 100mm Dia x 900mm deep

Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.18	firm in situ	dark brown
clay	0.50	loose	red
clay	0.60	sticky	red
clay	0.90	loose	red

Bore hole 3a

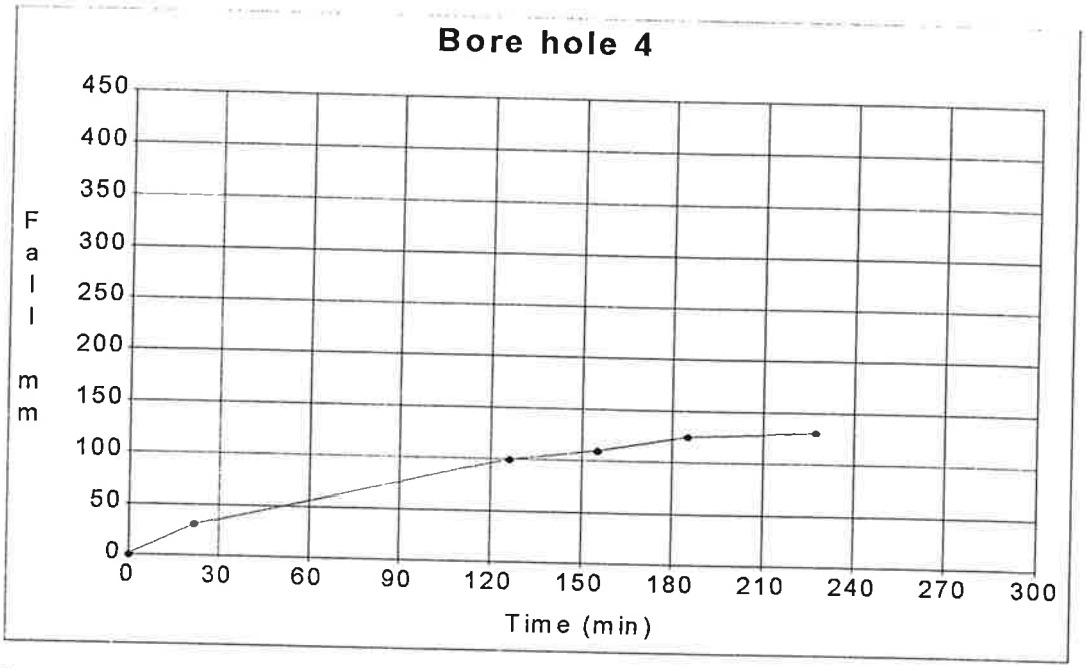


Min gradient on graph 260mm-100mm/263min-31min = 41mm/hr
Bore dimensions:- 100mm Dia x 900mm deep

Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.18	firm in situ	dark brown
clay	0.65	loose	red
clay	0.70	tacky	red
clay	0.90	loose	red

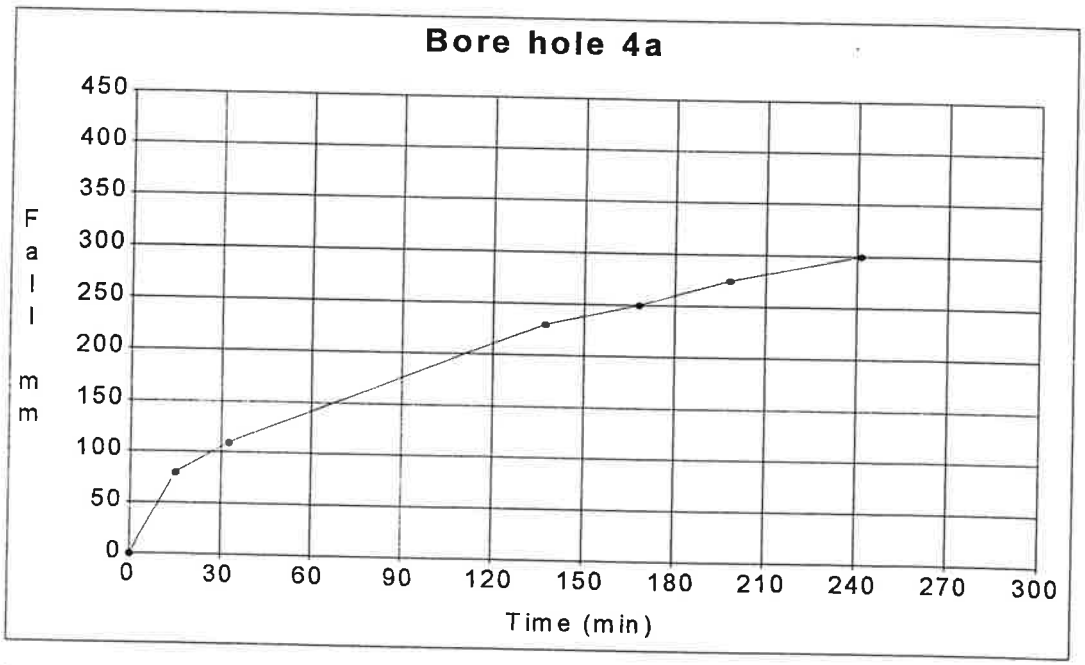
Bore hole 4



Min gradient on graph 130mm-100mm/227min-126min = 18mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.17	firm in situ	dark brown
clay	0.90	firm moist	gyey

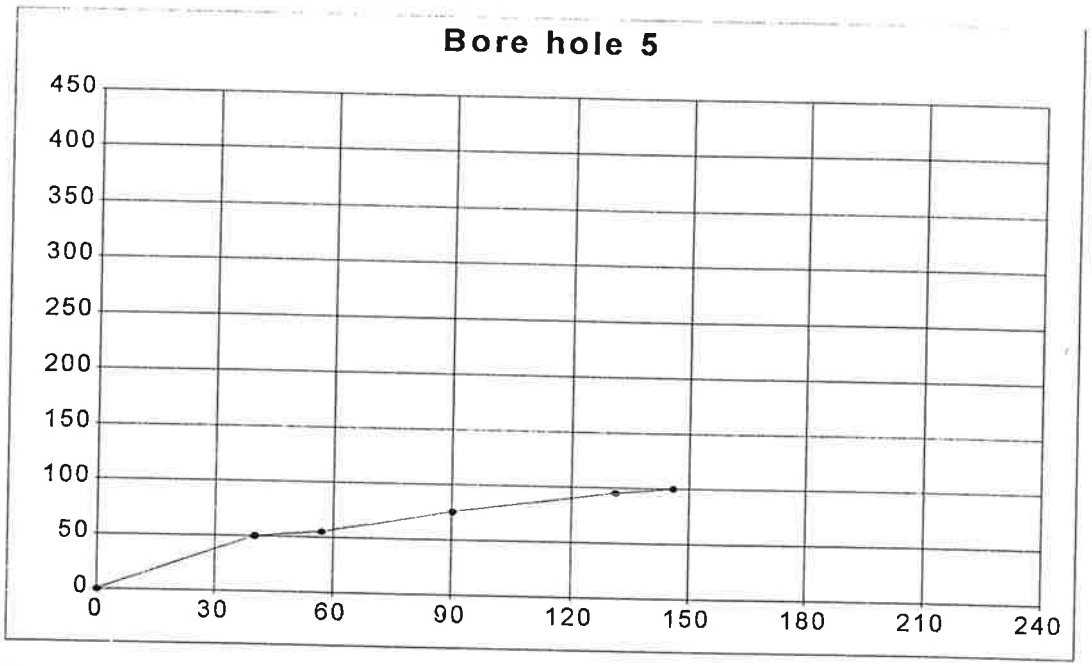
Bore hole 4a



Min gradient on graph 300mm-230mm/241min-137min = 40mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.20	firm in situ	dark brown
clay	0.90	moist nutty	tan

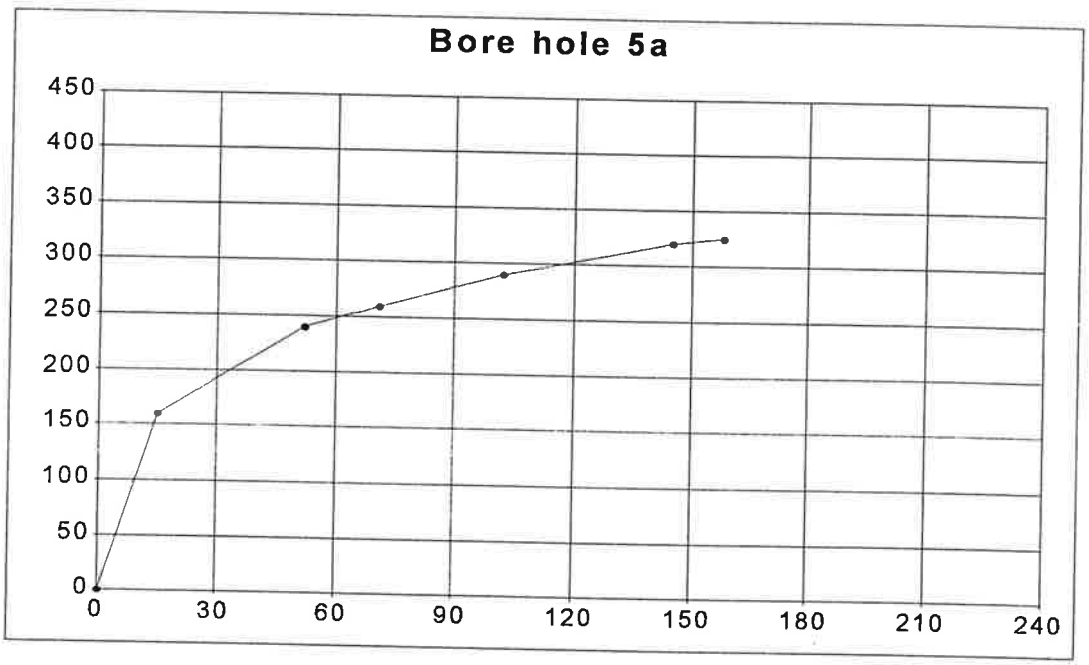
Bore hole 5



Min gradient on graph 100mm-55mm/146min-57min = 30mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.15	firm in situ	dark brown
clay	0.60	nutty	red
clay	0.70	sticky	red
clay	0.90	nutty	red

Bore hole 5a



Min gradient on graph 325mm-240mm/158min-52min = 48mm/hr
Bore dimensions:- 100mm Dia x 900mm deep
Soil Profile:

Soil	Depth (m)	Description	Colour
topsoil	0.15	firm in situ	dark brown
clay	0.60	open grain	red
clay	0.70	moist	red
clay	0.90	open grain	red

Scale 1:2500

50 100 150 200 250 Metres

Tunaeke Stream
Generally over 3m wide

Local Purpose Res. (Esplanade) to vest in Waikato District Council

Pt. Allot. 10 Karamu Parish

Pt. Allot. 11 Karamu Parish

Sec. 4 SO 5596A

Pt. Allot 5 Karamu Parish

Lot 30 1·29 ha.

Bus turn around area

Lot 6 1·07 ha.

Lot 7 0·76 ha.

Bore Hole No 1

Lot 5 1·46 ha.

Lot 29 0·38 ha.
Severed Land to be transferred to Transit New Zealand

Lot 28 0·78 ha.
Land Required for State Highway Realignment to be transferred to Transit New Zealand

Lot 23 0·88 ha.

Lot 10 0·70 ha.

Bore Hole No 3

Light

Lot 8 0·50 ha.

Lot 22 0·65 ha.

ROW

Road to Vest (20.12m wide)

Lot 11 0·56 ha.

Hamilton - Raglan S.H. 23

Public Road Crown Grant 1953/428

Lot 9 0·55 ha.

Lot 4 1·30 ha.

Bore Hole No 4

Lot 24 0·68 ha.

Lot 21 0·80 ha.

Lot 12 0·68 ha.

Lot 25 0·75 ha.

Bore Hole No 2

Lot 20 0·90 ha.

Lot 14 0·87 ha.

Lot 13 0·85 ha.

Lot 1 1·30 ha.

Lot 2 0·63 ha.

Lot 3 0·77 ha.

Pt. 1 DPS 18351

Lot 26 0·80 ha.

Lot 19 0·53 ha.

Lot 16 0·79 ha.

Lot 15 0·68 ha.

Bore Hole No 6

Lot 27 1·29 ha.

Lot 18 0·60 ha.

Lot 17 0·75 ha.

Bore Hole No 5

Lot 32

Area (A) is subject to a Height Restriction being a horizontal plane at Reduced Level 43·00m in terms of Moturiki Datum.

Contour Interval 1m
Levels in terms of Moturiki Datum

Amalgamation Condition
That Lot 32 hereon be transferred to the owner of Pt. Lot 1 DPS 7669 (CT 57A/868) and that one Certificate of Title be issued to include both parcels

Mark T Mitchell Consulting Geotechnical Engineer 1202 Victoria Street, P.O. Box 9123, Hamilton	**EQUITY PACIFIC TRUST** Proposed Residential Subdivision DPS 2226 Opposite Karakariki Road, SH 23, Whatawhata	**SITE PLAN**	**DRAWING No. 4102-01** **DATE** October 1996 **ISSUE** One

Mark T Mitchell

Consulting Geotechnical Engineer

1202/1 Victoria Street
P.O. Box 9123
Hamilton New Zealand
Facsimile 07 839 3125
Telephone 07 838 3119
e-mail: geocon@voyager.co.nz

MAINTENANCE AND INSPECTION REQUIREMENTS ON SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS HIGH BROOK RURAL RESIDENTIAL SUBDIVISION

INFORMATION FOR RESIDENTS

1. Background

As part of the Conditions for Resource Consent for the High Brook Rural Residential Subdivision, information is to be made available to all householders of the necessity to maintain, and inspect the on-site sewage treatment and disposal works.

The information as presented below is to be made available to all present and future property owners within the High Brook Rural Residential Subdivision.

2. Site Conditions

A Site Investigation and Geotechnical Appraisal of the site was carried out by Mark T Mitchell, Consulting Geotechnical Engineers, produced in a report dated 16 October, 1996. This report addressed the type of on-site effluent disposal systems most likely to be required for this particular subdivision given its physical characteristics.

From this report, two types of effluent disposal systems have been proposed, depending on the nature of each lot. Lots sited on higher ground areas (low rolling hillocks), are expected to have effluent draining characteristics which are in the category of moderately severe in terms of the NZ Standard for Household Septic Tank Systems, NZS 4610. Therefore conventional seepage trenches of 60 metres length may be used for these lots given the condition that up-slope cut-off drains are installed to intercept surface runoff. A reserve drainage field area should also be assigned on each of these lots as a precautionary measure, to cater for encountering poor soil soakage capacities and to allow for possible long-term clogging of soils in the disposal area.

For lots located within the lower parts of the subdivision, raised mound, dosed evapo-transpiration effluent beds have been proposed on account of high winter groundwater levels. This type of effluent bed is to be designed for each specific site, taking into consideration the size of the house and ground contours and groundwater levels. This design should be carried out by a Registered Engineer. That design should also include a schedule of maintenance and inspection requirements to supplement the information presented in this document.

3. Design Requirements

For this subdivision, it is envisaged that households are likely to contain facilities which produce greater than what has previously been considered as "normal" wastewater volumes, such as garbage grinders and dishwashers. Therefore the minimum septic tank sizes for all properties are to be 3,000 litres for a 1 to 5 person dwelling with a single shower and toilet. For a 6 to 9 person dwelling, or where multiple toilets and showers are incorporated into the house design, the septic tank capacity should be increased to a minimum of 3,500 litres.

A distribution box containing a valve or baffle is to be provided in the outlet line from the septic tank or holding tank chamber. The drainage trenches or fields are to be rested alternatively on a monthly basis with this system.

The vent and access lid to the septic tank is to be left uncovered so as to allow gas to escape and to provide access for inspection and cleaning.

4. Maintenance of Systems

The effluent disposal system for each property is to periodically maintained as follows:

Septic Tank

- De-sludging of the septic tank should be carried out before the sludge level builds up to such an extent that solids are carried over into the disposal field and clog the seepage trenches.
- Periodically inspect the baffle and check for solids in the effluent. This inspection should be done on a semi-annual basis.
- Septic tanks are to be cleaned out once every four years, or sooner if solids are noted in the effluent lines.

Drainage Fields

- For conventional soakage trenches, continuously maintain the surface cut-off drains around the trenches to avoid surface stormwater runoff from entering the effluent disposal trenches.
- Avoid driving vehicles over the drainage fields as this can cause compaction of the drainage media, resulting in less efficient soakage
- Do not place any objects or structures such as garden sheds over the drainage field areas that will restrict aeration
- For raised mound systems, maintain vegetation growth to promote evapo-transpiration and carry out annual inspection and servicing of the pump.
- Take note of areas where there is excess seepage flows. For the conventional drainfields, this may indicate the soils are becoming clogged. For that situation, increase the length of the disposal field drains or plant vegetation, such as Canna lilies, and flax to promote evapo-transpiration from the wet area.

Home Aeration Plants

- Carry out periodic maintenance in accordance with manufacturer's guidelines.

5. Guidelines for Householders

Your septic tank is designed to hold a household's daily waste flow for at least 24 hours. During this time solids and other pollutants are removed. As a result, the top and bottom parts of the tank slowly fill with solids, thereby reducing the volume of inflow which can stay in the tank for the necessary 24 hours.

If your tank is not properly operated and maintained it will pass excessive solids and pollutants onto the soakage field which will quickly clog up leading to potential health hazards and the need for expensive reinstatement of the soakage field.

A distribution box is provided between the septic tank and the soakage field. The box will contain either a baffle or valve which can be adjusted to control which soakage pipes the effluent will flow into. In addition, the distribution box provides cleaning access to the pipes.

Septic tanks are an effective means of disposal of on-site disposal of wastewater from single households, but require adherence to certain guidelines for them to remain trouble free, as follows. These guidelines have been sourced from several publications.

- Use biodegradable soaps for washing. *Reason: to enable a quick breakdown of the waste and stop foaming.*

- Take care that only materials which are readily-decomposed are disposed of within the waste water. Do not pass sanitary napkins or similar into the system. *Reason: Blockages in any part of the system are troublesome to clear.*

- Do not pour chemicals, bleaches or disinfectants into the waste water lines. *Reason: The "bugs" within the septic tanks which break down the solids are sensitive to some chemicals and could be killed off by adverse reactions.*

- On flat lying sections, prior to leaving the residence unoccupied for any length of time, it is recommended that two full flushes of the toilet be carried out. *Reason: To prevent solids remaining in the pipelines which may decompose prior to the septic tank solids removal and thereby lead to bad odours close to the house.*

- Keep children off the trenches or beds especially in winter. *Reason: precautionary measure in case water levels rise towards the ground surface.*

- Do not allow vehicles on the trenches or beds and fence these areas off it you keep stock. *Reason: to prevent compaction of the ground and thereby reduce available soakage.*

- Ensure the rainwater diversion drains around the trenches or beds are kept clean. *Reason: so the rainwater does not soak into and overload the system*

- Keep the vent to the septic tank uncovered. *Reason: to avoid the build up excessive levels of potentially dangerous gas (methane).*

- Each month adjust the baffle or valves in the distribution box. *Reason: to rest half of the soakage field each month.*

- Every six months check for solids within the baffle box. *Reason: to ensure the septic tanks is operating efficiently.*

- Clean the tanks once every four years or sooner if solids in the outflow lines are noted. *Reason: to remove the build-up of solids and thereby allow maximum settlement time for the waste water.*

- Keep a written record of the dates of installation, cleaning, maintenance inspections and stoppages. *Reason: a case history assists if problems arise.*

For Dosed and Evapo-transpiration (ETS) systems:

- Keep all vents on trenches or beds clear. *Reason: to allow free flow of air.*

- Arrange annual inspections and servicing of pump (or dosing syphon) by the installer. *Reason: to ensure continuing satisfactory performance.*

- Mow grass and maintain plant growth on ETS and mounded beds. *Reason: to optimise the amount of moisture that can be evaporated and transpired into the atmosphere.*

Prepared by: Mark T Mitchell
Consulting Geotechnical Engineer

26 May, 1997
Ref: W - 4102.1

Scale 1:2500

50 100 150 200 250 Metres

Tunaeke Stream
Generally over 3m wide

Local Purpose Res. (Esplanade) to vest in Waikato District Council

Pt. Allot. 10 Karamu Parish

Pt. Allot. 11 Karamu Parish

Sec. 4 SO 5596A

Pt. Allot. 5 Karamu Parish

Lot 30 1·29 ha.

Bus turn around area

Lot 6 1·07 ha.

Lot 7 0·76 ha.

Bore Hole No 1

Lot 5 1·46 ha.

Lot 23 0·88 ha.

Lot 10 0·70 ha.

Bore Hole No 3

Lot 8 0·50 ha.

Lot 22 0·65 ha.

Lot 11 0·56 ha.

Lot 24 0·68 ha.

Lot 9 0·55 ha.

Lot 4 1·30 ha.

Bore Hole No 4

Lot 25 0·75 ha.

Lot 21 0·80 ha.

Lot 12 0·68 ha.

Road to Vest (20.12m wide)

Bore Hole No 2

Lot 20 0·90 ha.

Lot 14 0·87 ha.

Lot 13 0·85 ha.

Lot 26 0·80 ha.

Lot 19 0·53 ha.

Lot 16 0·79 ha.

Lot 15 0·68 ha.

Bore Hole No 6

Lot 27 1·29 ha.

Lot 18 0·60 ha.

Lot 17 0·75 ha.

Bore Hole No 5

Lot 29 0·38 ha.
Severed Land to be transferred to Transit New Zealand

Lot 28 0·78 ha.
Land Required for State Highway Realignment to be transferred to Transit New Zealand

Hamilton - Raglan S.H. 23

Public Road Crown Grant 1953/428

Lot 2 0·63 ha.

Lot 1 1·30 ha.

Lot 3 0·77 ha.

Pt. 1 DPS 18351

Lot 32

Area (A) is subject to a Height Restriction being a horizontal plane at Reduced Level 43·00m in terms of Moturiki Datum.

Contour Interval 1m
Levels in terms of Moturiki Datum

Amalgamation Condition
That Lot 32 hereon be transferred to the owner of Pt. Lot 1 DPS 7669 (CT 57A/868) and that one Certificate of Title be issued to include both parcels

Mark T Mitchell
Consulting Geotechnical Engineer
1202 Victoria Street, P.O. Box 9123, Hamilton

EQUITY PACIFIC TRUST

Proposed Residential Subdivision DPS 2226
Opposite Karakariki Road, SH 23, Whatawhata

SITE PLAN

DRAWING No. 4102-01
DATE October 1996
ISSUE One

Relationships between spatial layers **[000047, 000055, 000078]**

The District Plan uses a range of spatial layers that are shown on planning maps including zones, overlays, site-specific controls, development areas and designations. The function of each spatial layer is set out in the National Planning Standards, November 2019, as follows:

Zones

A zone spatially identifies and manages an area with common environmental characteristics or where environmental outcomes are sought, by bundling compatible activities or effects together, and controlling those that are incompatible. The spatial area of each zone is shown on the planning maps. Every part of the district (except for roads) is in one zone and the zones do not overlap.

Overlays

As well as zones, there are various overlays (such as Outstanding Natural Landscapes and Significant Natural Areas) and sites/features (such as Historic Heritage buildings). An overlay spatially identifies distinctive values, risks or other factors which require management in a different manner from underlying zone provisions.

Site-specific controls

Site-specific control spatially identifies where a site or area has provisions that are different from other spatial layers or district-wide provisions that apply to that site or area.

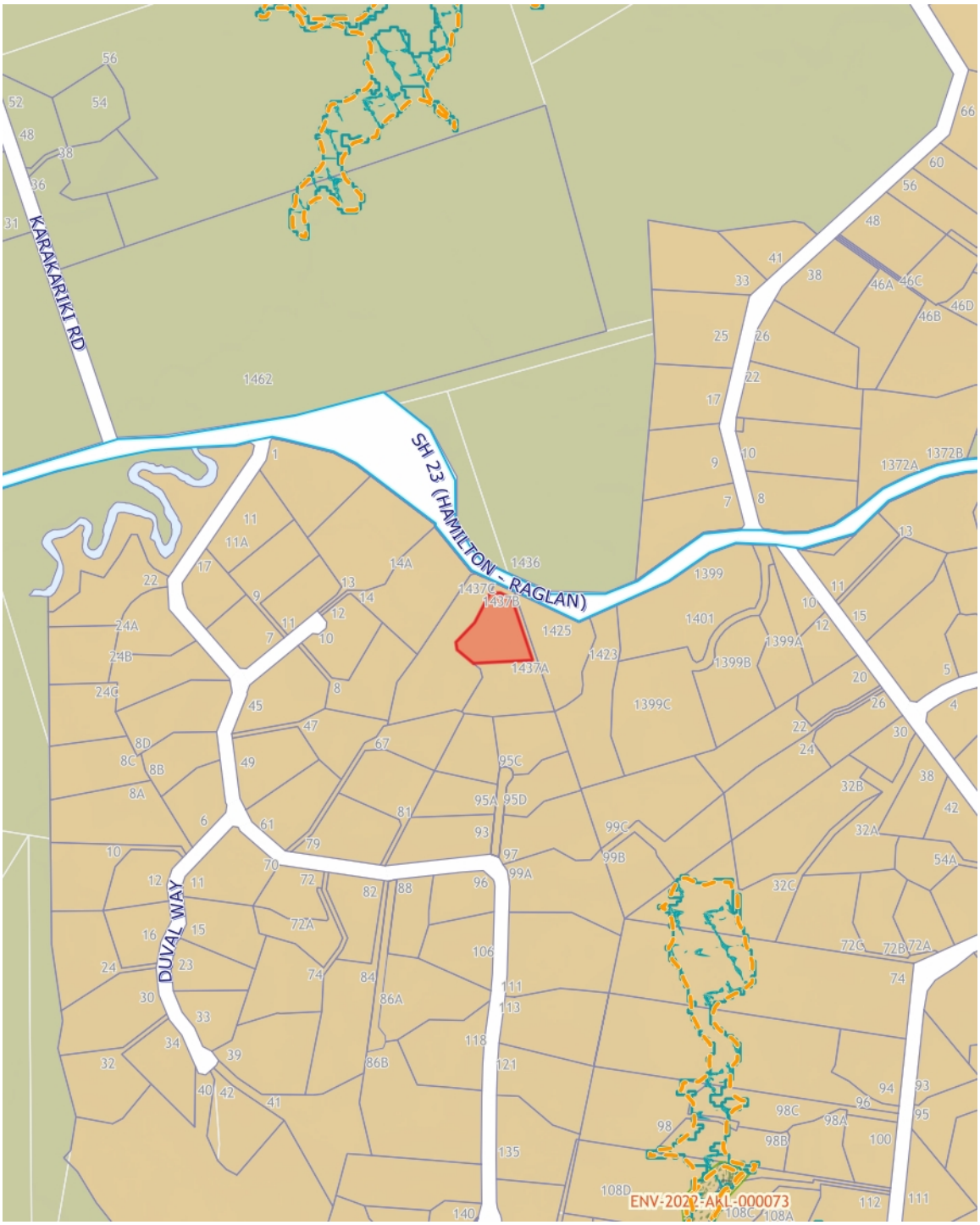
Precincts

A precinct spatially identifies and manages an area where additional place-based provisions apply to modify or refine aspects of the outcomes anticipated in the underlying zone(s).

Designations

A designation is a provision in a district plan for a public work or project. Only a requiring authority can give notice of a requirement for a designation.

Proposed Waikato District Plan (Appeals Version)



SCALE 1:8610	Cadastre sourced from Land Information New Zealand under CC-By. Copyright @ Waikato District Council	Projection: New Zealand Transverse Mercator Datum: New Zealand Geodetic Datum 2000	Print Date: 24/04/2023	A4

Proposed Waikato District Plan Appeals Version
Map Legend

APPEALS

Appeals

DISTRICT-WIDE MATTERS

Energy, infrastructure and transport

Indicative road

National grid *

Gas transmission line

Hazards and risk overlays

Coastal sensitivity area (erosion)

Coastal sensitivity area (inundation)

Defended area

Flood plain management area

Flood ponding area

High risk coastal erosion area

High risk coastal inundation area

High risk flood area

Mine subsidence risk area

Historical and cultural values overlays

96 Historic heritage item *

318 Sites and areas of significance to Maaori

Extent of setting

65 Notable tree *

Natural environment values overlays

Coastal environment *

Natural character

Outstanding Natural Feature

Outstanding Natural Landscape

Significant Natural Area

General district-wide matters overlays

Acoustic area - Horotiu

Airport air noise boundaries

Airport noise SEL95 boundary

Airport obstacle limitation surface

Airport subdivision control boundary

Noise control boundary - Waikato gun club *

Proposed Waikato District Plan Appeals Version
Map Legend

PRECINCTS

PREC1 Commercial

Education

Industrial

Medium density residential

Mixed use

Open space

Operational

Residential

Rural

DEVELOPMENT AREAS

Concept plan - Havelock

Havelock industry buffer

Havelock 40 dB LAeq noise contour

Havelock slope residential area

Havelock hilltop park

Havelock rural lifestyle cluster

Havelock walkway cycleway bridleway

Concept plan - Rangitahi

Lots

Comprehensive residential development

Potential mixed use

Potential commercial

Potential tourism

Walking-cycle path

Local road

Edge lane

Balance lot - farm management

Existing native vegetation

Reserve - recreational

Reserve - pedestrian way

Reserve - drainage

Landscape restoration policy area

Proposed Waikato District Plan Appeals Version
Map Legend

DESIGNATIONS

WDC-1 Designation *

SPECIFIC CONTORLS

Residential zones

Te Kauwhata ecological residential area

Business overlay area

Amenity setback

Huntly heritage area

Huntly north wetland area

Matangi heritage area

Open space and recreation zone

Tamahere Park

Tamahere Village Green

Industrial zones

Horotiu earth bund

Rural zones

Aggregate extraction area

Aggregate resource area

Te Uku wind farm setback

Meremere dragway

Agricultural research centre

Huntly power station
- coal and ash management area

Whaanga Coast development area

Whaanga Coast property area

Proposed Waikato District Plan Appeals Version
Map Legend

Commercial and mixed use zones

- Verandah
- Motorway service centre

Special purpose zones

- Indicative borrow pits and Maaori-made soils
- TaTa Valley hotel area
- Airside overlay

Multi-zone

- Battlefield view shaft
- Coal mining area
- Environmental protection area
- Lakeside Te Kauwhata high density area
- Lakeside Te Kauwhata medium density area
- Lakeside Te Kauwhata rural area
- Raglan navigation beacon
- Segregation strip
- Tamahere commercial area
- Urban expansion area
- Waikato River catchment

INFORMATION ONLY

- Mystery Creeknoise boundary
- Fonterra noise control boundary

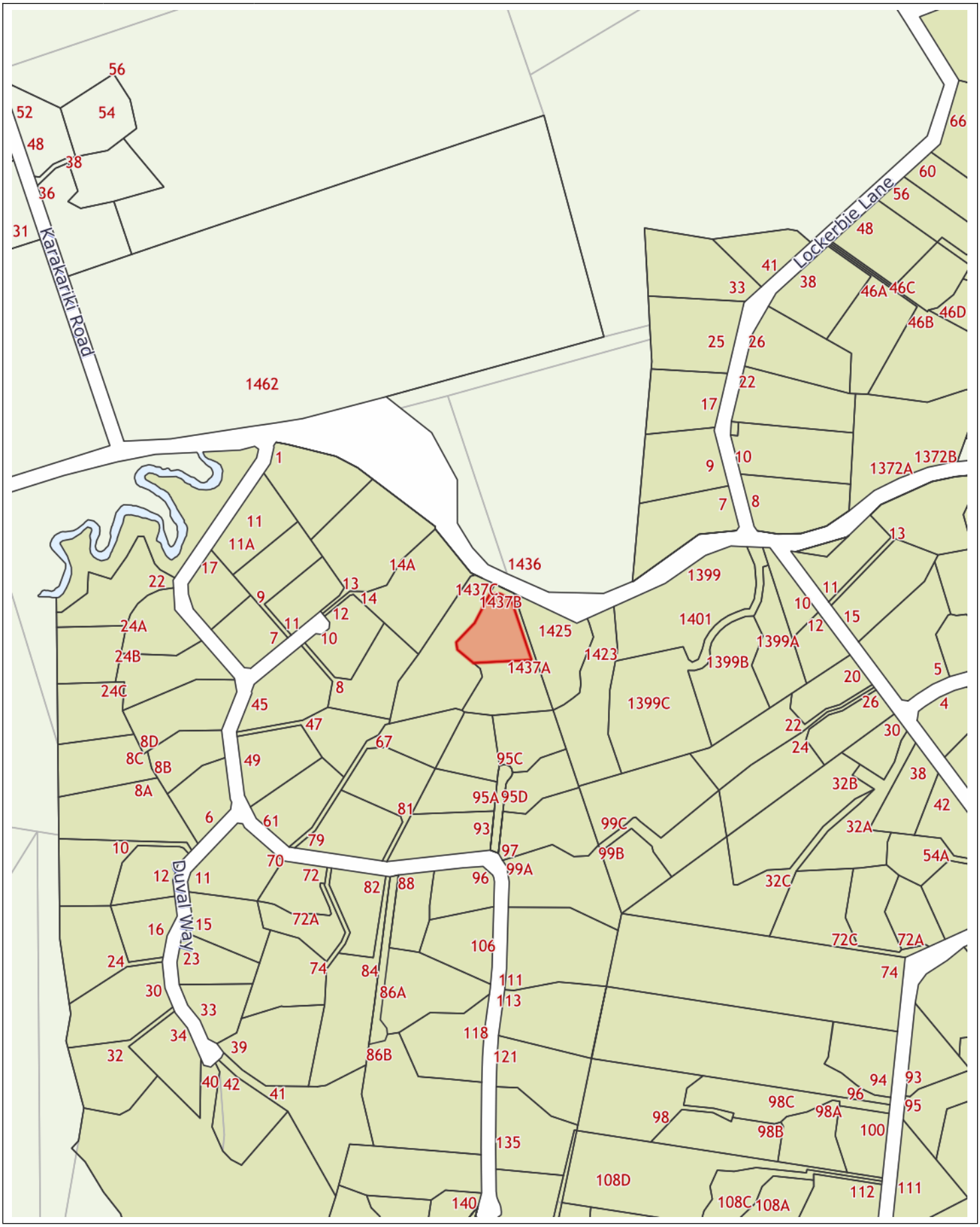
Proposed Waikato District Plan Appeals Version
Map Legend

ZONES *

- COMZ – Commercial zone
- TCZ – Town centre zone
- LCZ – Local centre zone
- GRUZ – General rural zone
- RLZ – Rural lifestyle zone
- LLRZ – Large lot residential zone
- GRZ – General residential zone
- MRZ – Medium density residential zone
- SETZ - Settlement zone
- OSZ – Open space zone
- HIZ – Heavy industrial zone
- GIZ – General industrial zone
- SPZ - Special purpose zones

List of Special purpose zones:
- BTZ - Business Tamahere zone
- CORZ - Corrections zone
- FUZ - Future urban zone
- HOPZ - Hopuhopu zone
- KLZ - Kimihia lakes zone
- MAZ - Mercer airport zone
- MSRZ - Motorsport and recreation zone
- MTZ - Matangi zone
- OHI - Ohinewai zone
- RPZ - Rangitahi Peninsula zone
- TKAZ - Te Kowhai airpark zone
- TTZ - TaTa Valley zone

Waikato District Plan



SCALE 1:6888	Cadastre sourced from Land Information New Zealand under CC-By. Copyright @ Waikato District Council	Projection: New Zealand Transverse Mercator Datum: New Zealand Geodetic Datum 2000	Print Date: 24/04/2023	A4

Legend

Waikato District Plan

Context
- Plan Section Divide
- State Highway (1)
- Rail
- Land Parcel
- Water Body
- Reserve

Building|Construction
- Airport Inner Noise Control Boundary
- Airport Outer Noise Control Boundary
- Airport SEL 95 Noise Control Boundary
- Background Noise Area
- High Background Noise Area
- Noise Control Boundary
- 40 Noise Boundary Distance (m)

Commercial
- Airport Obstacle Limitation Surface
- Area A and B (Pokeno)
- Area of Interest / Scheduled Area
- Business Centre Classification
- Housing Restriction Area
- Front Yard Control Line
- Main Frontage Control Line
- Mixed Use Policy Area
- Tamahere Commercial Area
- Town Centre
- Town Centre Overlay Area
- Verandah

Hazard Policies
- Catchment Management Plan Area
- 1% Design Flood Level
- Flood Limit
- Flood Risk
- Huntly East Mine Subsidence
- Huntly South Assessment 1
- Land Stability Policy Area
- Remediation Policy Area
- River Stability Policy Area

Culture & Heritage
- Battlefield View Shaft
- Heritage Area
- Heritage Item
- Notable Tree
- Schedule 8A
- Site of Significance
- Urupa
- Waikato River Catchment

Infrastructure
- Designation
- Gas Line
- Transmission Line
- Indicative Road Intent Important
- Indicative Road Intent Important Local A
- Indicative Road Intent Important Local B
- Indicative Road Location Important
- Indicative Road Location Important Collector
- Indicative Road Location Important Service Lane
- National Walkway
- Raglan Navigation Beacon
- Segregation Strip
- Walkway Cycleway Bridleway

Natural Environment
- Coastal Marine Area
- Conservation Policy Area
- Ecological Corridor
- Environmental Enhancement Overlay Area
- Environmental Protection Policy Area
- Gully Area
- Hauraki Gulf Catchment Area
- Identified Significant Natural Feature
- Landscape Policy Area
- Management Area
- Proposed Esplanade Reserve
- Ridgeline Policy Area
- 5 Schedule 5A Site of Special Wildlife Interest
- Threatened Species Serious Decline
- Threatened Species Gradual Decline
- Whaanga Coast Policy Area

Urban Environment
- Amenity Planting Requirement
- 100 Anticipated Dwelling Number
- Concept Plan
- Papakainga Policy Area
- Residential Large Lot Overlay Area
- Residential Medium Lot Overlay Area
- Structure Plan Boundary
- Urban Expansion Policy Area
- Village Growth Area

Minerals|Mining
- Aggregate Extraction Policy Area
- Aggregate Resource Policy Area
- Coal Mine Policy Area

Zones

Commercial
- Village Business (Franklin)
- Business (Waikato)
- Business (Franklin)

Open Space
- Forest Conservation (Franklin)
- Queen's Redoubt Heritage (Franklin)
- Recreation (Franklin)
- Wetland Conservation (Franklin)
- Recreation (Waikato)

Industrial
- Heavy Industrial (Waikato)
- Industrial 2 (Franklin)
- Industrial Services (Franklin)
- Light Industrial (Franklin)
- Industrial Park (Waikato)
- Light Industrial (Waikato)
- Industrial (Franklin)
- Maioro Mining (Franklin)
- Aggregate Extraction (Franklin)
- Timber Processing (Franklin)

Cultural
- Pa (Waikato)

Residential
- Residential (Franklin)

High Density
- Living (Waikato)
- Residential 2 (Franklin)

Low Density
- New Residential (Waikato)
- Living Zone Te Kauwhata Ecological (Waikato)
- Living Zone Te Kauwhata West (Waikato)
- Village (Franklin)
- Rural-Residential (Franklin)
- Country Living (Waikato)

Agriculture Production
- Coastal (Franklin)
- Coastal (Waikato)
- Rural (Franklin)
- Rural (Waikato)

Map Information

Map Coordinates - the grid coordinates, provided as easting and northing values, measured in metres, use the New Zealand Transverse Mercator 2000 projection grid coordinates. Eastings are labelled on the top and bottom margins, their values increase towards the east. Northings are labelled on the lateral margin. Their values increase towards the north. For example, the value 5884321 is read as 5884 km and 321 m. 1:50 000 maps are marked at 4 km intervals, the area of a grid is 16 square km or 1600 hectares.

On the overview map the following town abbreviations have been used; Pokeno as Pok, Te Kauwhata as TeK, Huntly as Hun, Ngaruawahia as Nga and Raglan as Rag

A4 Service Plan	**1437 B State Highway 23 WHATAWHATA** **LOT 2 DPS 77487 BLK III ALEXANDRA SD SUBJ TO ESMTS**
Scale: 1:1129 **Print Date:** 24/04/2023 **Projection:** NZ Transverse Mercator **Datum:** NZ Geodetic Datum 2000	Waikato District Council does not warrant the accuracy of information in this publication and any person using or relying upon such information does so on the basis that WDC shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Cadastre sourced from Land Information New Zealand under CC-By. Copyright @ Waikato District Council Disclaimer

N

Waikato District Council
Te Kaunihera aa Takiwaa o Waikato

Storm Water Point
Fitting, Other, Pipe, Manhole, Sump, Drain, Misc

Waste Water Point
Fitting, Other, Gravity Main, Rising Main, Manhole, Valve, Other, Service

Water Supply Point
Backflow, Other, Hydrant, Main, Rider Main, Fitting/Node, Valve, Meter, Raw Water Main, Rising Main, Service