RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

KAIPARA DISTRICT COUNCIL

Building Consent File Complete - Checklist

Item Checked	Y	N	NA	Comments	File Type
				PIM 080187.	
Application Form and Acceptance Checklist	(Y)	N	NA	PIM/BC Number: 080397.	H
Building Consent and Conditions	(Y)	N	NA		H S
PIM	Y	N	(NA)	PIM EXISTING - 080187.	H S
Resource Consent	Y	N	(NA)		S
Amendments	Y	N	(NA)		H S
Plans	(Y)	N	NA		H
Specifications	(Y)	N	NA		H
Drainage plan	Y	N	(NA)		H
2nd Hand Dwelling Relocate Report and signed Confrimation	Y	N	(NA)		H
Bracing / Engineering Calcs	(Y)	N	NA		H
Producer Statements	(Y)	N	NA		H
Specified Systems Information	(Y)	N	NA		H
Processing Checklist	(Y)	N	NA	RESIDENTIAL.	H
Other Checklists (Please Note)	(Y)	N	NA	PRODUCER STATEMENT.	H
Requests for Additional Information	(Y)	N	NA		H S
Records of all correspondence (emails, letters, phonecalls)	(Y)	N	NA		H S
Memorandum from NZFS	Y	N	(NA)		H
Form 4A (Section 37)	Y	N	(NA)		H S
Approval from NZHPT	Y	N	(NA)		H
Development Contributions	Y	N	(NA)		
Inspection Records	(Y)	N	NA		H S
Truss Layout	(Y)	N	NA		H
Photos	Y	N	(NA)		H
Geotech Report	(Y)	N	NA		H
Notice to Fix	Y	N	(NA)		H S
Compliance Schedule	Y	N	(NA)	Refer CS:	H S
Compliance Schedule Statement	Y	N	(NA)	Refer CS:	S
Certificate of Public Use	Y	N	(NA)		H S
Copy of Complaints Received	Y	N	(NA)		H S
CCC Application, CCC Checklist and Code Compliance Certificate	(Y)	N	NA		H H S
Drainage Asbuilt	(Y)	N	NA		H
Electrical Certificate of Compliance	(Y)	N	NA	3078536 & 2526447	H
Gas Certificate	(Y)	N	NA	515943.	H
Sewer/Water Notes	Y	N	(NA)		H
LBP Memorandum Design	Y	N	(NA)		H
LBP Builder	Y	N	(NA)		H
Other ~~Checklists (Please Note)~~ *	(Y)	N	~~(NA)~~		H

* PRINTOUTS OF IPENZ MEMBER.

Checked & Approved by: MN Date: 19/12/12.

Circle if applicable Y = Yes on file N = Not on file NA = Not applicable to this file
Note: If 'N, Not on file' is used, reasons need to be added to the comments box

H = Hard Copy - Information found on paper file. S = Soft Copy - Information available on NCS system
Once file is completed, file is sent for scanning. All information available as hard and soft copy.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

PIM 080137

COUNCIL
KAIPARA DISTRICT COUNCIL

RECEIVED
20 MAY 2008
KAIWAKA
Kaipara District Council

PIM And Building Consent Application
(The Building Act 2004)

BC No: 080397

Applicant Details:

1 The Owner

Name of Owner: G + K REID
Contact Person: G REID P.O. BOX 126
Postal Address: 22 HOPKINS CRES
Mangawhai KOHUMARAMA
Street Address/Registered Office: N/A
(09) 5286462
Phone No: Fax No:
Mobile No:
Email :
The following evidence of ownership is attached to this application : *(If property has been recently sold a copy of Sale and Purchase Agreement is required)*
CERTIFICATE OF TITLE

2 The Agent

Name of Agent: SANG ARCHITECTS COMPANY LIMITED
Contact Person:
Postal Address: 11 GLENFELL PLACE EPSOM AUCKLAND 1023
Street Address/Registered Office:
(09) 638 8006 (09) 638 8079
Phone No: Fax No:
Mobile No:
Email: ronsang@sangarchitects.co.nz
Relationship to Owner: ARCHITECT
First Point of Contact for Communications/Fees/Refunds to:
☐ The Owner ☑ The Agent

3 The Project (What is the work to be done)

Description of the building work:
NEW RESIDENTIAL DWELLING
Will the work result in a change of use of the building:
☐ Yes ☑ No
If YES please state new use and provide details:
List Building Consents previously issued for this project (if any): NIL
Floor area (proposed work - square metres)

	Basement	Ground Floor	Other Floors	Total
Main Building	.....	.....	.....	590 m²
Accessory Buildings	.....	.....	.....	.....

4 Building Details: (Where work to be done)

Valuation Roll No : 0122012711
Legal Description: LOT 3 DP 319142
Street Address of Building: DE BOCK LANE MANGAWHAI
Location of Building within site/block number (include nearest street access):
Building Name:
Number of Levels:
Level/Unit No:
Certificate of Title No : 75252
Area of Site (m²/ha) : 1.0890 ha
Current, lawfully established use (if applicable) :
VACANT SITE
Year first constructed (if applicable) : N/A

5 Nature Of Consent

☑ New building - exclude domestic garages and domestic outbuildings — Intended Life: Indefinite, but not less than
☐ Foundations only — 50 yrs ☐ OR Specified as .....yrs
☐ Alterations, repairs, extensions, conversions, resiting, installation of heating appliances — Demolition ☐
Being stage ..... of an intended ..... stages
☐ Domestic garages and domestic outbuildings

6 Value Of Work And Fees (GST Incl)

Main buildings	$.....
Accessory buildings	$.....
Plumbing & Drainage	$.....
Total Value of Work	$400,000
Office Use Only	
PIM	$.....
Building Consent	$1886.00
BRANZ Levy	$400.00
DBH Levy	$188.00
Certificate of Acceptance	$.....
TOTAL	$2474.00

Receipt No: 54619
Date: 22/5

ECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

7 Tick box A to D below, as appropriate :

- ☑ A Application is for a Project Information Memorandum (PIM)
- ☑ B Application is for Building Consent (BC) only, in accordance with PIM No : 080137
- ☐ C Application is for Building Consent (BC) and Project Information Memorandum (PIM)
- ☐ D Application is for a Certificate of Acceptance (COA)
- ☐ E Amendment to Building Consent No: .....

8 Confidentiality (Plans and Specifications):

I/We require the following to be treated as confidential (proof of reasons for confidentiality will be required and will only be accepted if legally valid)

- ☐ Plans (please specify which plans i.e. Floor Plans etc.,) : .....
- ☐ Specifications
- ☐ I/We require that all details of this application remain confidential as required by a Council directive applied for, or already issued, in relation to a protection order currently in force under The Domestic Violence Act 1995.

9 Vehicle Crossing Required

Is this application linked to a vehicle crossing application?

YES (NO) If 'YES', Application No : .....

(If 'YES' please include Vehicle Crossing Application)

10 Public Utility Connections Required

Is this application subject to a utility connection application? (Drainage, Water Connection or Water Meter Installation)

- ☐ YES - Application No:.....
- ☑ NO - Existing connections in place

11 Historic Places Trust

- ☐ The property is a registered historic place, historic area or wāhi tapu area
- ☐ A PIM has already been issued for this project - PIM No : .....

If your property has an archaeological or historic site, you need to consult with the Historic Places Trust in regards to your project for review and approval prior to your project commencing

12 Fire Service Design Unit (3 copies - 4 where fire report required, 1 set to be A3)

Section 47 of The Building Act 2004, requires certain projects as specified by notice in the NZ Gazette to be reviewed by the New Zealand Fire Service, which may require a Memorandum, setting out advice on issues such as **'means of escape from fire'** and **'water supply for fire fighting'**. Not required when Fire Design Report shows compliance with the 'C' Documents of the New Zealand Building Code.

13 Compliance Schedule (where applicable – Complete Part E)

A Compliance Schedule is required for buildings with specified systems. This does **NOT** apply to single storey, residential property apart from when serviced by a cable car (lift).

14 Certificate of Acceptance

Is this application in relation to obtaining a Certificate of Acceptance (Section 96 Building Act 2004) ?

☐ Yes ☑ No If yes, please provide details below:

Description of Building work - .....

.....

Date work carried out - .....

Personnel who carried out work – Please list over page in PART D: KEY PERSONNEL

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Part B: Project Details

Project Information Memorandum (Complete this part only when applying for a PIM)

The project involves the following matters. Tick each applicable box and attach relevant information in **triplicate** for residential and **four copies** for Commercial Industrial or Multi-Storey. **Always include one set A3 size.**

- ☑ (a) Location, in relation to legal boundaries, and external dimensions of new, relocated, or altered buildings (Site Plan with elevations, Topography, drawn to scale).
- ☑ (b) Details of any known or potential erosion, avulsion, falling debris, filled ground, subsidence, slippage, alluvion, inundations, and hazardous contaminants on or near the site, land contours.
- ☑ (c) Provisions to be made for vehicular access, including parking. (To be shown on site plan).
- ☐ (d) Provisions to be made in building over or adjacent to any road or public place.
- ☑ (e) Provisions to be made for disposing of stormwater and wastewater. (To be shown on site plan).
- ☐ (f) Precautions to be taken where building work is to take place over existing drains or sewers or in close proximity to wells or water mains.
- ☐ (g) New connections to public utilities i.e. water supply, stormwater system, wastewater system.
- ☐ (h) Provisions to be made in any demolition work for the protection of the public, suppression of dust, suppression of noise, disposal of debris and disconnection from public utilities.
- ☐ (i) Details of any cultural or heritage significance of the building or building site, including whether it is on a marae or wahi tapu.
- ☐ (j) Copy of/or reference to, any resource consent or planning approval (including subdivision) for this project.
- ☐ (k) Details of volume of proposed excavations; include volumes for site preparation, basement and driveway.

Part C: Building Details

Complete this part only when applying for a Building Consent

This application is accompanied by: (tick each applicable box, attach relevant documents in **triplicate** (one of which must be A3 size) for residential and **four copies** (one of which must be A3 size) for Commercial, Industrial or Multi-Storey).

- ☑ 1 The drawings, specifications and other documents according to which the building is proposed to be constructed to comply with the provisions of the New Zealand Building Code, with supporting documents, if any, including:
- ☐ 2 Building Certificates.
- ☑ 3 Producer Statements (including TP 58 Effluent Design), and any alternative solutions.
- ☐ 4 References to product certification issued by the Department of Building and Housing (DBH).
- ☐ 5 References to determinations issued by the Department of Building and Housing (DBH).

For details on drawings and specifications etc, see checklist form. If applying for PIM and Building Consent together, then plans for PART B (a) can be included in PART C (1).
If a PIM has already been applied for then include a copy of any relevant authorisations (eg Resource Consents) with this application.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Part D : Key Personnel

From 30 November 2009, the Building Act 2004 requires all restricted building work to be carried out or supervised by a Licensed Building Practitioner. After this date, applications for consent can only be accepted where a Licensed Building Practitioner has been engaged and the registration number shown in the appropriate area below.

Designer

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Builder (Licensed Building Practitioner From 30/11/2009)

To be advised

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Registered Drainlayer

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Registered Plumber

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Registered Electrician

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Registered Gas Fitter

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Other

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

Other

Name :..... Reg No : ..... Phone No: :.....

Address : .....

Mobile No : ..... Email: .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Part E: Compliance Schedule Details

E1 : Systems Necessitating a Compliance Schedule :

The building will contain the following (tick each box and attach proposed inspection, maintenance and reporting procedures).

Note : The building consent cannot be issued unless all specified systems are included.

- ☐ Automatic sprinkler systems or other systems of automatic fire protection.
- ☐ Automatic doors which form part of any fire wall and which are designed to close shut and remain shut on an alarm of fire.
- ☐ Emergency warning systems for fire or other dangers.
- ☐ Emergency lighting systems.
- ☐ Riser mains for fire service use.
- ☐ Any automatic back-flow preventer connected to a potable water supply.
- ☐ Lifts, escalators, or travelators or other similar systems.
- ☐ Mechanical ventilation or air conditioning system serving all or a major part of the building.
- ☐ Any other mechanical units for providing access to the exterior and interior walls of buildings.
- ☐ Building maintenance units for providing access to the exterior and interior walls of buildings.
- ☐ Such signs as are required by the building code in respect of the above mentioned systems.
- ☐ None of the above.

E2 : Other Systems and Features to be Included in the Compliance Schedule :

The building will contain the following : (Tick each applicable box and attach proposed inspection, maintenance and reporting procedures).

- ☐ Means of escape from fire.
- ☐ Safety Barriers.
- ☐ Means of access and facilities for use by persons with disabilities which meet the requirements of Schedule 2 of the Building Act 2004.
- ☐ Hand held hoses for fire fighting.
- ☐ Such signs as are required by the New Zealand Building Code or Schedule 2 of the Building Act 2004.

Application

- ☐ I have read the guidance notes and the information I have supplied with this application is true and complete to the best of my knowledge.
- ☑ I have completed the attached checklists

I request that you issue a (please tick):

- ☐ Project Information Memorandum
- ☑ Building Consent
- ☐ Certificate of Acceptance

for the building work described in this application

Signed by / for and on behalf of / the owner

Note : If acting for and on behalf of, please read the following declaration prior to signing

"I hereby declare that I am authorised to act as Agent of the Applicant"

Signature : ..... **Name :** Glenn Reid

Date : 20/5/2008.

Please Note :

Council is unable to accept your application as being lodged until all details and relevant information are provided and the application is signed and the processing fee paid. Fees for your application will be assessed by the Customer Services Section on application. Further fees may be incurred after the Building Consent is issued.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Building Consent Application Checklist/Design Review

(To Be Completed By Applicant/Designer)

Return this completed checklist with your application.

Include all information and documents requested.

This will ensure your consent is processed in the quickest possible time.

Name: SANG ARCHITECTS & COMPANY LIMITED	Date:
Address: 11 GLENFELL PLACE EPSOM AUCKLAND 1023	

Application Type				Application Number			
New building	(YES)	NO	N/A	Certificate of title	(YES)	NO	
Alterations	YES	NO	N/A	Legal description checked	(YES)	NO	
Additions	YES	NO	N/A	Street address	(YES)	NO	
Demolition	YES	NO	N/A	Name of building			
Relocation	YES	NO	N/A	Floor level	(YES)	NO	N/A
Change of use	YES	NO	N/A	Current lawful use			
Stage of	YES	NO	N/A	Building history - listed	YES	NO	(N/A)
Building Classification				Intended life	50 YEARS		
Housing							
Detached	(YES)	NO	N/A	**Floor Area**			
Multi-unit	YES	NO	N/A	Ground floor	590		M^2
Group dwelling	YES	NO	N/A	Basement	N/A		M^2
Outbuildings				1st floor	N/A		M^2
Garage, barn, shed	YES	NO	N/A	2nd floor	N/A		M^2
Swimming pool	YES	NO	N/A	Outbuildings	N/A		M^2
Glasshouse, pergola, other	YES	NO	N/A	Decks/balconies	N/A		M^2
Ancillary				Other	N/A		M^2
Bridge, Outdoor fire, retaining wall	YES	NO	N/A	TOTAL	590		M^2
Office Use:				**Contact Details, Address, Phone, Etc**			
				Owner's details	(YES)	NO	N/A
				Agent's details	(YES)	NO	N/A
				Designer's details	(YES)	NO	N/A
				Engineer's details	(YES)	NO	N/A
				Builder details	YES	(NO)	N/A
				Electrician details	YES	(NO)	N/A
				Plumber details	YES	(NO)	N/A
				Drainlayer details	YES	(NO)	N/A
				Means of compliance (as per application form)	YES	(NO)	N/A

Wind zone	Low	Med	(High)	Very high	Spec. Des	Corrosion zone		Earthquake region	

Full Description Of Building Work

NEW HOUSE AND GARAGES AND ASSOCIATED SERVICES

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Provide Details Of Any Reports Submitted And Issue Date:

Plans				Site plan			
Number of sets supplied	3			1:100 1:200 or 1:500	(YES)	NO	N/A
Specifications				Legal description	(YES)	NO	N/A
Number of sets supplied	3			Site area	(YES)	NO	N/A
Bracing Calculations				Private drainage	(YES)	NO	N/A
Subfloor/ Deck				Public drainage showing depth of drains, manholes etc.	YES	NO	(N/A)
Wall (per floor)	3			Dimensions – 3 minimum	(YES)	NO	N/A
Structural Engineering				Existing and proposed buildings	YES	NO	(N/A)
Number of sets supplied	3			North point	(YES)	NO	N/A
Beam layout plan	(YES)	NO	N/A	Contours, datum	(YES)	NO	N/A
Connection details	(YES)	NO	N/A	Finished floor level	(YES)	NO	N/A
Producer statement	(YES)	NO	N/A	Retaining walls	YES	(NO)	N/A
Geotechnical Engineering				Extent of cut and fill	YES	(NO)	N/A
Number of sets supplied				Site coverage	YES	NO	(N/A)
Site plan	(YES)	NO	N/A	Parking and vehicle access	(YES)	NO	N/A
Soils analysis/report	YES	NO	N/A	Protected trees	YES	(NO)	N/A
Producer statement	YES	NO	N/A	HWC (gas)	YES	NO	(N/A)
Drainage Report				Water meter (if applicable)	YES	NO	(N/A)
Who	YES	NO	N/A	Natural water course	YES	NO	(N/A)
Soil Analysis	YES	NO	N/A	Site Drainage away from house to suitable path	(YES)	NO	N/A
System/Design recommended under	YES	NO	N/A	Ponding	YES	(NO)	N/A
E2 Risk Matrix – 1 per face/elevation				**Floor Plan**			
• North	(YES)	NO	N/A	Room use denoted	(YES)	NO	N/A
• South	(YES)	NO	N/A	Window size and position	(YES)	NO	N/A
• East	(YES)	NO	N/A	Fixtures and fittings	(YES)	NO	N/A
• West	(YES)	NO	N/A	Solid fuel heating	YES	NO	N/A
Cross-Sections				HWC	(YES)	NO	N/A
Minimum of one along the length	(YES)	NO	N/A	Wall bracing - height, position, type	(YES)	NO	N/A
Minimum of one across the width	(YES)	NO	N/A	Lintels	(YES)	NO	N/A
Details to include				Door/window size and position	(YES)	NO	N/A
Fixings	(YES)	NO	N/A	**Foundation Plan**			
Footing size	(YES)	NO	N/A	**Timber Floor And Fixings**			
Subfloor ventilation and insulation	YES	NO	(N/A)	Pile size, centres, treatment	YES	NO	(N/A)
Foundations steel – size and centres	(YES)	NO	N/A	Fixings	YES	NO	(N/A)
Wall insulation	(YES)	NO	N/A	Footing size	YES	NO	(N/A)
Wall framing - sizes, centres, treatment, height	YES	NO	N/A	Bracing layout, type and position	YES	NO	(N/A)
Masonry and slab	(YES)	NO	N/A	Joists and bearers	YES	NO	(N/A)
Cladding	(YES)	NO	N/A	**Concrete floor**			
Cavity and battens	(YES)	NO	N/A	Dimensions, bays, mesh size, plumbing fixtures, point load pads, slab thickenings,	(YES)	NO	N/A
Building paper	(YES)	NO	N/A	Specific design ~~(refl)~~	(YES)	NO	N/A
Stairs - tread, rise, pitch, height	YES	NO	(N/A)	**Roof Framing Plan**			
Decks and balconies	YES	NO	(N/A)	**Pitched roof**	(YES)	NO	N/A

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Linings and finishes	YES	NO	N/A	Ridge beam, rafters, purlins, building paper, insulation	YES	NO	N/A
Ceiling insulation	YES	NO	N/A	Eaves	YES	NO	N/A
				Pergola	YES	NO	N/A
Electrical Plan				Fixings	YES	NO	N/A
Smoke detectors	YES	NO	N/A	**Trussed Roof**	YES	NO	N/A
Mechanical light and ventilation	YES	NO	N/A	Truss type	YES	NO	N/A
Elevations				Point loads identified	YES	NO	N/A
• North	YES	NO	N/A	Roof bracing	YES	NO	N/A
• South	YES	NO	N/A	Fixings	YES	NO	N/A
• East	YES	NO	N/A	**Weathertightness - Flashing Details**			
• West	YES	NO	N/A	Windows	YES	NO	N/A
Wall cladding	YES	NO	N/A	Balconies	YES	NO	N/A
Roof cladding	YES	NO	N/A	Parapets	YES	NO	N/A
Finished floor levels	YES	NO	N/A	Decks	YES	NO	N/A
Height in relation to boundary	YES	NO	N/A	Roof and wall junctions	YES	NO	N/A
Maximum building height	YES	NO	N/A	More than one cladding	YES	NO	N/A
Deck Construction				Pergola	YES	NO	N/A
Foundation plan	YES	NO	N/A	Other penetrations	YES	NO	N/A
Pile size, centers, treatment	YES	NO	N/A	**Solid Fuel Heating — GAS**			
Bearer size, span, treatment	YES	NO	N/A	Specifications	YES	NO	N/A
Joist size, centers, treatment	YES	NO	N/A	Construction details	YES	NO	N/A
Detail at junction of house	YES	NO	N/A	Floor plan	YES	NO	N/A
Fixings	YES	NO	N/A	Energy source	YES	NO	N/A
Fencing Of Swimming Pools				**Outbuildings**			
Pool construction details	YES	NO	N/A	Foundation plan	YES	NO	N/A
Pool specification	YES	NO	N/A	Cross-section	YES	NO	N/A
In-ground or above-ground	YES	NO	N/A	Wall bracing	YES	NO	N/A
Fencing and gate plan	YES	NO	N/A	Roof framing	YES	NO	N/A
Fencing/construction details	YES	NO	N/A	Elevations	YES	NO	N/A
Floor plan if house forms fencing	YES	NO	N/A	Drainage	YES	NO	N/A
Backflow	YES	NO	N/A	Engineer design	YES	NO	N/A

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Means Of Compliance Checklist

(To Be Completed By Applicant/Designer)

Please circle all parts of New Zealand Building Code that your project complies with.

If using a verified method or have gained a waiver, please provide verification method or waiver certificate.

NZBC Clause (which of the following clauses will be involved in the proposed building work)	Means Of Compliance (refer to the relevant compliance document(s) or detail or alternative solution in the plans and specifications)			Proposed Inspections (state means of inspection. Note PS4 or certification may be required) For Office Use Only		
(B1) Structure	B1/AS2	NZS 3604	NZS 4203	☐Council	☐Consultant	☐Other
	NZS 4229					
(B2) Durability	B2/AS1	NZS 3101	NZS 3602	☐Council	☐Consultant	☐Other
	NZS 3604					
C1-C2-C3-C4 Fire	C1/AS1	C2/AS1	C3/AS1	☐Council	☐Consultant	☐Other
	C4/AS1					
D1 Access routes	D1/AS1	NZS 4121		☐Council	☐Consultant	☐Other
D2 Mechanical installations for access	D2/AS1	NZS 4322	EN/81	☐Council	☐Consultant	☐Other
	EN/115					
(E1) Surface water	E2/AS1	AS/NZS 3500		☐Council	☐Consultant	☐Other
(E2) External moisture	E2/AS1	SPECIFIC DESIGN		☐Council	☐Consultant	☐Other
(E3) Internal moisture	E3/AS1	COUNCIL STANDARDS		☐Council	☐Consultant	☐Other
F1 Hazardous agents on site	F1/AS1			☐Council	☐Consultant	☐Other
F2 Hazardous building materials	F2/AS1	NZS 4233		☐Council	☐Consultant	☐Other
F3 Hazardous substances	F3/AS1			☐Council	☐Consultant	☐Other
F4 Safety from falling	F4/AS1	FENCING OF SWIMMING POOLS ACT		☐Council	☐Consultant	☐Other
F5 Construction and demolition hazards	F5/AS1			☐Council	☐Consultant	☐Other
F6 Lighting for emergency	F6/AS1			☐Council	☐Consultant	☐Other
F7 Warning systems	F7/AS1	NZS 4512	NZS 4515	☐Council	☐Consultant	☐Other
	AS/NZS 1668					
F8 Signs	F8/AS1			☐Council	☐Consultant	☐Other
(G1) Personal hygiene	G1/AS1			☐Council	☐Consultant	☐Other
(G2) Laundering	G2/AS1			☐Council	☐Consultant	☐Other
G3 Food preparation and prevention from contamination	G3/AS1			☐Council	☐Consultant	☐Other
(G4) Ventilation	G4/AS1	AS 1668.2		☐Council	☐Consultant	☐Other

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

NZBC Clause (which of the following clauses will be involved in the proposed building work)	Means Of Compliance (refer to the relevant compliance document(s) or detail or alternative solution in the plans and specifications)			Proposed Inspections (state means of inspection. Note PS4 or certification may be required) For Office Use Only		
G5 Interior environment	G5/AS1			☐Council	☐Consultant	☐Other
G6 Airborne and impact sound	G6/AS1			☐Council	☐Consultant	☐Other
G7 Natural light	G7/AS1			☐Council	☐Consultant	☐Other
G8 Artificial light	G8/AS1	NZS 6703		☐Council	☐Consultant	☐Other
G9 Electricity	G9/AS1			Energy works certificate		
G10 Piped services	G10/AS1	NZS 5261		Energy works certificate		
(G11) Gas as an energy source	G11/AS1			Energy works certificate		
(G12) Water supplies	G12/AS1	AS/NZS 3500.2	AS/NZS 3500.5	☐Council	☐Consultant	☐Other
(G13) Foul water	G13/AS1	AS/NZS 3500.2	BS 5572	☐Council	☐Consultant	☐Other
G14 Industrial liquid waste	G14/AS1			☐Council	☐Consultant	☐Other
G15 Solid waste	G15/AS1			☐Council	☐Consultant	☐Other
(H1) Energy efficiency	H1/AS1	NZS 4218	NZS 4243	☐Council	☐Consultant	☐Other
	NZS 4214					

Walver or modification								
	B1	B2	C1	C2	C3	C4	D1	D2
	E1	E2	E3	F1	F2	F3	F4	F5
	F6	F7	F8	G1	G2	G3	G4	G5
	G6	G7	G8	G9	G10	G11	G12	G13
	G14	G15	H1					

Alternative solution								
	B1	B2	C1	C2	C3	C4	D1	D2
	E1	E2	E3	F1	F2	F3	F4	F5
	F6	F7	F8	G1	G2	G3	G4	G5
	G6	G7	G8	G9	G10	G11	G12	G13
	G14	G15	H1					

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui - Two Oceans Two Harbours

Application Acceptance Checklist

PIM 080137

KAIPARA DISTRICT COUNCIL

*FOR COUNCIL USE ONLY
080397

Name Of Applicant G + K Reid

Kaipara District Council
KAIWAKA
20 MAY 2008
RECEIVED

Received By Katrina **Date Stamp**

Received ☑ In Person ☐ By Mail ☐ By Courier ☐ By Email ☐ Other

☑ Print off **'General Property Information'** to confirm legal description of property.

☐ Certificate of Title provided or other evidence of ownership.

☑ Check that **all** sections (1 – 14) of the application have been filled in and the application has been signed and dated.

☑ Check that all relevant details (plans, calc and specs) for Part B (PIM) and Part C (Building Consent) are provided.

☑ Check all **contractors** have been listed in Part D (Key Personnel). To be advised

☑ Check that Part E (Compliance Schedule Details) is completed.

☑ Is the **Building Consent Application Checklist** completed?

☑ Is the **Means of Compliance Checklist** completed?

☐ Are any other application forms required, ie

- ☐ Vehicle Crossing
- ☐ Fire Service Design
- ☐ Rapid Application
- ☐ Application for Reticulated Services

Fees: 3074.00
Receipt Number 546619
Date 22/05/08
Received By _____

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Tax Invoice

G and K Reid
C/- Sang Architects & Company Ltd
11 Glenfell Place
Epsom, Auckland 1023

GST Reg No.	52-237-122
Date	21/05/08
Customer No:	BC080397
Invoice Number	21713

080397 : DE BOER LANE, MANGAWHAI
New residential dwelling
Owner: G and K Reid

Qty	Description	Rate	Amount	
	Building Consent Fee		1,886.00	*
	BRANZ Fee		400.00	OG
	DBH Levy		788.00	OG
		BEFORE GST	**2,864.44**	
		(* Includes GST) GST	209.56	
		Total incl. GST	**$3,074.00**	

OTAX INVOICE RECEIPT (GST NO. 52-237-122)
Received with thanks by 8/24

22-05-08 10:51 Receipt no.548619

COPY *COPY* *COPY*
DR BC080403
INV 21768 SLEEPOUT 288.00-
G and K Reid::P.O.Box 126:Mangawhai:
DR BC080397
INV 21713 NEW DWELLING 3,074.00-
G and K Reid::C/- Sang Architects & Com
CQ ASB BUS BANKING
G and K Reid 3,362.00

Remittance Advice

Please use this remittance when making your payment and make cheques payable to Kaipara District Council.

G and K Reid
C/- Sang Architects & Company Ltd
11 Glenfell Place
Epsom, Auckland 1023

Customer Number	BC080397
Invoice Date	21/05/08
Invoice Number	21713
Amount Due	**3,074.00**

KAIPinvoice Feb 04

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaipara te Oranganui - Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL

Project Information Memorandum 080137

Section 31, Building Act 2004

S K Reid
22 Hopkins Crescent
Kahimarama

Issue Date: 4/04/08
Application Date: 28/02/08
Overseer: Derek Free

THE PROJECT:

Description:	Housing-Detached
	NEW (& PREBUILT) HOUSE, UNIT, BACH, CRIB, TOWN HOUSE
Type of Work:	
Estimated Value:	$14,500
Intended Use:	
Intended Life:	Indefinite, but not less than 50 years
Stages:	Being Stage 1 of an intended 1 Stages

THE BUILDING:

Street Address of Building:	DE BOER LANE, MANGAWHAI
Valuation Number:	0122012711
Legal Description:	LOT 3 DP 319142
Building Name:	
Location of Building within site/block number:	
Level/Unit Number:	

This Project Information Memorandum is confirmation that the proposed building work may be undertaken, subject to the provisions of the Building Act 2004, and any requirements of the Building Consent.

This project information memorandum includes:

___ Information identifying special features of the land concerned

___ Information about the land or building concerned notified to the Council by any statutory organisation having the power to classify land or buildings

___ Details of authorisations which have been granted

___ Notification of any other authorisations which must be obtained before the proposed building work may be undertaken

___ Important information

Signature Des Sheldon **Date:** 4/04/08 **Position** Building Services Officer

On behalf of: KAIPARA DISTRICT COUNCIL

42 Hokianga Road, Private Bag 1001, Dargaville, Northland, New Zealand
p 09 439 7059 f 09 439 6756 e council@kaipara.govt.nz www.kaipara.govt.nz

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Kaipara District Council
General Property Information

Property

Valuation No.	0122012711: (GIS)
Location	DE BOER LANE, MANGAWHAI
Legal Description	LOT 3 DP 319142
Owner	Reid Glenn Gibson : Reid Kyoko
Owner Address	22 Hopkins Crescent : Kohimarama : Auckland :
Area (hectares)	1.0890

Rates

Government Valuation	
Land	$ 155,000
Improvements	$ 5,000
Capital Value	$ 160,000
Current Rates Year 2007 to 2008	
Annual Rates	$ 939.20
Current Instalment	$ 156.50
Outstanding Balance	$ 156.50
Arrears for Previous Years	
Next Instalment Date	

Planning/Resource Management	
28/06/02	RESOURCE CONSENT 020081 : VARIATION TO RM010035. Created DP 319142 : Section 321 Notice (LGA) Issued 21/02/03 (Found on parent property: 0122012704)
7/06/02	PLANNING NOTES 020081 Consent Notices for Lots 1 - 3, one dwelling per lot, vehicle access for Lots 2 & 3 from Lot 46 DP 200271 & not directly from Cove Rd, refer Hawleyt report re stable building sites, subsoil drainage works on lot 1 to be completed before any building construction, effluent disposal systems to be designed by a registered engineer. (Found on parent property: 0122012704)
7/06/02	PLANNING NOTES RM020081 Consent Notices for Lots 1 - 3 that a discharge consent may be required from the NRC for the effluent disposal systems. Stormwater from roofed areas to water tanks & overflows to b piped to suitable outflows. (Found on parent property: 0122012704)
20/04/01	RESOURCE CONSENT 010035 : SUBDIVIDE LOT 2 DP 195912 INTO 3 URAL RESIDENTIAL ALLOTS. : Decision Notified 28/03/01 (Found on parent property: 0122012704)
28/03/01	PLANNING NOTES RM010035 Consent Notice for Lots 1 - 3 that maximum of one dwelling may be constructed, & draw attention to the Hawley COnsulting report of 6/12/00, & any habitable building to be erected wholly within the stable building site defined in the report. (Found on parent property: 0122012704)
28/03/01	PLANNING NOTES RM010035 Consent Notices for Lots 1 - 3 that require the foundations of any building with a concrete slab floor, and any on-site effluent disposal system be subject to specific design by a registered engineer, and a discharge consent may be required for the system from the NRC. (Found on parent property: 0122012704)
28/03/01	PLANNING NOTES RM010035 COnsent Notices for Lots 1 - 3 that stormwater from roofed areas be led to a water tank and the overflow from it & other impermeable surfaces be piped to suitable outfalls. (Found on parent property: 0122012704)

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

28/03/01	PLANNING NOTES RM010035 Consent Notice for Lot 1 that outstanding subsoil drainage works recommended in the Hawley report of 6/12/00 be specifically designed & supervised by a registered engineer, & constructed prior to the construction of any buildings on the house sites. (Found on parent property: 0122012704)
28/03/01	PLANNING NOTES RM010035 Consent Notices for Lots 1 & 2 that bored underdrains be inspected 3 years after installation & thereafter at 5 year intervals & that the inspection records be forwarded to the Council. There will be a Council charge for monitoring compliance with this requirement. (Found on parent property: 0122012704)
28/03/01	PLANNING NOTES RM010035 Consent Notices for Lots 2 & 3 that vehicle access to the land is via Lot 46 DP 200271 and not directly from Cove Rd. (Found on parent property: 0122012704)
4/03/99	RESOURCE CONSENT 960174 : Subdivision of Lot 52 DP 196100. Created DP 200271. Subdivision of Lot 2 DP 173694. Created DP 191428, 195912 : Invoiced 3/08/99 (Found on parent property: 0122010600)
	RESOURCE CONSENT 951849 : SAWMILL & TIMBER TREATMENT PLANT IN RURAL ZONE : Decision Notified 25/03/87 (Found on parent property: 0122012700)
	PLANNING NOTES RM960174 Consent Notice for Lots 1, 2 8 and 10 shall notify of the contents of the Engineering Geology Ltd reported dated 12 May 1997 which records the likely need for geotechnical investigations of potential house sites and associated foundation designs.

Building	
21/04/05	BUILDING CONSENT 050319 : New Dwelling : Withdrawn 22/06/05
9/08/04	BUILDING CONSENT 040673 : Implement Shed : Withdrawn 27/08/04
30/03/04	BUILDING CONSENT 040242 : NEW DWELLING AND GARAGE : Code Compliance Certificate issued 25/10/05 (Found on parent property: 0122012704)
6/10/01	BUILDING CONSENT 010636 : NEW FARM SHED : Consent Granted 6/10/01 (Found on parent property: 0122012700)
31/05/00	BUILDING CONSENT 001341 : NEW MINOR DWELLING : Consent Granted 31/05/00 (Found on parent property: 0122012700)
20/04/00	BUILDING CONSENT 001212 : IMPLEMENT SHED : Code Compliance Certificate issued 26/04/01 (Found on parent property: 0122012700)
26/06/90	BUILDING PERMIT H 028250 WORKSHOP (Found on parent property: 0122012700)
18/03/88	BUILDING PERMIT E 45457 STORE SHED (Found on parent property: 0122012700)
16/09/67	BUILDING PERMIT A 003619 IMPLEMENT SHED (Found on parent property: 0122012700)
	PIM APPLICATION 080137 : Housing-Detached : PIM Issued 4/04/08

Licences
No information located

Sewer & Drainage
No information located

Land and Building Classifications
No information located

Transport
No information located

Special Land Features
No information located

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Swimming Pools	
No information located	
Other	
15/08/07	LIM APPLICATION L070331 : LIM
14/02/07	LIM APPLICATION L070071 : LIM
17/05/99	LIM APPLICATION L990084 : LIM (Found on parent property: 0122012700)
** End of enquiry **	

Napier Computer Systems Limited.
Copyright © 2007, all rights reserved.
Author: Greg M Lee



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

PRODUCER STATEMENTS CHECKLIST

Address of project:	2E BEER LN - MANGAWHAI				
Project description:	NEW DWELLING				
Checked by:	DAVID HUGHES	Date:	20-6-08	ID #:	080397
Reviewed by:		Date:			
Type:	(Design)	Category:	(Structural)	Architectural	
	Design review		Civil	Geotechnical	
	Construction		Fire	Plumbing	
	Construction review		Hydraulic	Drainage	
	Construction - no building consent		Glazing	Weathertightness	
	(strike out if not applicable)		Heating	Air-conditioning	
			Backflow	Mechanical	
Author's name:	DAVID L. SMITH				
Check author registration details are current:					
Risk:	(Level 1)	Level 2	Level 3	(ACCEPTABLE SOLUTION)	ALTERNATIVE SOLUTION

(CAT 1 & 2)

Do engineering calculations reference the plans and specifications?	YES
Have the plans been signed and dated by the Producer Statement Author?	NO
Has supporting information been provided?	YES
• Calculations	YES
• Specifications	YES
• Soils reports	BY OTHERS
• Fire reports	N/A
• Inspection & Maintenance procedures	BY COUNCIL
Is the standard of building consent documentation acceptable? Clarity of plans and information.	

Specific reference to the Building Code: What clauses of the Building Code are specifically referenced? (Circle or cross through applicable Clauses)	(B1)	B2	C1	C2	C3	C4	D1	D2
	E1	E2	E3	F1	F2	F3	F4	F5
	F6	F7	F8	G1	G2	G3	G4	G5
	G6	G7	G8	G9	G10	G11	G12	G13
	G14	G15	H1					
What clauses of the Building Code are specifically excluded or not referenced? (Circle or cross through applicable Clauses)	B1	B2	C1	C2	C3	C4	D1	D2
	E1	E2	E3	F1	F2	F3	F4	F5
	F6	F7	F8	G1	G2	G3	G4	G5
	G6	G7	G8	G9	G10	G11	G12	G13
	G14	G15	H1					

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Justification to support claim:	
• Standards referenced:	NZS 4203 (STANDARD IN B1/VM1)
• First principles:	N/A
• Technical publications:	YES
• Manufacturer's literature:	N/A
• Other:	
Are there any conditions on the producer statement?	YES
• Conditions must only apply to design and are dependent on site verification by ~~specialists~~ COUNCIL	YES
• Site assumptions	YES
• Determine conditions of consent, such as construction reviews and seek agreement where specialist inspections are required during construction	N/A (HAVE NOT ASKED FOR PS4)
Inspection requirements:	
• B Grade Masonry	YES
• Ground conditions	YES
• Driven piles	N/A
• etc.	
Has the author signed and dated the producer statement?	YES
Is the producer statement an original copy?	UNKNOWN
Has the correct form been used?	YES
Have all sections of the form been fully completed?	YES
Evaluate the expert's opinion	ACCEPTABLE
Can the application be assessed in-house? (if no, complete section 3)	YES
Has compliance been demonstrated?	YES
Have durability provisions been met?	B2 NOT REFERENCED
Does the producer statement affect a compliance schedule?	N/A
Are there any testing or inspection procedures that need to be included in the compliance schedule?	No
Are there any special maintenance requirements?	N/A
Has the author declared there is no conflict of interest?	N/A
Update the register to include details of this application	YES

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

[illegible]	
Peer review (if required)	
Prepare brief for peer reviewer(s)	
Engage peer reviewer	
Receive peer review report	
Has the peer reviewer confirmed compliance with the Building Code?	
Has the peer reviewer confirmed durability?	
Has the peer reviewer noted any non-compliance with the Building Code?	
Has the peer reviewer compared the intended life with the intended solution?	
Accept or reject report?	

[illegible]	
Comments:	
Limitations:	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SECTION A (continued):	
Conditions of consent agreed to:	CPENZ STATUS CONFIRMED VIA WEBSITE. PSI FROM D. L. SMITH ACCEPTED.
Sign-off:	
Date:	20-6-08

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Kaipara District Council

Unit: Building Processing **Description:** Residential processing checklist
Document No.:
Revision No.: Version 0.1 **Date issued:**

Address	LOT 3 DP OF BEER LN. MANGAWHAI										
Date	16-6-08	**Consent number**	080397			**Processed by:**	DH				
Building Cat.	(1) (2)	2	3	**Comp. level**	1	2	3				
Wind zone	L	M	(H)	VH	SD	**Corrosion**	(Zone 1)	Seaspray			

Item checked				**Comments (describe how compliance achieved)**
Project value checked	(Y)	N	N/A	$ 400,000
Quality and N° of plans	(Y)	N	N/A	3 SETS
Specifications	(Y)	N	N/A	Specifications must be relevant to project 2 SETS
Description of work	(Y)	N	N/A	NEW DWELLING
Scope within NZS3604	(Y)	N	N/A	(PART OF BLDG. WITHIN 3604)
PIM issues (080137) ISSUED				**Comments (describe how compliance achieved)**
Heritage site/building	Y	N	~~N/A~~	
Power lines	Y	N	~~N/A~~	NOT AN ISSUE
Geotechnical	Y	N	N/A	S/O REPORT ATTACHED — "3604" SITE
Flooding	Y	N	~~N/A~~	NONE KNOWN IN AREA
Min. floor level or HIRB	Y	N	~~N/A~~	Survey certificate required STANDARD 225mm OK
Drains (Bridging and close proximity)	Y	N	~~N/A~~	NO SERVICE PIPES
Section 37 / other	Y	N	~~N/A~~	COMPLIES W/ DISTRICT PLAN
Site plan				**Comments (describe how compliance achieved)**
Scale	(Y)	N	N/A	PLANS TO SCALE, OK
Vehicle access	(Y)	N	N/A	
Vehicle crossing (existing / new application)	Y	N	~~N/A~~	(PRIVATE R.O.W)
Siting dimensions 3 minimum required	(Y)	N	N/A	
ROW >18m	Y	N	~~N/A~~	N.B Fire Service approval required
Buildings closer than 1.0m to boundary	Y	N	~~N/A~~	N.B Check fire ratings
Eaves closer than 670mm to boundary	Y	N	~~N/A~~	N.B Check fire ratings
Retaining walls (if on bdy assumed to incur a surcharge)	Y	N	~~N/A~~	NONE
Earthworks (cut and fill)	(Y)	N	N/A	REFER EXISTING GROUND LEVELS ON ELEVATIONS
Finished floor level	(Y)	N	N/A	
Datum / contours	(Y)	N	N/A	
Drains - public				**Comments (describe how compliance achieved)**
Public drains shown (depth / close proximity)	Y	N	~~N/A~~	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Ground				Comments (describe how compliance achieved)
Geotechnical issues (report provided / required)	Y	N	N/A	S/D GEOTECH CONFIRMS "3604" SOILS
PS1 / PS2 (register checked)	Y	N	N/A	
NZS3604 >300 kPa	Y	N	N/A	(100 kPa dependable)
Clay, S, M, H, E soil	Y	N	~~N/A~~	NOT NOTED IN S/D GEOTECH
Cut / fill / piling (certificates required)	Y	N	~~N/A~~	
Supervision required	Y	N	~~N/A~~	
Driven pile (certificate required)	Y	N	~~N/A~~	
Special conditions	Y	N	~~N/A~~	
Recommendations (correctly shown on plans)	Y	N	~~N/A~~	
Retaining walls (specific design /other)	Y	N	~~N/A~~	Engineers calculations maybe required
Retaining walls (construction details)	Y	N	~~N/A~~	
Retaining walls surcharge (slope >20° / driveway)	Y	N	~~N/A~~	
Retaining walls (barrier if on access route)	Y	N	~~N/A~~	
Foundation – concrete				**Comments (describe how compliance achieved)**
Specific design	Y	N	N/A	
PS1 / PS2 (register checked)	Y	N	N/A	MAY NEED TO CHECK IBEN2 SITE
Recommendations (correctly shown on plans)	Y	N	~~N/A~~	
Footings (depth / width)	Y	N	N/A	
Reinforcing (steel size, type, c/s)	Y	N	N/A	
Concrete strength (20 / 25 mPa)	Y	N	N/A	NOT SPECIFIED – NO SPECIAL REQUIREMENTS
Point loads (depth / size)	Y	N	N/A	
Columns and posts (depth / size)	Y	N	N/A	
Steps (sloping sites)	Y	N	~~N/A~~	NO STAIRS
Foundation - timber				**Comments (describe how compliance achieved)**
Specific design	Y	N	N/A	
PS1 / PS2 (register checked)	Y	N	N/A	
Recommendations (correctly shown on plans)	Y	N	N/A	
Pile layout / spacing (check for point loads)	Y	N	N/A	N
Pile (Size / treatment / height)	Y	N	N/A	A
Footing (depth / size / punch pad)	Y	N	N/A	
Connections - type (galvanised / stainless)	Y	N	N/A	
Ordinary (size / connections)	Y	N	N/A	
Anchor (size / connections)	Y	N	N/A	
Braced (size / connections)	Y	N	N/A	

Driven piles (NZS3604 / specific design)	Y	N	N/A	
Driven pile (certificate required)	Y	N	N/A	N/A
DPC to piles (< 300mm)	Y	N	N/A	
DPC to ground (limited clearance or cross-flow)	Y	N	N/A	
Chimney foundation	Y	N	N/A	
Columns and posts (depth / size)	Y	N	N/A	
Foundations - walls				**Comments (describe how compliance achieved)**
Block (size / type)	Y	N	N/A	
Block (height and dimensions)	Y	N	N/A	
Reinforcing - vertical (size / type / centres)	Y	N	N/A	
Reinforcing - horizontal (size / type / centres)	Y	N	N/A	
Block (Grade A / B (C))	Y	N	N/A	STANDARD BLOCK FOR FOUNDATION FOOTING
Supervision required	Y	N	N/A	COUNCIL TO INSPECT
Retaining (maximum height)	Y	N	N/A	
Retaining / split-level (waterproofing / protection)	Y	N	N/A	
Subfloor ventilation	Y	N	N/A	SLAB
Subfloor access	Y	N	N/A	SLAB
Slabs - standard				**Comments (describe how compliance achieved)**
Granular fill (certificate required if >600mm)	Y	N	N/A	
Sand binding (25mm minimum)	Y	N	N/A	
Membrane (0.25 micron minimum)	Y	N	N/A	
Finished floor level (shown on plans)	Y	N	N/A	
Plumbing fixtures (position shown on plans)	Y	N	N/A	
Pads / thickenings (shown on plans)	Y	N	N/A	300 DIA. CONCRETE PILES UNDER THICKENING
Drainage pipes (floor thickenings)	Y	N	N/A	STANDARD 100m DRAINAGE PIPES UNDER SLAB
Slab thickness	Y	N	N/A	
Saw-cuts (3.0m or 4.0m)	Y	N	N/A	
Mesh – 668 (12m maximum)	Y	N	N/A	
Mesh – 665 (24m maximum)	Y	N	N/A	
Free joints (>24m)	Y	N	N/A	
Supplementary steel (internal corners)	Y	N	N/A	SHRINKAGE CONTROL JOINTS SHOWN

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Slabs – specialty				**Comments (describe how compliance achieved)**
Specific design	Y	N	N/A	
PS1 / PS2 (register checked)	Y	N	N/A	
Recommendations (correctly shown on plans)	Y	N	N/A	
Driven / bored pile (certificate required)	Y	N	N/A	
Membrane (0.25 micron minimum)	Y	N	N/A	
Finished floor level (shown on plans)	Y	N	N/A	
Plumbing fixtures (position shown on plans)	Y	N	N/A	
Pads / thickenings (shown on plans)	Y	N	N/A	
Drainage pipes (floor thickenings)	Y	N	N/A	
Subfloor				**Comments (describe how compliance achieved)**
Timber treatment (schedule showing type and level of treatment)	Y	N	N/A	
Bearers (size / centres / span)	Y	N	N/A	
Bearers (cantilever / point loads)	Y	N	N/A	Engineer design required
Bearers (fixing to foundation walls)	Y	N	N/A	
Joist (size / centres / span / blocking)	Y	N	N/A	
Joist (blocking @ 1.8m over bearer)	Y	N	N/A	
Joist (cantilever / point loads)	Y	N	N/A	Engineer design required
Bracing layout (location and type)	Y	N	N/A	
Bracing (calculations)	Y	N	N/A	
Bracing (min. 4 / evenly spread)	Y	N	N/A	
Bracing (size / length / location)	Y	N	N/A	
Insulation (sisilation / polystyrene/ other)	Y	N	N/A	
Crawl space	Y	N	N/A	
Subfloor ventilation	Y	N	N/A	
Subfloor access	Y	N	N/A	
Split-floors (framing / insulation)	Y	N	N/A	
Flooring material (wet / dry areas)	Y	N	N/A	
Framing - wall				**Comments (describe how compliance achieved)**
Timber treatment (schedule showing type and level of treatment)	Y	N	N/A	
Wind and corrosion zones (to determine fixings)	Y	N	N/A	ZONE 1 – GALV. FIXINGS OK
Timber treatment (external / internal walls)	Y	N	N/A	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Bottom plate (treatment, size, fixing details)	(Y)	N	N/A	
Stud / post (size, height, c/s)	(Y)	N	N/A	
Lintel (size / shown on plans)	(Y)	N	N/A	SEE ENGINEER'S CALCS
Lintels (selection charts provided)	(Y)	N	N/A	(AS ABOVE)
Lintel (point load)	(Y)	N	N/A	Engineer design required
Engineered beams (size / fixing)	(Y)	N	N/A	Engineer design required
Cantilevered lintels (construction details provided)	Y	N	~~N/A~~	Engineer design required
Engineer design (details shown on plans)	(Y)	N	N/A	Engineer design required
(PS1) PS2 (register checked)	(Y)	N	N/A	PS1 FROM STRUCTURAL ENGINEER INCLUDED
Top plate (size)	(Y)	N	N/A	
Ceiling battens (type / size / centres)	(Y)	N	N/A	
Wall linings (wet / dry areas)	Y	N	N/A	
Building wrap (type / compatibility)	(Y)	N	N/A	
Wind barrier (rigid / non-rigid)	Y	N	~~N/A~~	NOT "VERY H/6/1" WIND ZONE
Cavity battens (size / type / treatment / fixing)	Y	N	~~N/A~~	BRICK VENEER OVER 40mm CAVITY
Cavity (wrap, 20mm, vermin proof)	Y	N	~~N/A~~	
Chimney framing (framing / restraint)	(Y)	N	N/A	
Insulation (Type / R value)	(Y)	N	N/A	
Bracing calculations (provided for each floor level)	(Y)	N	N/A	
Bracing (type, height, length, location)	(Y)	N	N/A	
Bracing (evenly distributed)	(Y)	N	N/A	PART OF BLDG. SPECIFIC DESIGN BRACING
Bracing (split levels / wet areas)	Y	N	N/A	
Diaphragms (ceiling / floor on plans)	Y	N	~~N/A~~	NO CEILING DIAPHRAGMS
Diaphragms (type, limitations, openings, size)	Y	N	~~N/A~~	
Mid-floor framing				**Comments (describe how compliance achieved)**
Timber treatment (external walls / wet areas)	Y	N	N/A	
Layout for each level (joist size, c/s, blocking)	Y	N	N/A	
Engineer designed beams (shown on plans)	Y	N	N/A	Engineer design required
Plumbing pipes / wastes	Y	N	N/A	
Floor diaphragm (openings / size)	Y	N	N/A	
Floor lining (dry / wet areas)	Y	N	~~N/A~~	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Framing - roof				Comments (describe how compliance achieved)
Timber treatment (schedule detailing framing treatment)	Y	N	N/A	SCHEDULE NOT INCLUDED. TREATMENT GENERALLY H1.2 OR H3.1 AS REQUIRED
Timber treatment (enclosed spaces)	Y	N	N/A	NO CHANGE
Ceiling joists (size / centres / span)	Y	N	N/A	RONDO
Strongback / runners (size / centres / span)	Y	N	N/A	
Rafter (size / centres / span)	Y	N	N/A	
Ridge beam (size / span / fixing)	Y	N	N/A	Engineer design maybe required
Skillion roof (sarking thickness / type)	Y	N	N/A	
Truss design (layout / type)	Y	N	N/A	
Bracing (type / fixings)	Y	N	N/A	
Building wrap (type / compatibility)	Y	N	N/A	
Insulation (Type / R value)	Y	N	N/A	
Under purlin (size / shown on plan)	Y	N	N/A	
Strutting beam (size / landing on L/B wall)	Y	N	N/A	
Purlin / tile batten (size / fixing / span / c/s)	Y	N	N/A	
Eaves (width specified)	Y	N	N/A	
Cladding - wall				**Comments (describe how compliance achieved)**
Type (specify type)	Y	N	N/A	BRICK VENEER
Acceptable Solution	Y	N	N/A	
Alternative Solution	Y	N	N/A	(separate checklist must be completed)
Specifications (maintenance / installation)	Y	N	N/A	NO SPECIAL REQUIRMENTS – BRICK TIES ONLY
Bottom edge clearances (ground / decks / walls)	Y	N	N/A	
Installer required (condition of consent)	Y	N	N/A	
M/F guarantee (condition of consent)	Y	N	N/A	
E2 risk matrix (provided / required)	Y	N	N/A	
Flashing / air-seals (windows / doors/corners)	Y	N	N/A	
Flashing details (other penetrations)	Y	N	N/A	
Apron flashing (detailed)	Y	N	N/A	
Control joints (details / shown on plans)	Y	N	N/A	
Flashings ~~(multiple claddings)~~	Y	N	N/A	(BRICK VENEER ONLY)
Solid plaster - on cavity (continuous foundation)	Y	N	N/A	
Stud spacing (400 non-rigid, 600 rigid)	Y	N	N/A	
Plaster system (type / coats)	Y	N	N/A	"INSULCLAD"
Approved applicator required	Y	N	N/A	B53 REQUIRED FOR "NURAPLY"

PS3 required (condition of consent)	Y	N	N/A	INSULCLAD
Brick veneer (height, type, cavity width, rebate)	Y	N	N/A	
Brick veneer (panel size, ties, angles, flashings)	Y	N	N/A	
2-storey (plans must be detailed and checked against M/F requirements)	Y	N	~~N/A~~	
Cladding - roof				**Comments (describe how compliance achieved)**
Type (specify type/s)	Y	N	N/A	
Minimum roof pitch	Y	N	N/A	
Specifications (maintenance / installation)	Y	N	N/A	
Substrate (suitable for cladding)	Y	N	N/A	
Roof penetrations (flashings detailed)	Y	N	N/A	
Discharge (spreaders)	Y	N	~~N/A~~	NOT REQUIRED
Internal gutter (size / capacity/ timber treatment)	Y	N	~~N/A~~	NO INTERNAL GUTTER
Parapets (slope / capping / framing)	Y	N	~~N/A~~	
Installer guarantee - roof (condition of consent)	Y	N	~~N/A~~	
M/F guarantee (condition of consent)	Y	N	~~N/A~~	
Installer guarantee - other (condition of consent)	Y	N	~~N/A~~	
M/F guarantee (condition of consent)	Y	N	~~N/A~~	
Fire / Acoustic				**Comments (describe how compliance achieved)**
Walls and ceilings (details shown on plans)	Y	N	N/A	
Design checked (system specified - GBTL30a)	Y	N	N/A	Engineer design maybe required
Plans detailed (fixings, stopping, etc)	Y	N	N/A	
Paths (open path 60m max, dead end 24m max)	Y	N	N/A	N
External FRR wall (30/30/30 – 200mm min. return))	Y	N	N/A	
Penetrations FRR (pipes / electrical outlets)	Y	N	N/A	A
No openings within 1.0m	Y	N	N/A	
Stability (gable ends)	Y	N	N/A	
Non-combustible claddings on external walls	Y	N	N/A	
Multi-units (continuous to underside of roofing)	Y	N	~~N/A~~	
200mm return each end of wall	Y	N	N/A	
Acoustics design checked (system specified)	Y	N	N/A	
Wet areas				**Comments (describe how compliance achieved)**
Timber treatment (walls and floors)	Y	N	N/A	H 3.1 FOR WET AREAS
Showers (framed and lined or / modular unit)	Y	N	N/A	LEVEL ACCESS SHOWERS ON ~~CONC~~ TILES OVER CONCRETE
Waterproofing (type / substrate)	Y	N	N/A	
Installer guarantee (condition of consent)	Y	N	~~N/A~~	PS3 WILL BE ASKED FOR

Floor lining (substrate / waterproofing)	Y	N	~~N/A~~	CONCRETE / TILES
Wall lining (substrate / waterproofing)	(Y)	N	N/A	
Minimum 1 door between kitchen and WC	(Y)	N	N/A	
Basin in WC (except where adjacent to bathroom)	(Y)	N	N/A	
Mechanical light and ventilation	Y	(N)	~~N/A~~	~~MAY BE REQUIRED - NOTE ON PLANS~~ ~~ALL BATHROOMS TO HAVE OPENING WINDOWS~~
Laundry space (floor coverings if in garage)	Y	N	~~N/A~~	ALL CONCRETE FLOORS
Glazing (showers / joinery / skylights)	Y	(N)	N/A	NOT SHOWN — CAN BE VERIFIED ON SITE
Kitchen				**Comments (describe how compliance achieved)**
Oven / Fridge / Storage (floor coverings)	Y	N	N/A	
Stairs / entry				**Comments (describe how compliance achieved)**
Internal / external	Y	N	N/A	
Tread / Rise / Pitch	Y	N	N/A	
Slip resistance	Y	N	N/A	
Landings	Y	N	N/A	
Clearance at doors	Y	N	N/A	
Max rise 4.0m	Y	N	N/A	
Handrails	Y	N	N/A	
Barriers (900mm internal / 1.0m external)	Y	N	N/A	
Heating				**Comments (describe how compliance achieved)**
M/F details provided	(Y)	N	N/A	
Location (seismic restraint clearances)	(Y)	N	N/A	
ARC requirements met for wood burners	Y	N	~~N/A~~	NOT APPLICABLE TO THIS SITE
Installer guarantee (condition of consent)	(Y)	N	N/A	GAS CERTIFICATE REQUIRED
Decks / balconies				**Comments (describe how compliance achieved)**
Timber treatment (framing / substrate)	Y	N	N/A	
Finished floor level (clearances / air-gap)	Y	N	N/A	
Floor joists (size / c/s / cantilever)	Y	N	N/A	
Waste / overflow (if internal)	Y	N	N/A	
Saddle flashings (construction details)	Y	N	N/A	
Decking (material / membrane)	Y	N	N/A	
Installer guarantee (condition of consent)	Y	N	N/A	
Slip resistance	Y	N	N/A	
Landings	Y	N	N/A	
Steps/ handrail / barrier Tread / Rise / Pitch	Y	N	N/A	

Bracing calculations >2.0m wide (125 pile min)	Y	N	~~N/A~~	
3-storey – balcony top floor - specific design	Y	N	~~N/A~~	
Other				**Comments (describe how compliance achieved)**
Smoke alarms (in or within 3.0m bedrooms / all exits)	Y	(N)	N/A	NOT SHOWN –
Glazing (Safety glass / skylights)	(Y)	N	N/A	NOTED IN SPECS ONLY
Restrictors (<760mm to floor)	Y	(N)	N/A	ONE WINDOW MAY REQUIRE – CHECK PRIOR TO C.C.C
Light and visual awareness	(Y)	N	N/A	COMPLIES WITH G7
Ventilation	(Y)	N	N/A	
Producer statements – refer to procedure XX	(Y)	N	N/A	PSI FOR STRUCTURAL BEAMS/FOUNDATIONS
Alternative solutions - Refer to procedure XX	Y	N	~~N/A~~	
Specialist components (all inputs identified)	Y	N	~~N/A~~	
Plans – sets collated and stamped	(Y)	N	N/A	
Time recorded accurately for processing	(Y)	N	N/A	APPROX 6 HOURS ON THIS BC (PRIOR TO CLOCK STARTING)
Fees assessed	(Y)	N	N/A	
Conditions entered into computer	(Y)	N	N/A	
Inspection requirements identified	(Y)	N	N/A	
Checklist completed in full standards referenced, etc	(Y)	N	N/A	
Rational for all decision making steps recorded	(Y)	N	N/A	

Approval (Granted) / Refused	State outcome and reasons: PLANS + SPECS ARE ACCEPTABLE. SOME MINOR ITEMS MISSED BUT CAN BE ASSESSED ON SITE. OK TO ISSUE BC		
Checked by:	DAVID HUGHES	Date 20-6-08	
Reviewed by:		Date	

Key:

Y = Approved
N = Not approved
N/A = Not applicable

Instructions:

1. All sections must be completed.
2. Record details of standards referenced / rationale for decisions
3. Record all communications / requests for further information on page 10

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Kaipara District Council

Unit:	Plumbing Processing	**Description:**	Processing checklist
Document No.:	080397		
Revision No.:	Version 0.1	**Date issued:**	(GRANTED) — 20-6-08

Instructions
1. Provide written comments in each section where applicable.
2. Y = complies N = does not comply N/A = not applicable
3. If application includes an Alternative Solution, attach completed checklist AS-01 in accordance with PR-25
4. Record and attach all communications regarding the assessment.

Address	7E EDER LN. WANGAMATA								
Date	20-6-08		**Consent number**	080397		**Checked by:**	DH		
Building Cat.	(1) 1.0	2	3	**Comp. level**	1	(2) 2.1	3		
Wind zone	L	M	(H)	V H	SD	**Corrosion**	(Zone 1)	Seaspray	

Item checked				**Comments (describe how compliance achieved)**
Project value checked	(Y)	N	N/A	
Quality and N° of plans	(Y)	N	N/A	
Specifications	(Y)	N	N/A	Specifications must be relevant to project
Description of work	(Y)	N	N/A	
Within Acceptable Solutions	(Y)	N	N/A	
PIM issues				**Comments (describe how compliance achieved)**
Sewer connections	Y	N	(N/A)	NO SERVICES
Stormwater connections	Y	N	(N/A)	
Drains (Bridging and close proximity)	Y	N	(N/A)	
Flooding	Y	N	(N/A)	NONE KNOWN IN AREA
Min. floor level	(Y)	N	N/A	Survey certificate required FFL. OK FOR HABITABLE
Section 37 / other	Y	N	(N/A)	NO R.M.A OR DISTRICT PLAN ISSUES

Site plan				Comments (describe how compliance achieved)
Scale	Y	N	N/A	
Retaining walls (if on bdy assumed to incur a surcharge)	Y	N	N/A	
Earthworks (cut and fill)	Y	N	N/A	
Finished floor level	Y	N	N/A	
Datum / contours	Y	N	N/A	
Drains - public				**Comments (describe how compliance achieved)**
Public drains shown depth	Y	N	N/A	
Bridging or close proximity	Y	N	N/A	
Location of drainage laterals	Y	N	N/A	
Neighbours consent for right of entry	Y	N	N/A	
Video Required / supplied	Y	N	N/A	
Retaining walls Check location of drains	Y	N	N/A	

Drains – private					**Comments (describe how compliance achieved)**		
System		Y	N	N/A	G13	AS3500	Other TPSD
System type		Y	N	N/A	CLEANSTREAM		
Total number of discharge units		Y	N	N/A			
Item checked					**Comments (describe how compliance achieved)**		
TV <10m head of drain		Y	N	N/A			
GT / ORG	Ground clearance	Y	N	N/A			
	Below floor level and fixtures	Y	N	N/A			
	<3.5m of fixture	Y	N	N/A			
	Clear of overland flow-path	Y	N	N/A			
	Set above flood level	Y	N	N/A			
Pipe	Size	Y	N	N/A			
	Gradient	Y	N	N/A			
Cess-pits provision for at split floors / retaining walls		Y	N	N/A			
Sloping site (provision for drainage)		Y	N	N/A			
D/P	Size	Y	N	N/A			
	Number	Y	N	N/A			
	Location	Y	N	N/A			
Internal gutter Outlet / overflow		Y	N	N/A			
Backflow Pools, spa baths, etc)		Y	N	N/A			
On-site disposal					**Comments (describe how compliance achieved)**		
Septic tank	Effluent design	Y	N	N/A			
	Type	Y	N	N/A			
	Size	Y	N	N/A			
	Location plan	Y	N	N/A			
Stormwater soakage (Design / details provided)		Y	N	N/A	OVERFLOW EASILY DEALT WITH – LARGE LOT SIZE		
Potable water					**Comments (describe how compliance achieved)**		
Town/tank/bore/other		Y	N	N/A			
New – application attached		Y	N	N/A	not required for tank		
Test certificate (bore or spring water)		Y	N	N/A			
Overflow from tank (calculations / details of soakage provided)		Y	N	N/A	NOT NECESSARY		
Material compatibility		Y	N	N/A			
Water reticulation N/A					**Comments (describe how compliance achieved)**		
System		Y	N	N/A	G12 N	AS3500	Other
Diagrammatical layout		Y	N	N/A	(including location of plumbing fixtures shown on plans)		
Pipe	Size	Y	N	N/A			
	Material	Y	N	N/A			

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

HWC	Size	Y	N	N/A						
	Restraint	Y	N	N/A						
	Valves	Y	N	N/A						
	Type	Y	N	N/A	Electric	Mains Low pressure	Gas	Internal External	Solar	
Header tank	Restraint	Y	N	N/A						
	Support	Y	N	N/A						
	Safe tray	Y	N	N/A						
	Overflow	Y	N	N/A						
Water reticulation					**Comments (describe how compliance achieved)**					
Wet back – fires (open vented)		Y	N	N/A						
Copper piping		Y	N	N/A						
Cladding – roof					**Comments (describe how compliance achieved)**					
Type		Y	N	N/A						
Minimum roof pitch		Y	N	N/A						
Material compatibility		Y	N	N/A						
Specifications (maintenance / installation)		Y	N	N/A						
Roof penetrations (flashings detailed)		Y	N	N/A						
Discharge (spreaders)		Y	N	N/A						
Internal gutter / valley (size / capacity / timber treatment / overflow)		Y	N	N/A	NO INTERNAL GUTTERS					
Overflows for internal spouting (Taylor fascia, etc)		Y	N	N/A						
Plumbing sanitary					**Comments (describe how compliance achieved)**					
Diagrammatical or schematic layout		Y	N	N/A						
System		Y	N	N/A	G12	AS3500	Other			
Individual waste pipes	Discharge units	Y	N	N/A						
	Length	Y	N	N/A						
	Pipe size	Y	N	N/A						
	Gradient	Y	N	N/A						
	Fixings	Y	N	N/A						
	Venting	Y	N	N/A						
Soil waste & overflow stacks	Discharge units	Y	N	N/A						
	Pipe sizes	Y	N	N/A						
	Gradients	Y	N	N/A						
	Venting	Y	N	N/A						
	Fixings	Y	N	N/A						
	Expansion joints	Y	N	N/A						
Floor waste gully (recommended 2-storey)		Y	N	N/A						

Slabs				**Comments (describe how compliance achieved)**
Finished floor level (shown on plans)	(Y)	N	N/A	
Plumbing fixtures (shown on plans)	(Y)	N	N/A	
No pipes running through slab thickenings	(Y)	N	N/A	
Subfloor				**Comments (describe how compliance achieved)**
Joist (pipe penetrations / support)	Y	N	~~N/A~~	
Mid-floor framing				**Comments (describe how compliance achieved)**
Plumbing pipes / wastes	Y	N	~~N/A~~	
Wet areas				**Comments (describe how compliance achieved)**
Basin in WC (except where adjacent to bathroom)	(Y)	N	N/A	
Decks / balconies				**Comments (describe how compliance achieved)**
Waste / overflow (if internal)	Y	N	~~N/A~~	
Other				**Comments (describe how compliance achieved)**
Domestic fire sprinkler system	Y	N	~~N/A~~	
Producer statements – refer to xx	(Y)	N	N/A	PSI ACCEPTED
Alternative solutions - Refer xx	Y	N	~~N/A~~	
ECO-Water approval required	Y	N	~~N/A~~	
Plans – sets collated and stamped	(Y)	N	N/A	
Time recorded accurately for processing	(Y)	N	N/A	APPROX 6 HOURS
Fees assessed	(Y)	N	N/A	
Conditions entered into computer	(Y)	N	N/A	
Inspection requirements identified	(Y)	N	N/A	
Checklist completed in full standards referenced, etc	(Y)	N	N/A	
Rationale for all decision making steps recorded	(Y)	N	N/A	

Approval (Granted / Refused)	State outcome and reasons	20-6-08
Checked by:		Date
Reviewed by:		Date

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Log all communications and advise applicant if further information is required. Medium: L = letter E = email T = telephone F = facsimile I = in person			
Date / Time	Medium	Officer's initials	Summary of dialogue, requests for information, etc

COPY OF EMAIL FOR FURTHER INFO IN FILE.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Log all communications and advise applicant if further information is required. Medium: L = letter E = email T = telephone F = facsimile I = in person			
Date / Time	**Medium**	**Officer's initials**	**Summary of dialogue, requests for information, etc**

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

CLIENT

JOHN HAWLEY CONSULTING

4 Gordon Craig Plan
Algies Bay
WARKWORTH

Tel:094256949
Fax:094256946
Mob: 025 622 1693

jghawley@voyager.co.nz

6 December 2000

Job No: 112

GEOTECHNICAL REPORT RE PROPOSED SUBDIVISION

of

LOT 2 DP 195912 at COVE ROAD. MANGAWHAI

for

KERRY DONOUGHER and STUART SAVILLE

Property Description

The property is rolling pastoral hill country which is being grazed by heavy stock. This has probably been so for many decades. Small patches of gorse exist on some of the steeper slopes.

Lot 1 has a northeasterly aspect while Lots 2 and 3 face northwest. All three Lots enjoy views across the valley below.

A gully with an ephemeral stream cuts across the property and three branches of this extend from Lot 1 up towards Lot 2.

Investigations

On 24 November 2000 two 50mm O hand auger boreholes, BH "X" and BH "Y" were put down at the centres of the proposed sites on Lots 1 and 2 respectively, and on 6 December a similar borehole BH"Z" was put down on proposed Lot 3.

The log of a 50 mm O borehole put down by John Hawley Consulting on the neighbouring property close to Lot 1 was made available by the neighbours, the Liannamc Family Trust.

See plan for positions of boreholes, and attached borelogs.

Geotechnical Hazards

Slope Stability is the only geotechnical hazard calling for detailed consideration. Flooding, Volcanism, Seismic Shaking and Fault Line Displacement are not of significance on this property. Bearing Capacity, High Compressibility, Delayed Compression (consolidation) High Shrink/Swell and Clay Dispersion are not of

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

significance in these soils, though the possibility of consolidation due to drainage of the softer materials above the bedrock should be considered in specific design of concrete slabs.

Slope Stability

Slopes below buildings seldom fail without major provocation. This is because the building itself acts as an umbrella causing the ground beneath it and immediately downslope of it to dry out, and thereby reducing the effects of heavy rainstorms and prolonged wet weather.

Slopes above building sites do not have this protection, and furthermore the effects of slope failure are usually much more serious. Soil moving down onto a building is potentially lethal for people in the building (sheltering from a rainstorm) while soil moving away from a building on the slope below it is usually not.

The hummocky nature of the ground on Lot 1 suggests that the slopes have been unstable in the past, probably at the time of the initial clearance of the indigenous forest, or soon after. (Detailed studies of pastoral hillslopes in the Wairarapa, supported by photographic evidence have shown that, in many places, major rashes of landslips occurred in the decade following deforestation. It is likely that occurred in this area also, particularly as the lithology is not dissimilar.)

A bowed fenceline above the Lot 1 site indicates that creep has been occurring in recent decades and is probably continuing at present. This very slow movement may be confined to the topsoil and subsoil, and evidence of this type of creep can be seen near the eastern boundary of Lot 2 where the alignment of an old fence is visible as an accumulation of soil adjacent to the fenceline. This is a commonly observed phenomenon on hillslopes with soils which are easily pugged by heavy stock.

However, it is possible that the creep on the fenceline is occurring in the softer soil which was found at depths of 1.5m to 2m in boreholes BH"X" on Site 1 and BH4 on the adjacent property nearby. Both forms of creep may be arrested by draining the soils.

The drains would have 2 effects,

(a) an immediate increase in the effective stress carried by the soil particles. This would immediately increase the frictional component of the soil strength, and

(b) a gradual increase in the density of the soil as it consolidates under the increased effective stress. This increase in density will be accompanied by increases in both the cohesive and the frictional strength components of the soil.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Quantitatively it is not possible to predict how much the drainage measures - detailed below - would increase the strengths of the soils. However, eleven measures are prescribed each of which can be expected to have a significant effect. These measures are –

1 to 4 Counterfort drains
5 to 8 Bored in underdrains
9 Piping of runoff from the road so that it does not soak into the upper slope on Lot 2
10 and 11 The "umbrella effect" of houses on Lots 1 and 2.

In total these measures will transform the situation from one which is not conspicuously unstable at present to one which is very unlikely to develop slope instability.

Stabilisation measures are required on Lots 1 and 2. Considering each of the three Lots in turn -

The hummocks on Lot 1 are present on both sides of the gully and ephemeral stream. However, the turf mat shows no signs of having grown over bared slip scarps in recent times. As noted above the hummocks are probably the result of movement at the time of initial clearance of the indigenous forest. Some might well be levellings and disturbances caused by the logging operations themselves.

The soil strengths recorded in the boreholes at both sites (see borelogs for B H X" and BH4) are high. However, at both locations a wetter, softer, more clayey weaker material was found at depths of 1.5m and 2.0m respectively.

In the absence of drainage measures ground water levels in boreholes B H X" and BH4 can be expected to rise to less than 1m below ground and possibly as high as 500mm below ground in wet seasons. Two groundwater cut-off drains, one 1.5m deep near the South boundary above Site 1 and the other 1 .0m deep at the base of the excavation made to create the building site would reduce groundwater levels and pressures, arrest the creep and make slope instability very unlikely. The upper of these two drains should be installed as soon as possible.

A 65mm O perforated draincoil should be placed at the base of each of the trenches which should then be filled with drainage metal up to 100mm below the ground surface. A 10mm thick layer of hay (or a geotextile) should be placed on this drainage metal to prevent topsoil moving down into it. The remaining 90mm should then be backfilled with topsoil to prevent surface runoff entering the drains.

The stable site on Lot 1 is shown on the plan. It is rectangular with sides of 30m and 20m, ie an area of 600m^2.

The slope below the building site should have two fans of bored-in underdrains installed in it. The positions of these are shown on the plan. Each arm of each fan

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

should be 10m long or such other length as is accepted by a Registered Engineer as appropriate in the light of materials and groundwater conditions encountered during installation. Although the house itself will (by its "umbrella effect") protect this lower slope they are included to provide some redundancy ("overkill") in the drainage system.

Each bore should be lined with perforated PVC pipe, as is normal practice.

After an initial flush the flow from these underdrains is likely to be negligible. If it is significant it should be taken in closed conduit to a safe outfall near stream level.

Lot 2

Lot 2 cannot be described as "hummocky" though it is conceivable that the lower flatter portion moved down and left the steeper portion as a scarp several decades ago. Soil strengths recorded in

Borehole BH "Y" shows firm soil below 0.3m but with a similar 110 kPa clay at 2.1 m immediately above the harder "bedrock" material. Softer material immediately above a hard bedrock at a depth of 2 approximately 2m is the pattern in all three bores.

At the southern corner of Lot 2 water is currently being discharged from the road drainage system. This discharge is on flat ground immediately above a 15^0 slope. This water should be led in closed conduit to a safe outfall lower down the slope near stream level, see plan.

The slope above the Lot 2 site showed no signs of instability even during the very wet weather of July 2000 and the piping of the roadside discharge to a lower level can be expected to improve slope stability significantly. However, the fact that this slope is above a building site means that extra precaution against slope failure should be taken. One fan of bored-in underdrains should be installed at the position shown on the plan. These should be as defined above for Lot 1.

A wet seepage patch exists at the position labelled "W" on Lot 2. This should be connected by a counterfort drain 1.5m deep to the head of the tributary gully below labelled "G" on the plan. This will arrest the natural headwards migration of the gully and also dry out the whole of that part of the slope. A 65mm Ø perforated draincoil should be placed at the base of this drain which should then be backfilled with drainage metal, a hay layer and topsoil as for the counterfort drains on Lot 1 described above.

The stable site on Lot 2 is also rectangular with sides 30m and 20m, giving an area of 600 m^2 see plan.

After the bored-in underdrains and the counterfort drain from "W" to "G" have been installed and the building site levelled the counterfort drain should be extended at a depth of 1.0m behind the stable house site as shown on the plan.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

On both Lots the soils exposed in the trenches for the counterfort drains should be examined by a Registered Engineer prior to being filled with drainage metal.

It is anticipated that after an initial flush the flows from all of the bored-in underdrains will be negligible. If significant flows appear this water should be taken in closed conduit to safe disposal points near the streams.

The underdrains and the counterfort drain between "W" and "G" should be installed before work is begun on forming building platforms on the sites.

The bored-in underdrains should be inspected by the driller 3 years after installation to check that they are still open. Thereafter they should be checked every 5 years. This might be done whenever the septic tanks are pumped out.

This Lot is a stable ridge or promontory. No signs of current or historical instability or creep are evident on it. No specific drainage measures are called for. A stable building site (Site 3) is shown on the plan, - a square with 25m sides and area 625m^2.

Foundations

On Lots 1 and 2

Pile foundations, bored or driven, should conform to the requirements of NZS 3604.

Concrete slab foundations should be subject to specific design.

On Lot 3

Foundations (including concrete slabs) should conform to the requirements of NZS 3604.

Soil Strengths for Earthwork Design

Safe bearing stress for foundations of 100 kPa would be appropriate.
Soil strength components of c'= 10 kPa and ϕ' 20° would be appropriate.

On-site Wastewater Treatment/Disposal

Design of on-site wastewater treatment/disposal systems for each site should conform with Technical Publication 58 of the Auckland Regional Council (which has been adopted by Northland Regional Council).

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

On all three Lots the soils are suitable and the area ofground large enough for treatment of effluent in the topsoil and subsoil at an application rate of 5mm/day: the use of systems which include secondary "in plant" treatment should not be necessary. Dose-loading of effluent fields is essential and the topography should allow this to be achieved with a dosing siphon. Primary treatment would be accomplished in the first chamber of a dual chamber septic tank. The siphon should be protected by a filter placed between the *two* chambers.

On-site wastewater treatment/disposal systems should be designed specifically for each of the building sites. Designs will depend on the number of bedrooms in the house on that Lot, and the placing ofthe house on the site, as well as on the topography (slopes) and the positions of groundwater drains in the vicinity.

Access

Access to the property cannot be had from a point near the bend in Cove Road near the centre of the road frontage because sight distances are not long enough for vehicles coming from the East wishing to turn into the property at that point.

Two possible access driveway layouts are shown on the plan, one from Cove Road to serve Lots 1 and 2 (and Lot 3 ifdesired). The other possibility is for Lots 1 and 2 to be accessed by a shared driveway at the North corner of the property. This could also be used for Lot 3 though a separate access for it higher up on the shared driveway might be preferred.

Conclusions

In view ofthe above I give it as my professional opinion that,

- the three building sites defined on the attached plan are not subject to instability, and

provided all Stormwater overflows from water tanks and runoff from sealed areas such as driveways are taken in closed conduit to safe outfalls,

- the three building sites would not be likely to be subject to instability in the future, provided in the case ofthe sites on Lots 1 and 2 the drains defined in this report are installed to the satisfaction of a Registered Engineer,

and furthermore,

- the building of houses on any or all of the three sites would not be likely to cause instability ofthe sites themselves or of any neighbouring property, and
- Bearing Capacity on all three sites is adequate for foundation design in accordance with **NZS 3604** except that on the Lot 1 and Lot 2 sites concrete slab floors should be subject to specific design, and
- the soils and the sizes of the three Lots are such as will allow on-site treatment/disposal of wastewater, and

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

- satisfactory access to all three sites can be achieved with normal minor earthworks, with that to Site 1 requiring a 500mm culvert in the streambed.

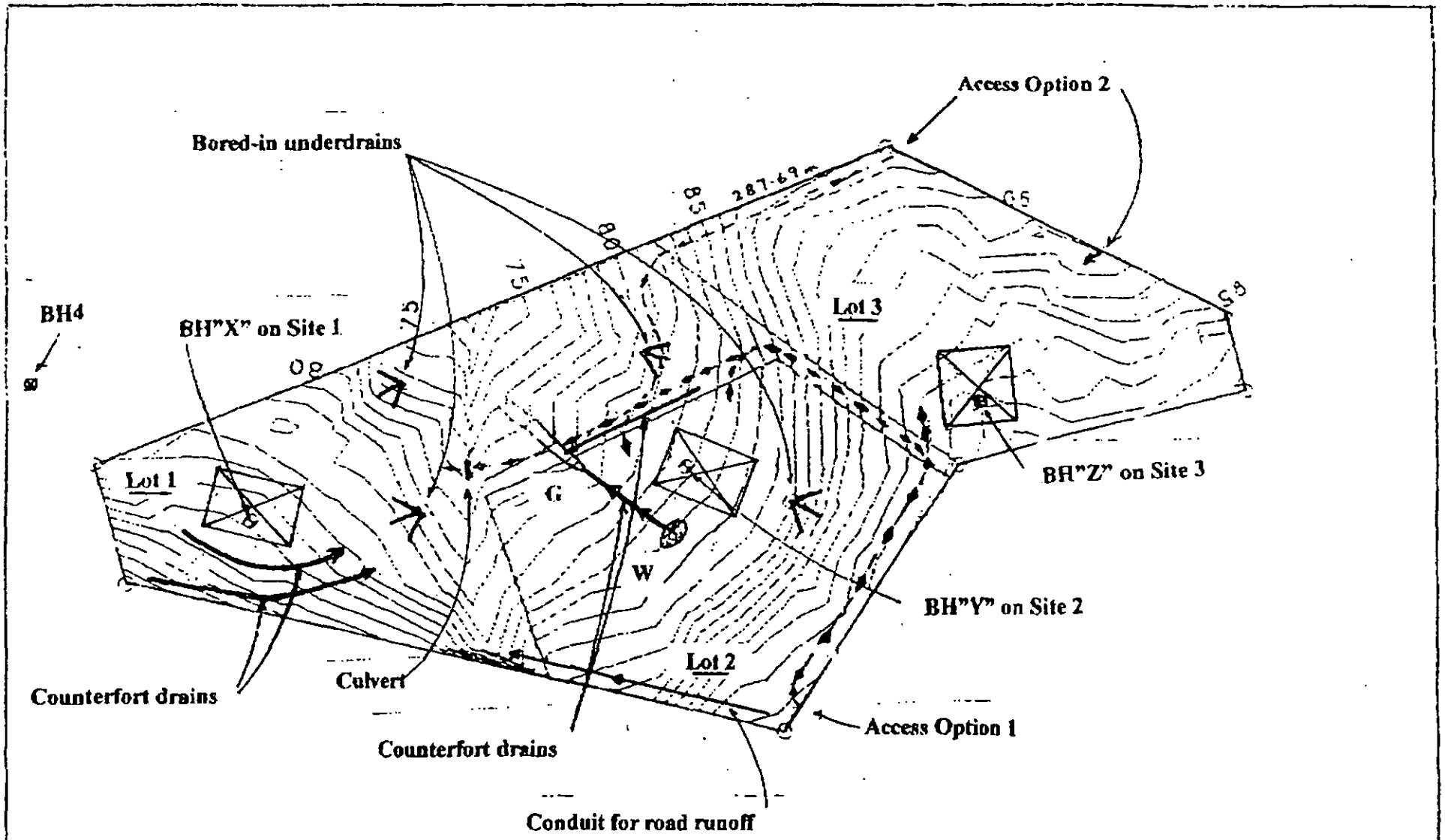
If you wish for any clarification of points raised above, or any other geotechnical matters, please do not hesitate to telephone or Fax me at the numbers given above.

Yours faithfully,

J G Hawley
MA, BE, PhD, MIPENZ, Reg Eng.

Attached:

Plan showing locations of boreholes, prescribed drains, access routes and stable sites, Four borelogs.



John Hawley Consulting
4 Gordon Craig Place
Algies Bay
WARKWORTH
Telephone 09 - 425 6949
Facsimile: 09 - 425 6946
Mobile: 025 - 622 1693

Stable Sites, Boreholes, Access Routes and Recommended Drainage Works

Kerry Donougher and Stuart Saville
Cove Road, Mangawhai

Designed by: J.G. Hawley
Date: Nov. 2000
Job No: 112

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref No 5780
7 May 2008

PRODUCER STATEMENT - DESIGN

THIS STATEMENT IS ISSUED BY DAVID LAWRENCE SMITH TO
GLENN & KYOKO REID

IN RESPECT TO A NEW HOUSE AT DE BOER LANE MANGAWHAI FOR GLENN & KYOKO REID

LOT No **DP No**

Smith and Henry, Consulting Engineers, were engaged by Sang Architects to provide structural design of elements advised not in accordance with NZS 3604 to comply with Clause B1.1 of the Building Regulations 1992, verification method.

Where applicable the structure has been designed to the loading specified in NZS 4203.

Refer to the summary of elements designed attached to the calculations.

As an independent design professional I BELIEVE ON REASONABLE GROUNDS that, subject to all proprietary products meeting their performance specification requirements, and

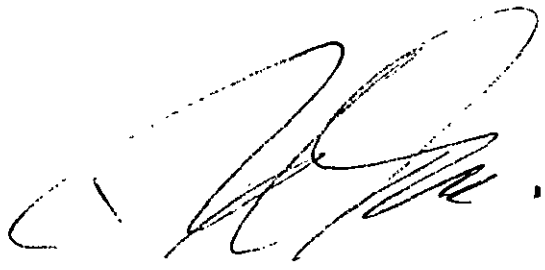
1/

the calculations, drawings, specifications, and other documents prepared by us, and according to which the building is proposed to be constructed, comply with the relevant provisions of the building code. Or, where applicable, those parts of drawings prepared by others pertaining to our design and signed by us.

I am covered by a current policy of Professional Indemnity Insurance to a minimum value of $200,000.00.

UNLESS SPECIFICALLY NOTED IN THE CALCULATIONS WE ARE NOT AWARE OF ANY SPECIFIC SITE REQUIREMENTS, THE STRUCTURAL DESIGN ASSUMES NATURAL FOUNDATION CONDITIONS (100kPa BEARING) AS OUTLINED IN SECTION 3 OF NZS 3604:1999 ANY SOFT GROUND OR FILLED AREAS MUST BE REPORTED TO THE DESIGNER AND THE TERRITORIAL AUTHORITY.

D L Smith
Principal



19 Okahu Street, P O Box 42248, Orakei. Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email – SmithandHenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaipara ki Runga • Two Oceans Two Harbours

Building Consent Conditions

KAIPARA DISTRICT COUNCIL

PIM 080137 ALREADY ISSUED

TO: Customer Services Team

FROM: David Hughes / Jim Vallance / Derek Free / Des Sheldon

Please insert the conditions indicated into BC No: 080397

1	✓
2	✓
3	✓
4	✓
5	✓
6	✓
7	✓
8	✓
9	✓
10	✓
11	✓
12	✓
13	✓
14	
15	✓
16	
17	
18	✓
19	
20	
21	

01 This building consent will lapse and be of no effect if the building work to which it relates does not commence within 12 months after the date of issue. The consent may be extended for any further period at the discretion of council.

02 No deviation or alteration from the original plans and specifications can be carried out without written approval of Council and no building may be converted to any other use other than that stated on the building consent.

03 IMPORTANT: YOU ARE FULLY RESPONSIBLE FOR ANY DAMAGE DONE TO ANY WORKS SUCH AS TELEPHONE CABLES, POWER CABLES, WATER MAINS, GAS MAINS, SEWERS, PIPES, FOOTPATHS, ROADS OR OTHER SERVICES.

04 As the property owner is responsible for the correct siting of all works in accordance with the NZ Building Code and the Resource Management Act, the owner must ascertain the true position of survey pegs before work commences.

05 Restrictions on the Erection of Buildings near Overhead Electric Lines:- Under the Electrical Supply Regulations 1976, it is an offence to erect any building or structure etc, within certain prescribed distances of an overhead electric line.

06 To enquire about these restrictions, contact the nearest office of the NZ Electricity Department or your local Power Supply Authority.

07 NOTICE THAT BUILDING WORK IS READY FOR INSPECTION. For the purposes of Section 222 of the Building Act 2004, and unless otherwise provided by the building consent, the owner or other person undertaking any building work shall give:

08 a) at least 2 working days notice of the intended commencement of construction.

09 b) at least 1 working days notice of the covering up of any

10 i) drainage or plumbing

11 ii) excavation for a foundation

12 iii) reinforcing steel for a foundation

13 iv) timber required to have a specific moisture content

14 v) other work required to give notice as a condition

15 Council MUST be notified at the completion of building work on the attached form.

16 This building MUST NOT be used for human habitation.

17 THIS CONSENT IS ISSUED SUBJECT TO AN ENTRY PURSUANT TO SECTION 72 OF THE BUILDING ACT 2004. EQC ADVISES THAT THIS MAY EFFECT THE NATURAL DISASTER INSURANCE. REFER TO THE ATTACHED STATEMENT AND CLAUSE 3(D) OF THE 3RD SCHEDULE TO THE EARTHQUAKE COMMISSION ACT 1993.

18 From 28 April 2003 all new dwellings, additions or alterations to dwellings must be provided with domestic smoke alarm(s) in order to comply with the Building Code.

19 This Building Consent is issued subject to Section 37 of the Building Act 2004 whereby no building work shall be carried out until Resource Consent is granted.

20 This building consent is issued subject to the condition that the element(s) of the building work with limited life/lives which is/are the subject of this building consent, is/are demolished, removed or altered on or before the end of the specified intended life.

21 Council recommends that woodburners are installed by a member of the New Zealand Home Heating Association and an installers certificate is submitted to Council with the application for Code Compliance Certificate. (DON'T USE 21 — THIS IS A GAS FIREPLACE)

Other non-standard condition/s:

[redacted] 23) COUNCIL RECOMMENDS GAS FIREPLACES INSTALLED BY REGISTERED MEMBER OF NEW ZEALAND HOME HEATING ASSOCIATION.

24) PS3 CONSTRUCTION CERTIFICATES FOR NURAPLY AND INSULCLAD REQUIRED PRIOR TO FINAL INSPECTION.

A Compliance Schedule **is** / **is not** required for the building.

PS3, NURAPLY / INSULCLAD

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Registers
Introduction
Frequently Asked Questions
Professional Engineers
Engineering Technologists
Engineering Technicians
General Information

Combined Professional, Technologist and Technician Colleges

Surname | Region: -- All Regions -- | Practice Field: -- All Areas --

Search >>

28 results found for your search

Name	Region	Practice Field(s)	Next Assessment
Smith, Andrew *MIPENZ CPEng*	Southland	(Civil)	2011
Smith, Dave *MIPENZ CPEng*	Waikato-Bay of Plenty - Rotorua	(Civil) (Environmental)	2009
Smith, David *MIPENZ CPEng*	Auckland	(Structural)	2009
Smith, Denis *MIPENZ CPEng IntPE(NZ)*	Auckland	(Mechanical)	2011
Smith, Derek *MIPENZ CPEng IntPE(NZ)*	Auckland	(Electrical) (Industrial)	2009
Smith, Don *MIPENZ CPEng IntPE(NZ)*	Wellington	(Civil) (Structural)	2009
Smith, Fred *MIPENZ CPEng*	Canterbury	(Civil) (Structural)	2009
Smith, Henry *MIPENZ CPEng IntPE(NZ)*	United Kingdom		
Smith, Iain *MIPENZ CPEng*	Wellington	(Civil)	2010
Smith, Ian *FIPENZ CPEng IntPE(NZ)*	Waikato-Bay of Plenty - Rotorua	(Civil) (Structural)	2009
Smith, Kevin *MIPENZ CPEng IntPE(NZ)*	Europe	(Civil) (Environmental)	2010
Smith, Mark *MIPENZ CPEng IntPE(NZ)*	Australia	(Management) (Transportation)	2012
Smith, Mark *MIPENZ CPEng IntPE(NZ)*	Auckland	(Civil) (Structural)	2008
Smith, Martin *MIPENZ CPEng*	Rest of World		
Smith, Martin *FIPENZ CPEng IntPE(NZ)*	Auckland	(Civil) (Management)	2009
Smith, Melanie	Auckland	(Building	2012

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

MIPENZ CPEng		Services)	
Smith, Michael *MIPENZ CPEng*	Auckland	(Civil)	2012
Smith, Michael *MIPENZ CPEng IntPE(NZ)*	United Kingdom	(Management) (Petroleum)	2013
Smith, Mike *MIPENZ CPEng*	Canterbury	(Transportation)	2012
Smith, Murray *MIPENZ CPEng*	Auckland	(Civil)	2009
Smith, Peter *FIPENZ CPEng IntPE(NZ)*	Wellington	(Civil) (Structural)	2008
Smith, Raymond *MIPENZ CPEng IntPE(NZ)*	Auckland	(Civil) (Structural)	2011
Smith, Regan *MIPENZ CPEng IntPE(NZ)*	Canterbury	(Civil)	2010
Smith, Stuart *MIPENZ CPEng IntPE(NZ)*	Canterbury	(Civil) (Structural)	2009
Smith, Stuart *MIPENZ CPEng*	Auckland	(Building Services)	2009

Now Displaying Records 1 to 25
- Next 25

▲ back to top

© 1996 - 2008 IPENZ

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Registers

Introduction

Frequently Asked Questions

Professional Engineers

Chartered Professional Engineer - CPEng

International Professional Engineer – IntPE(NZ)

Recognised Engineer

Design Verifiers

Professional members of IPENZ Practice College

Professional members of IPENZ

Engineering Technologists

Engineering Technicians

General Information

CPEng Search

- Introduction
- Current registrants
- Registrants in abeyance
- Suspended Registrants
- Disciplinary actions in last 3 years

CPEng Search
Holders of Annual Practising Certificates for 2008

Surname **Region**

-- All Regions --

Search >>

29 results found for your search

Name	Address	Date Reg'd	Next Assessment
Smith, Andrew	Fulton Hogan Limited PO Box 970 Invercargill 9840 New Zealand	06/12/06	2011
Smith, Dave	17 Fairview Terrace Taupo 3330 New Zealand	03/03/04	2009
Smith, David	Smith and Henry Consulting Engs PO Box 42248 Orakei Auckland 1745 New Zealand	01/09/04	2009
Smith, Denis	TSV Consultants PO Box 11489 Ellerslie Auckland 1542 New Zealand	05/04/06	2011
Smith, Derek	Sinclair Knight Merz PO Box 9806 Newmarket Auckland 1149 New Zealand	01/09/04	2009
Smith, Don	831 Tiniroto Road RD 5 Wairoa	05/05/04	2009

CPEng

Overview

Competen

Search Re

Apply

Appeals or disciplinary

Credit for F other Juris

Registratio

CPEng Act

CPEng Ru

CPEng Am 2004

CPEng Am 2005

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Registers

Introduction

Frequently Asked Questions

Professional Engineers

Engineering Technologists

Engineering Technicians

General Information

Search across all registers

Dealing with poor performance by an engineer

Membership/Registration fees

Engineers Registration Act *(repealed)*

Abeyance or removal from registers

Search all registers

IPENZ Practice College, CPEng and IntPE

Surname **Region** -- All Regions --

Search >>

27 results found for your search

Name	IPENZ	Practice College	CPEng Expiry	IntPE
Smith, Tony	Professional Member		31/12/12	
Smith, Tony	Professional Member	©	10/12/08	IntPE*(NZ)* (Civil) (Geotechnical)
Smith, David	Professional Member	©	01/09/09	
Smith, Murray	Professional Member	©	03/03/09	
Smith, Ian	Fellow	©	05/05/09	IntPE*(NZ)* (Civil) (Structural)
Smith, Peter	Fellow	©	10/12/08	IntPE*(NZ)* (Civil) (Structural)
Smith, Fred	Professional Member	©	04/08/09	
Smith, Stuart	Professional Member	©		IntPE*(NZ)* (Civil) (Structural)
Smith, Derek	Professional Member	©	01/09/09	IntPE*(NZ)* (Electrical) (Industrial)
Smith, Kevin	Professional Member	©		IntPE*(NZ)* (Civil) (Environmental)
Smith, Martin	Fellow	©	03/03/09	IntPE*(NZ)* (Civil) (Management)
Smith, Denis	Professional Member	©	31/12/11	IntPE*(NZ)* (Mechanical)
Smith, Don	Professional Member	©	07/04/09	IntPE*(NZ)* (Civil) (Structural)
Smith, Mark	Professional Member	©		IntPE*(NZ)* (Management) (Transportation)
Smith, Mike	Professional Member	©	31/12/12	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Smith, Henry	Professional Member			IntPE*(NZ)* (Electrical) (Management)
Smith, Michael	Professional Member		31/12/13	IntPE*(NZ)* (Management) (Petroleum) (Structural)
Smith, Stuart	Professional Member		04/02/09	
Smith, Mark	Professional Member			IntPE*(NZ)* (Civil) (Structural)
Smith, Andrew	Professional Member		31/12/11	
Smith, Melanie	Professional Member		31/12/12	
Smith, Raymond	Professional Member			IntPE*(NZ)* (Civil) (Structural)
Smith, Michael	Professional Member		31/12/12	
Smith, Regan	Professional Member		08/06/10	IntPE*(NZ)* (Civil)
Smith, Iain	Professional Member		07/12/10	

Now Displaying Records 1 to 25
- Next 25

▲ back to top

© 1996 - 2008 IPENZ

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT COUNCIL

Building Consent Status History Change

New Current Status , Enquiry , Search

No: 080397
Applicant: G and K Reid
Proposal: New residential dwelling
Location: DE BOER LANE, MANGAWHAI
Valuation No: 0122012711
Overseer: Eastern

Change Status	Status date	Delete	Insert	Status Notes
Formally Received	21/05/08	delete status	insert status	
Invoiced	21/05/08	delete status	insert status	21713
Further Information Requested	21/05/08	delete status	insert status	fees not paid inv 21713 posted
Information Received	22/05/08	delete status	insert status	fees paid receipt 548619
Further Information Requested	17/06/08	delete status	insert status	refer to notes
Information Received	18/06/08	delete status	insert status	
Information Received	20/06/08			ok to issue

New Current Status , Enquiry , Search

Cancel

Copyright © 1997, Napier Computer Systems Limited. All rights reserved.
Author: Lesley Marshall

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Building Consent 080397

(Form 5) Section 51, Building Act 2004

G and K Reid
C/- Sang Architects & Company Ltd
11 Glenfell Place
Epsom, Auckland

Issue Date: 20/06/08
Application Date: 21/05/08
Overseer: Eastern

THE PROJECT: (the following Building Work is authorised by this Building Consent)

Description:	New residential dwelling
	NEW (& PREBUILT) HOUSE, UNIT, BACH, CRIB, TOWN HOUSE
Type of Work:	
Estimated Value:	$400,000
Intended Use:	Housing - detached - dwelling
Intended Life:	Indefinite, but not less than 50 years
Stages:	Being Stage 1 of an intended 1 Stages

THE BUILDING:

Street Address of Building:	DE BOER LANE, MANGAWHAI
Valuation Number:	0122012711
Legal Description:	LOT 3 DP 319142
Building Name:	
Location of Building within site/block number:	
Level/Unit Number:	

THE OWNER:

Owners Name:	G and K Reid				
Owners Mailing Address:	P.O.Box 126, Mangawhai				
Street Address/Registered Office:					
Phone Number	**Landline:**	095286462	**Daytime:**		**After Hours:**
	Mobile:		**Fax:**		
Email:				**Website:**	

FIRST POINT OF CONTACT: (with the Council/Building Authority)

First Point of Contact:					
Mailing Address:	C/- Sang Architects & Company Ltd, 11 Glenfell Place, Epsom, Auckland				
Phone Number	**Landline:**	096388026	**Daytime:**		**After Hours:**
	Mobile:		**Fax:**	096388079	
Email:	ronsang@sangarchitects.co.nz			**Website:**	

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.

Signature **Date:** 20/06/08 **Position** Building Services Officer

On behalf of KAIPARA DISTRICT COUNCIL

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

ADDENDA TO THIS BUILDING CONSENT:

1. This building consent will lapse and be of no effect if the building work to which it relates does not commence within 12 months after the date of issue. The consent may be extended for any further period at the discretion of council.
2. No deviation or alteration from the original plans and specifications can be carried out without written approval of Council and no building may be converted to any other use other than that stated on the building consent.
3. IMPORTANT: YOU ARE FULLY RESPONSIBLE FOR ANY DAMAGE DONE TO ANY WORKS SUCH AS TELEPHONE CABLES, POWER CABLES, WATER MAINS, GAS MAINS, SEWERS, PIPES, FOOTPATHS, ROADS OR OTHER SERVICES.
4. As the property owner is responsible for the correct siting of all works in accordance with the NZ Building Code and the Resource Management Act, the owner must ascertain the true position of survey pegs before work commences.
5. Restrictions on the Erection of Buildings near Overhead Electric Lines:- Under the Electrical Supply Regulations 1976, it is an offence to erect any building or structure etc, within certain prescribed distances of an overhead electric line.
6. To enquire about these restrictions, contact the nearest office of the NZ Electricity Department or your local Power Supply Authority.
7. NOTICE THAT BUILDING WORK IS READY FOR INSPECTION. For the purposes of Section 222 of the Building Act 2004, and unless otherwise provided by the building consent, the owner or other person undertaking any building work shall give:
8. a) at least 2 working days notice of the intended commencement of construction.
9. b) at least 1 working days notice of the covering up of any
10. i) drainage or plumbing
11. ii) excavation for a foundation
12. iii) reinforcing steel for a foundation
13. iv) timber required to have a specific moisture content
14. v) other work required to give notice as a condition
15. Council MUST be notified at the completion of building work on the attached form.
16. From 28 April 2003 all new dwellings, additions or alterations to dwellings must be provided with domestic smoke alarm(s) in order to comply with the Building Code.
17. Gas Fireplaces installed by registered member of NZHH
18. PS3 Construction Certificates for Nuraply and insulclad required prior to final inspection

COMPLIANCE SCHEDULE:

A compliance schedule is not required for the building.

ATTACHMENTS:

Copies of the following documents are attached to this building consent:

BUILDING CONSENT FEES:

Please note that further fees may be required to be paid before a Code Compliance Certificate is issued for this Building Consent. All fees must be paid before a Code Compliance Certificate will be issued.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

10 June 2010

G and K Reid
P.O.Box 126
Mangawhai 0540

Dear G and K Reid

Building Consent Application 080397 Valuation Number 0122012711 New Dwelling

A review of our records have identified that as yet, no final inspection has been called for in relation to Building Consent 080397, and therefore no Code Compliance Certificate issued.

Council would like to bring your attention to Section 93(2)(b) of the Building Act 2004:

> **93 Time in which building consent authority must decide whether to issue Code Compliance Certificate**
> (2)(b) if no application is made, the expiry of:
> (i) 2 years after the date on which the building consent for the building work was granted.

Applications for an extension of time must be made formally, on the form provided, prior to the 24 month expiry date being reached. Extensions of time may be allowed after due consideration of the factors involved and at Council's absolute discretion. Or, if your work is finished please *complete, sign and return* the Application for Code Compliance Certificate and book your final inspection.

If you are having problems in completing your project within this timeframe, which in relation to BC 080397 ends on 20/06/2010, please contact Council. If there are valid reasons for not progressing with the project, please advise with some urgency as we may be of assistance in agreeing to an extension of time.

Please be assured of our good intentions in assisting you with the best outcome possible.

Yours faithfully

Derek Free
Building Services Officer

File
Document1

INITIALS: DF

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

23 August 2012

G and K Reid
P.O.Box 126
Mangawhai

Dear Mr and Mrs Reid

Building Consent Application 080397 Valuation Number 0122012711

A review of our records have identified that you have not applied for a Code Compliance Certificate for granted Building Consent 080397.

Council would like to bring your attention to Section 93(2)(b) of the Building Act 2004:

> ***93 Time in which building consent authority must decide whether to issue Code Compliance Certificate***
> *(2)(b) if no application is made, the expiry of:*
> *(i) 2 years after the date on which the building consent for the building work was granted.*
> *(ii) any further period that may be agreed between the owner and the building consent authority*

An owner must apply for a Code Compliance Certificate after all building work is completed. If your work is finished please contact council on 0800100388 and book your final inspection or contact the writer on 0800 100 388.

Please be assured of our good intentions in assisting you with the best outcome possible.

Yours faithfully

PP Place

Des Sheldon
Building Services Officer
Telephone 0800 100 388

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

JOHN HAWLEY CONSULTING LTD

John Hawley, MIPENZ, MA, PhD, BE, CPEng.

Geotechnical Reports – On-site Wastewater Systems – Producer Statements

4 Gordon Craig Place
Algies Bay
WARKWORTH

Tel: 09-425 6949
jghawley@xtra.co.nz
Fax: 09-425 6946

19th May 2008

Job No: 1084

RECEIVED
5 JUN 2008
KAIWAKA
Kaipara District Council

Smith & Henry
Consulting Engineers
P O Box 42 248
Orakei
Auckland

New House, de Boer Lane, Mangawhai
for Glenn and Kyoko Reid

In reply to your letter of 16th May 2008 I have examined the plans which you enclosed of foundations etc relating to the G & K Reid house, and in particular your proposal for a suspended floor over the filled area.

I agree that your "approach encompasses the intent of" our recommendations, as made in our Geotechnical Report on this Lot dated 1st May 2002.

Yours faithfully

J G Hawley
CPEng

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

B/C 080397

SMITH & HENRY
CONSULTING ENGINEERS

RECEIVED
5 JUN 2008
entered
KAIWAKA
Kaipara District Council

Ref - Fee Quote 5780
22 May 2008

Glenn & Kyoko Reid
P O Box 126
Mangawhai.

RE: NEW HOUSE, DE BOER LANE, MANGAWHAI
For GLENN & KYOKO REID

Glenn

I asked John Hawley to comment on the final structure for your house in relation to the foundations. This to confirm compliance with his Geotechnical assessment.

His reply and account are attached. The letter will need to be submitted to Rodney District Council.

Thanks

Dave Smith

19 Okahu Street, P O Box 42248, Orakei Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - SmithandHenry@clear.net.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SANG ARCHITECTS & COMPANY LIMITED

ARCHITECTS ENGINEERS INTERIOR DESIGNERS LANDSCAPE ARCHITECTS

[redacted]

17 June 2008

entered

File

18 JUN 2008

K

E-MAILED

Kaipara District Council
PO Box 26
Kaiwaka

Attention David Hughes

Dear Sir

RE: REID HOUSE 9 DE BOER LANE MANGAWHAI
BUILDING CONSENT BC080397

COUNCIL

In reply to your email we wish to advise the following:

1. TRUSS DESIGN
   You have confirmed by later email that you have found the documentation for this.

2. WET AREA DETAILS
   Wet area wall framing: H3.1
   Wall linings: 6mm Villaboard
   Refer Specification Section 5101H James Hardie Fibre Cement Sheet Lining Page 120
   Waterproofing: Refer Specification Section 6201 Tiling Page 136
   Liquid water proofing Mape MapeGum
   Wall finish: porcelain tiles
   Shower substrate concrete slab
   Water proofing: Refer Specification Section 6201 Tiling Page 136
   Liquid waterproofing Mape Mapeplastic
   Shower base finish: porcelain tiles

3. CHIMNEY FLUE FLASHING DETAILS THROUGH CONCRETE ROOF TILES
   Refer attached drawing

We will post 3 copies of the above today.

We hope we have answered your queries. Please do not hesitate to contact us if you require any further information

Yours sincerely

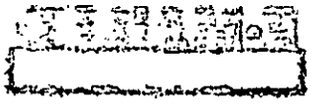
Margaret Parker
SANG ARCHITECTS & COMPANY LTD

KAIPARA DISTRICT COUNCIL
BC 080397
BUILDING INSPECTOR

Ronald F Sang ONZM JP B ARCH FNZIA Margaret H Parker ASSOCIATE
Darryl Sang B ARCH B ENG (HONS) ANZIA Janine D Sang B ARCH ANZIA
Consultants: Graham Upton ARCHITECT B ARCH (HONS) ANZIA Ted Smyth LANDSCAPE ARCHITECT HON FELLOW NZILA

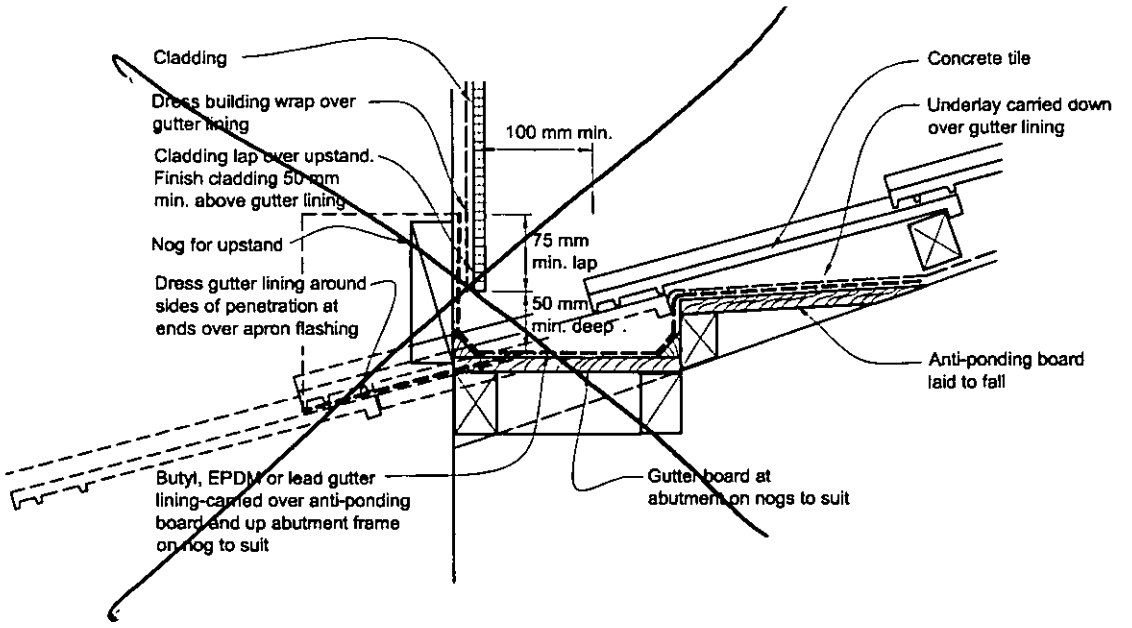
11 Glenfell Place Epsom Auckland 1023 New Zealand Tel: 64-9-6388 026 Fax: 64-9-6388 079
ronsang@sangarchitects.co.nz www.sangarchitects.co.nz

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



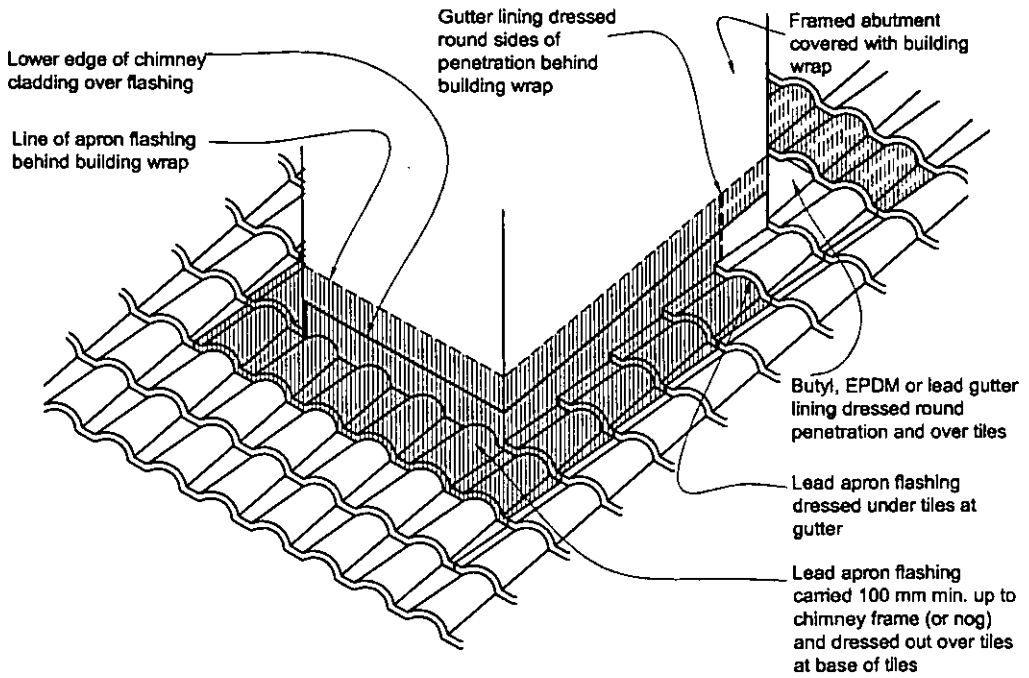
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Figure 30: Abutment at framed penetration for masonry tile
Paragraph 8.2.7



Amend 2
Jul 2005

Figure 31: Flashing to framed penetration for masonry tile
Paragraph 8.2.7

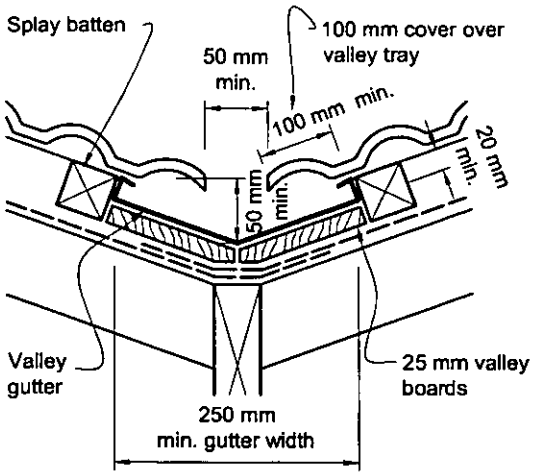


RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Figure 27: Valley for masonry tile
Paragraph 8.2.6

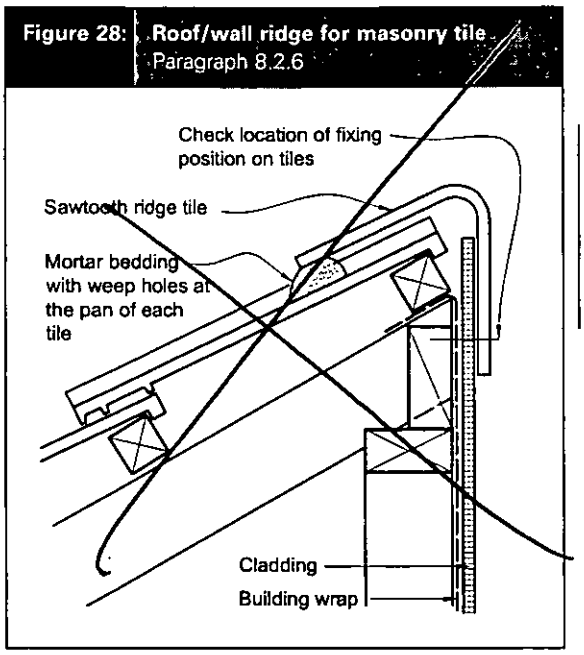
NOTE: (1) Refer to Table 8 for maximum roof catchment areas for *valley gutters*.

(2) Minimum width of *valley gutter* may reduce to 160 mm, providing roof catchment area is in accordance with Table 8. In this case, cover of tiles over gutter shall be reduced to 60 mm to provide a clearance between tiles of 40 mm.



Amend 2 Jul 2005

Figure 28: Roof/wall ridge for masonry tile
Paragraph 8.2.6



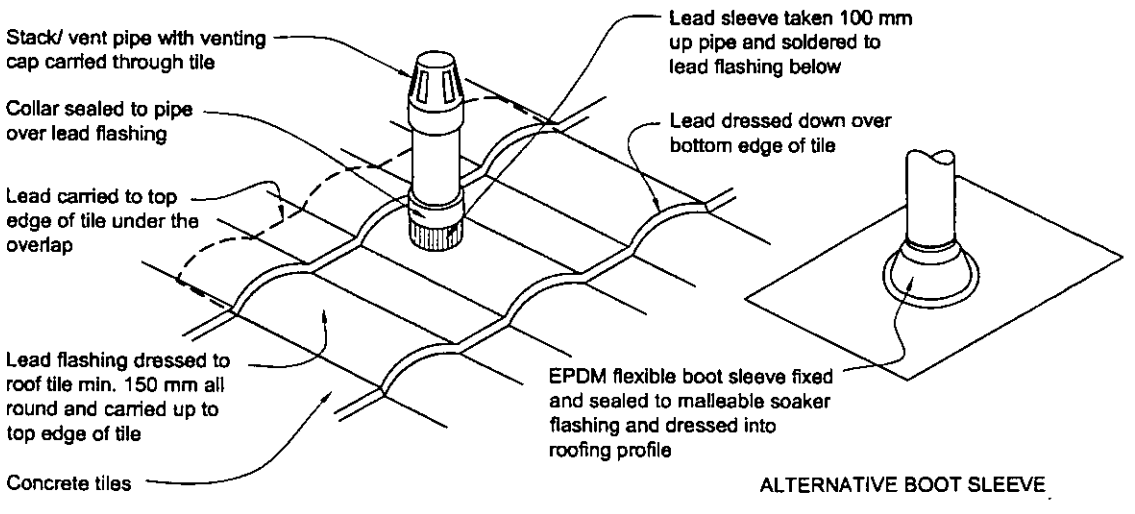
Amend 2 Jul 2005

8.2.7 Penetrations

Holes in tiles for pipe penetrations shall be machine-cut to minimise the size of the hole.

Penetrations shall be flashed as shown in Figure 29 to Figure 31.

Figure 29: Pipe penetration for masonry tile
Paragraph 8.2.7



Amend 2 Jul 2005

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

BC 080397

PLACEMAKERS WHANGAREI

Postal : P.O. Box 149 Whangarei

Telephone : 09 430 2900

3 Walton Street Whangarei

Fax : 09 430 2901

QUOTE No. JR6196

RECEIVED 5 JUN 2008 KAIWAKA Kaipara District Council

CLIENT : Sang Architects

JOB NAME : Reid House

DELIVERY ADDRESS : Mangawhai 0

PHONE :

ESTAMATE DATE 15/05/2008

ESTAMATE VALID UNTIL : 14/06/2008

We Have pleasure in submitting our estimation as per your plans and specifications

WALL FRAMING : Gauged Kilm Dried Machine Stress Graded

WIND ZONE ALLOWED FOR : High

Wind zone assumed, no details supplied

Basement	**FRAME HEIGHT :**	N/A	**STUD CENTRES :**	N/A	**NOG CENTRES :**	N/A	
Ground Floor	**FRAME HEIGHT :**		**STUD CENTRES :**		**NOG CENTRES :**		0 Angle Braces Allowed
Top Floor	**FRAME HEIGHT :**	N/A	**STUD CENTRES :**	N/A	**NOG CENTRES :**	N/A	

Notes : **Wall frames H1.2 Treated Timber**

BEAMS :

GANGLAM / FLITCH BEAMS :

HYNE BEAMS / LINTELS : $0.00

ROOF FRAMING : PITCH : 25 Deg CLADDING : Monier Tile

TRUSSES :

TRUSSES TO GANGNAIL "MiTek" DESIGN TO PLACEMAKERS TRUSS LAYOUT

All Trusses made with 45mm H1.2 Treated kiln dried timber and zinc coated nail plates

Prorietary zinc coated fixings supplied with trusses

Truss Centres : 900 **Quantity :** 159

Overhang From Frame : 1170 incl 600 cantilever

$25,099.37

NOTES :

ONLY ITEMS DETAILED ABOVE ARE INCLUDED IN THE QUOTE

Roof framing is is H1.2 Treated stress graded (unless stated otherwise on this sheet)

Builder to check Truss Layout Provided

NOTES :

ITEMS NOT INCLUDED IN THIS QUOTE

Fascia,- Frieze,- Subfoor,- Midfloor,- Upstand Beams,- Posts,- Pergolas,- Random Timber,- Batterns to Steel Beams,- Sheet Bracing or Sheathing Materials,- Bastard Cuts to Wall and Roof Framing,-Chinney Framing,- Column Framing,- Understair Framing,- Deck and Stair Balustrades,- Intermediate Joists and Nogs to Attic Trusses,- Builders Hardware (other than zinc coated truss fixings, wall angle bracing)

Cartage

Estimator : A T

ACCEPTED ...../...../.....

SUB TOTAL NETT	$	25,099.37
G. S. T.	$	3,137.42
NETT TOTAL	$	**28,236.79**

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Job: JR6196 Client: Site: SANG ARCHITECTS
Phone: G&K REID
9 DE BOER LANE
Description: G&K REID MANGAWHAI
Building Consent No.: Phone:

PRODUCER STATEMENT
MiTek 20/20™ TRUSS DESIGN PROGRAM

Certification of MiTek 20/20™ Truss Design Program

The MiTek 20/20™ truss design program has been developed by MiTek New Zealand Ltd for the design of GANG-NAIL timber roof, floor and attic trusses in New Zealand. The truss designs computed by this program are prepared using sound and widely accepted engineering principles, and in accordance with NZS 4203, NZS 3603 and NZS 3604 as verification methods and acceptable solutions of the approved documents of the New Zealand Building Code to satisfy the requirements of the Building Regulations 1992: Clause B1 - Structure. This computer design for the proposed building complies with the relevant provisions of the NZ Building Code. This is subject to all proprietary products meeting their performance specification requirements, the provision of adequate bracing, fixings and the correct input of design data carried out by suitably trained personnel.

Summary of MiTek 20/20™ Truss Design Data and Output

The MiTek 20/20™ computer design output for this job titled and located at the site identified on the top of this page is based on the following parameters entered into the program. The owner must ensure that the following job details below are current and relevant to the project before fabrication and erection of the GANG-NAIL trusses.

Job Details

Roof Truss

Timber Group:	WFT2H1	Pitch:	25.000 deg	Std Overhang:	570 mm
Roof		**Ceiling**		**Wind**	
Material:	Monier Concrete Tiles	Material:	Standard	Area:	High (44.0 m/s)
Dead Load:	0.600 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	400 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.000 kN				

These trusses must be fabricated and erected in accordance with the GANG-NAIL manual. Proper erection bracing must be installed to hold the components true and plumb and in a safe condition until permanent bracing is fixed. All permanent bracing and fixing must be installed before any loads are applied. The specifications for timber shall be as shown on the output. The timber shall be standard gauged and treated to the requirements of NZS 3640:2003. Unless otherwise noted, this design assumes that the steel fixings and timber connectors are situated in a closed environment, as defined by NZS3604:1999 Section 4.

Truss List

Legend: * = detail only, ? = input only, ~~Txx~~ = failed design, Unmarked trusses = designed successfully, LB = lateral bracing required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
GT1	1D	7600	25.000	900	J3B	2	1490	25.000	900	TR3	6	6600	25.000	900
GT2	1	6600	25.000	900	J4	2	2877	25.000	900	TR3A	3	6600	25.000	900
GT2A	1	6600	25.000	900	J4A	2	2877	25.000	900	V1	1	1755	25.000	900
GT6	1	6600	25.000	900	J4B	1	2877	25.000	900	V10	1	2601	25.000	900
T2	6	8800	25.000	900	J4C	1	2877	25.000	900	V11	1	1701	25.000	900
T3	14	9400	25.000	900	J4D	1	2877	25.000	900	V2	1	3555	25.000	900
T3A	3	9400	25.000	900	J4E	1	2877	25.000	900	V3	1	5355	25.000	900
T3B	1	9400	25.000	900	J4F	2	2877	25.000	900	V4	1	2956	25.000	900
TG1	1	7600	25.000	900	J4G	1	2877	25.000	900	V6	1	3756	25.000	900
TG2	1	9400	25.000	900	J5	1	1990	25.000	900	V7	1	1956	25.000	900
TG2A	1	9400	25.000	900	J5A	1	1990	25.000	900	V8	1	4600	25.000	900
TR1	1	8800	25.000	900	J5B	1	1990	25.000	900	V9	1	2800	25.000	900
[redacted]	1	9400	25.000	900	J5C	1	1990	25.000	900	*H1	1	2546	18.249	900
	1	5200	25.000	900	J5D	1	1990	25.000	900	*R1	2	1115	25.000	900
GT3A	1	5200	25.000	900	J5E	1	1990	25.000	900	*R1A	3	1115	25.000	900
GT4	1	6475	25.000	900	J5F	1	1990	25.000	900	*R2	12	838	25.000	900
GT5	1	4069	18.249	900	J5G	1	1990	25.000	900	*R2A	12	838	25.000	900
GT7	1	4657	18.249	900	J5H	1	1990	25.000	900	*R3	5	1615	25.000	900
HJ1	1	4589	18.249	900	J6	2	2577	25.000	900	*R3A	5	1615	25.000	900
HJ1A	1	4589	18.249	900	J7	1	1690	25.000	900	*R4	4	1315	25.000	900
HJ2	1	4024	18.249	900	J7A	1	1690	25.000	900	*R4A	4	1315	25.000	900
HJ2A	1	4024	18.249	900	J7B	1	1690	25.000	900	*R5	1	2015	25.000	900
HJ2B	1	4024	18.249	900	J7C	1	1690	25.000	900	*R5A	1	2015	25.000	900
HJ2C	1	4024	18.249	900	J7D	1	1690	25.000	900	*R6	2	2515	0.000	900
HJ3	1	3599	18.249	900	J7E	1	1690	25.000	900	*R6A	2	2515	0.000	900
HJ3A	1	3599	18.249	900	J7F	1	1690	25.000	900	*R6B	3	2515	0.000	900
HJ3B	1	3599	18.249	900	J7G	1	1690	25.000	900	*R6C	3	2515	0.000	900
HJ3C	1	3599	18.249	900	J8	1	2277	25.000	900	*R7	1	2215	0.000	900
J1	3	3277	25.000	900	J8A	1	2277	25.000	900	*R7A	2	2215	0.000	900
J10	1	3268	25.000	900	J8B	1	2277	25.000	900	*R7B	1	2215	0.000	900
J1A	1	3277	25.000	900	J8C	1	2277	25.000	900	*R8	2	2915	0.000	900
J2	1	2390	25.000	900	J9	1	1977	25.000	900	*R8A	1	2915	0.000	900
J2A	1	2390	25.000	900	R1B	1	1115	25.000	900	*R8B	2	2915	0.000	900
J2B	1	2390	25.000	900	T1	22	7600	25.000	900	*R8C	1	2915	0.000	900
J2C	1	2390	25.000	900	T1A	1	7600	25.000	900	*R9	2	2215	0.000	900
J2D	1	2390	25.000	900	T2A	1	8800	25.000	900	*R9A	1	2215	0.000	900
J2E	1	2390	25.000	900	T4	6	9174	25.000	900	*R9B	1	2215	0.000	900
J3	1	1490	25.000	900	T5	9	5200	25.000	900	*V5	1	1156	25.000	900
J3A	1	1490	25.000	900	T5A	2	5200	25.000	900					

Total quantity : 234

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Job: JR6196
Client:
Phone:
Site: SANG ARCHITECTS
G&K REID
9 DE BOER LANE
MANGAWHAI
Phone:
Description: G&K REID
Building Consent No.:

TRUSS FIXING SELECTION REPORT - Characteristic Loads

Fixings are selected from the LUMBERLOK Brochure 03/4 (Timber Connectors Characteristic Loadings Data)

Truss List
Legend: * = detail only, ? = input only, ~~Txx~~ = failed design, Unmarked trusses = designed successfully

Truss	Qty	Span (mm)	Joint	Down (kN)	Uplift (kN)	Bearing	Fixing Qty	Fixing Selected
GT1	1D	7600	L	39.796	9.813	Cross	1	CT200 pair
			V	34.250	8.377	Cross	1	CT200 pair
GT2	1	6600	H	11.134	3.856	Butt	1	Pair of MultiGrips
			I	11.770	4.044	Cross	1	CT200 pair
GT2A	1	6600	J	8.448	3.494	Cross	1	CT200 pair
			Q	8.448	3.494	Cross	1	CT200 pair
GT6	1	6600	K	23.827	6.877	Cross	1	CT200 pair
			S	16.792	4.931	Cross	1	CT200 pair
T2	6	8800	I	11.788	3.313	Cross	6	CT200 pair
			O	9.121	2.244	Butt	6	Pair of MultiGrips
T3	14	9400	J	11.631	3.242	Cross	14	CT200 pair
			Q	11.631	3.242	Cross	14	CT200 pair
T3A	3	9400	J	12.923	3.715	Cross	3	CT200 pair
			Q	10.339	2.876	Cross	3	Pair of Wire Dog Staples
T3B	1	9400	I	13.042	3.784	Cross	1	CT200 pair
			P	9.224	2.298	Cross	1	Pair of Wire Dog Staples
TG1	1	7600	L	11.569	3.805	Cross	1	CT200 pair
			S	11.578	3.800	Cross	1	CT200 pair
[redacted]	1	9400	N	16.980	6.556	Cross	1	CT200 pair
			W	16.834	6.361	Cross	1	CT200 pair
TG2A	1	9400	M	13.632	5.071	Cross	1	CT200 pair
			V	13.121	4.821	Cross	1	CT200 pair
TR1	1	8800	S	8.937	2.315	Butt	1	JH 47x90
			K	11.605	3.384	Cross	1	CT200 pair
TR2	1	9400	L	11.448	3.313	Cross	1	CT200 pair
			U	11.448	3.313	Cross	1	CT200 pair
GT3	1	5200	H	4.728	2.417	Cross	1	Pair of Wire Dog Staples
			M	4.728	2.417	Cross	1	Pair of Wire Dog Staples
GT3A	1	5200	H	4.736	2.419	Cross	1	Pair of Wire Dog Staples
			M	4.736	2.419	Cross	1	Pair of Wire Dog Staples
GT4	1	6475	H	10.628	0.844	Cross	1	Pair of Wire Dog Staples
			O	10.059	1.975	Cross	1	Pair of Wire Dog Staples
GT5	1	4069	J	6.684	2.140	Cross	1	Pair of Wire Dog Staples
			M	4.069	1.928	Butt	1	JH 47x90
			I	0.125	0.563	Cross	1	Pair of Wire Dog Staples
			H	0.912	0.472	Cross	1	Pair of Wire Dog Staples
GT7	1	4657	H	7.743	2.721	Cross	1	Pair of Wire Dog Staples
			L	4.531	1.883	Butt	1	JH 47x90
HJ1	1	4589	J	1.823	1.369	Butt	1	JH 47x90
			G	5.462	2.936	Cross	1	Pair of Wire Dog Staples
HJ1A	1	4589	J	1.928	1.401	Butt	1	JH 47x90
			G	5.305	2.945	Cross	1	Pair of Wire Dog Staples
HJ2	1	4024	L	1.922	0.003	Cross	1	Pair of Wire Dog Staples
			H	0.743	0.296	Cross	1	Pair of Wire Dog Staples
[redacted]			I	7.074	1.548	Cross	1	Pair of Wire Dog Staples
			F	2.407	0.866	Cross	1	Pair of Wire Dog Staples
			G	0.780	0.417	Cross	1	Pair of Wire Dog Staples
HJ2A	1	4024	F	3.773	1.059	Cross	1	Pair of Wire Dog Staples
			H	7.079	2.336	Cross	1	Pair of Wire Dog Staples
			G	0.858	0.345	Butt	1	Pair of 3.15d Nails
HJ2B	1	4024	F	3.759	1.785	Cross	1	Pair of Wire Dog Staples
			H	0.756	0.302	Cross	1	Pair of Wire Dog Staples
			I	7.021	2.116	Cross	1	Pair of Wire Dog Staples
			G	0.954	0.485	Cross	1	Pair of Wire Dog Staples
HJ2C	1	4024	G	0.836	0.335	Butt	1	Pair of 3.15d Nails
			F	3.741	1.084	Cross	1	Pair of Wire Dog Staples
			H	7.010	2.339	Cross	1	Pair of Wire Dog Staples
HJ3	1	3599	J	0.831	0.728	Butt	1	Pair of 3.15d Nails
			G	6.070	2.694	Cross	1	Pair of Wire Dog Staples
HJ3A	1	3599	J	0.802	0.734	Butt	1	Pair of 3.15d Nails
			G	5.925	2.683	Cross	1	Pair of Wire Dog Staples
HJ3B	1	3599	J	0.826	0.738	Butt	1	Pair of 3.15d Nails
			G	5.923	2.679	Cross	1	Pair of Wire Dog Staples
HJ3C	1	3599	J	0.801	0.736	Butt	1	Pair of 3.15d Nails
			G	5.927	2.681	Cross	1	Pair of Wire Dog Staples
J1	3	3277	G	2.548	1.036	Butt	3	JH 47x90
			E	5.863	1.402	Cross	3	Pair of Wire Dog Staples
J10	1	3268	G	1.568	0.593	Butt	1	JH 47x90
			D	0.938	0.425	Butt	1	Pair of 3.15d Nails
			E	5.847	1.405	Cross	1	Pair of Wire Dog Staples

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

PlaceMakers Whangarei

Job: JR6196
Client:
Phone:
Site: SANG ARCHITECTS
G&K REID
9 DE BOER LANE
MANGAWHAI
Phone:
Description: G&K REID
Building Consent No.:

Truss	Qty	Span (mm)	Joint	Down (kN)	Uplift (kN)	Bearing	Fixing Qty	Fixing Selected
J1A	1	3277	G	1.587	0.602	Butt	1	JH 47x90
			D	0.961	0.435	Butt	1	Pair of 3.15d Nails
			E	5.863	1.402	Cross	1	Pair of Wire Dog Staples
J2	1	2390	G	0.735	0.229	Butt	1	Pair of 3.15d Nails
			D	0.626	0.296	Cross	1	Pair of Wire Dog Staples
			E	5.545	1.383	Cross	1	Pair of Wire Dog Staples
J2A	1	2390	G	0.731	0.233	Butt	1	Pair of 3.15d Nails
			D	0.642	0.302	Cross	1	Pair of Wire Dog Staples
			E	5.546	1.380	Cross	1	Pair of Wire Dog Staples
J2B	1	2390	G	0.721	0.245	Butt	1	Pair of 3.15d Nails
			D	0.677	0.316	Cross	1	Pair of Wire Dog Staples
			E	5.549	1.374	Cross	1	Pair of Wire Dog Staples
J2C	1	2390	G	0.718	0.249	Butt	1	Pair of 3.15d Nails
			D	0.688	0.321	Cross	1	Pair of Wire Dog Staples
			E	5.550	1.372	Cross	1	Pair of Wire Dog Staples
J2D	1	2390	G	0.729	0.236	Butt	1	Pair of 3.15d Nails
			D	0.650	0.305	Cross	1	Pair of Wire Dog Staples
			E	5.547	1.379	Cross	1	Pair of Wire Dog Staples
J2E	1	2390	G	0.725	0.241	Butt	1	Pair of 3.15d Nails
			D	0.665	0.311	Cross	1	Pair of Wire Dog Staples
			E	5.548	1.376	Cross	1	Pair of Wire Dog Staples
J3	1	1490	F	0.479	2.091	Butt	1	JH 47x90
			D	0.555	0.262	Butt	1	Pair of 3.15d Nails
			E	5.613	1.617	Cross	1	Pair of Wire Dog Staples
[redacted]	1	1490	F	0.521	2.243	Butt	1	JH 47x90
			D	0.557	0.262	Butt	1	Pair of 3.15d Nails
			E	5.691	1.624	Cross	1	Pair of Wire Dog Staples
J3B	2	1490	F	0.498	2.145	Butt	2	JH 47x90
			D	0.556	0.262	Butt	2	Pair of 3.15d Nails
			E	5.602	1.604	Cross	2	Pair of Wire Dog Staples
J4	2	2877	G	1.162	0.444	Butt	2	Pair of 3.15d Nails
			D	0.806	0.369	Butt	2	Pair of 3.15d Nails
			E	5.574	1.384	Cross	2	Pair of Wire Dog Staples
J4A	2	2877	G	1.162	0.444	Butt	2	Pair of 3.15d Nails
			D	0.806	0.369	Butt	2	Pair of 3.15d Nails
			E	5.574	1.384	Cross	2	Pair of Wire Dog Staples
J4B	1	2877	K	1.157	0.596	Butt	1	Pair of 3.15d Nails
			H	0.568	0.248	Cross	1	Pair of Wire Dog Staples
			I	5.435	0.774	Cross	1	Pair of Wire Dog Staples
			F	2.288	0.750	Cross	1	Pair of Wire Dog Staples
			G	1.690	0.747	Cross	1	Pair of Wire Dog Staples
J4C	1	2877	H	1.100	0.477	Butt	1	Pair of 3.15d Nails
			E	0.471	0.200	Butt	1	Pair of 3.15d Nails
			F	5.439	1.065	Cross	1	Pair of Wire Dog Staples
			D	2.726	0.909	Cross	1	Pair of Wire Dog Staples
J4D	1	2877	H	1.100	0.477	Butt	1	Pair of 3.15d Nails
			E	0.471	0.200	Butt	1	Pair of 3.15d Nails
			F	5.439	1.065	Cross	1	Pair of Wire Dog Staples
			D	2.726	0.909	Cross	1	Pair of Wire Dog Staples
J4E	1	2877	F	1.703	0.702	Butt	1	JH 47x90
			C	0.756	0.332	Butt	1	Pair of 3.15d Nails
[redacted]			D	4.102	0.653	Cross	1	Pair of Wire Dog Staples
[redacted]	2	2877	G	1.169	0.448	Butt	2	Pair of 3.15d Nails
			D	0.820	0.375	Cross	2	Pair of Wire Dog Staples
			E	5.575	1.381	Cross	2	Pair of Wire Dog Staples
J4G	1	2877	H	1.098	0.478	Butt	1	Pair of 3.15d Nails
			E	0.504	0.215	Butt	1	Pair of 3.15d Nails
			F	5.436	1.054	Cross	1	Pair of Wire Dog Staples
			D	2.736	0.921	Cross	1	Pair of Wire Dog Staples
J5	1	1990	G	0.462	0.402	Butt	1	Pair of 3.15d Nails
			D	0.706	0.328	Cross	1	Pair of Wire Dog Staples
			E	5.833	1.412	Cross	1	Pair of Wire Dog Staples
J5A	1	1990	G	0.460	0.399	Butt	1	Pair of 3.15d Nails
			D	0.714	0.331	Cross	1	Pair of Wire Dog Staples
			E	5.834	1.411	Cross	1	Pair of Wire Dog Staples
J5B	1	1990	G	0.458	0.394	Butt	1	Pair of 3.15d Nails
			D	0.723	0.335	Cross	1	Pair of Wire Dog Staples
			E	5.836	1.409	Cross	1	Pair of Wire Dog Staples
J5C	1	1990	G	0.455	0.390	Butt	1	Pair of 3.15d Nails
			D	0.732	0.338	Cross	1	Pair of Wire Dog Staples
			E	5.838	1.408	Cross	1	Pair of Wire Dog Staples
J5D	1	1990	G	0.469	0.414	Butt	1	Pair of 3.15d Nails
			D	0.677	0.316	Cross	1	Pair of Wire Dog Staples
			E	5.828	1.417	Cross	1	Pair of Wire Dog Staples
J5E	1	1990	G	0.462	0.403	Butt	1	Pair of 3.15d Nails
			D	0.705	0.327	Cross	1	Pair of Wire Dog Staples
			E	5.833	1.412	Cross	1	Pair of Wire Dog Staples

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Job: JR6196 Client: Site: SANG ARCHITECTS
Phone: G&K REID
9 DE BOER LANE
Description: G&K REID MANGAWHAI Phone:
Building Consent No.:
MiTek 20/20 - Engineering 4.4 Gamma1.5 (build 1597-53) MiTek New Zealand Ltd. Printed: 14:01:29 15 May 2006

Truss	Qty	Span (mm)	Joint	Down (kN)	Uplift (kN)	Bearing	Fixing Qty	Fixing Selected
J5F	1	1990	G	0.446	0.528	Butt	1	Pair of 3.15d Nails
			D	0.703	0.327	Cross	1	Pair of Wire Dog Staples
			E	5.961	1.447	Cross	1	Pair of Wire Dog Staples
J5G	1	1990	G	0.467	0.410	Butt	1	Pair of 3.15d Nails
			D	0.686	0.320	Cross	1	Pair of Wire Dog Staples
			E	5.830	1.415	Cross	1	Pair of Wire Dog Staples
J5H	1	1990	G	0.467	0.410	Butt	1	Pair of 3.15d Nails
			D	0.686	0.320	Cross	1	Pair of Wire Dog Staples
			E	5.830	1.415	Cross	1	Pair of Wire Dog Staples
J6	2	2577	F	0.793	0.308	Butt	2	Pair of 3.15d Nails
			D	0.794	0.364	Butt	2	Pair of 3.15d Nails
			E	5.577	1.371	Cross	2	Pair of Wire Dog Staples
J7	1	1690	F	0.364	1.655	Butt	1	JH 47x90
			D	0.731	0.336	Cross	1	Pair of Wire Dog Staples
			E	5.369	1.591	Cross	1	Pair of Wire Dog Staples
J7A	1	1690	F	0.367	1.659	Butt	1	JH 47x90
			D	0.723	0.333	Cross	1	Pair of Wire Dog Staples
			E	5.367	1.592	Cross	1	Pair of Wire Dog Staples
J7B	1	1690	F	0.367	1.659	Butt	1	JH 47x90
			D	0.724	0.333	Cross	1	Pair of Wire Dog Staples
			E	5.367	1.592	Cross	1	Pair of Wire Dog Staples
J7C	1	1690	F	0.373	1.666	Butt	1	JH 47x90
			D	0.708	0.326	Cross	1	Pair of Wire Dog Staples
			E	5.363	1.594	Cross	1	Pair of Wire Dog Staples
[redacted]	1	1690	F	0.361	1.652	Butt	1	JH 47x90
			D	0.739	0.339	Cross	1	Pair of Wire Dog Staples
			E	5.370	1.590	Cross	1	Pair of Wire Dog Staples
J7E	1	1690	F	0.379	1.672	Butt	1	JH 47x90
			D	0.693	0.320	Cross	1	Pair of Wire Dog Staples
			E	5.360	1.596	Cross	1	Pair of Wire Dog Staples
J7F	1	1690	F	0.374	1.666	Butt	1	JH 47x90
			D	0.707	0.326	Cross	1	Pair of Wire Dog Staples
			E	5.363	1.594	Cross	1	Pair of Wire Dog Staples
J7G	1	1690	F	0.373	1.666	Butt	1	JH 47x90
			D	0.707	0.326	Cross	1	Pair of Wire Dog Staples
			E	5.363	1.594	Cross	1	Pair of Wire Dog Staples
J8	1	2277	E	2.495	0.000	Butt	1	JH 47x90
			G	1.558	0.707	Butt	1	JH 47x90
			D	0.427	0.191	Butt	1	Pair of 3.15d Nails
			C	2.804	0.947	Cross	1	Pair of Wire Dog Staples
J8A	1	2277	D	4.549	1.140	Butt	1	JH 47x90
			F	2.465	1.080	Butt	1	JH 47x90
			C	0.909	0.394	Cross	1	Pair of Wire Dog Staples
J8B	1	2277	E	2.495	0.000	Butt	1	JH 47x90
			G	1.558	0.707	Butt	1	JH 47x90
			D	0.427	0.191	Butt	1	Pair of 3.15d Nails
			C	2.804	0.947	Cross	1	Pair of Wire Dog Staples
J8C	1	2277	F	2.483	0.000	Butt	1	JH 47x90
			H	1.542	0.765	Butt	1	JH 47x90
			E	0.602	0.263	Butt	1	Pair of 3.15d Nails
			C	2.046	0.885	Cross	1	Pair of Wire Dog Staples
			D	1.609	0.711	Cross	1	Pair of Wire Dog Staples
[redacted]	1	1977	G	0.451	0.432	Butt	1	Pair of 3.15d Nails
			D	0.717	0.332	Cross	1	Pair of Wire Dog Staples
			E	5.852	1.413	Cross	1	Pair of Wire Dog Staples
R1B	1	1115	A	1.292	0.129	Butt	1	JH 47x90
			B	1.292	0.477	Butt	1	JH 47x90
T1	22	7600	J	9.595	2.734	Cross	22	Pair of Wire Dog Staples
			P	9.595	2.734	Cross	22	Pair of Wire Dog Staples
T1A	1	7600	H	8.599	2.224	Cross	1	Pair of Wire Dog Staples
			N	8.599	2.224	Cross	1	Pair of Wire Dog Staples
T2A	1	8800	I	10.115	2.925	Cross	1	Pair of Wire Dog Staples
			P	9.376	2.020	Cross	1	Pair of Wire Dog Staples
			J	1.865	0.439	Cross	1	Pair of Wire Dog Staples
T4	6	9174	S	10.601	2.731	Cross	6	Pair of Wire Dog Staples
			K	10.331	2.516	Cross	6	Pair of Wire Dog Staples
T5	9	5200	H	6.879	2.056	Cross	9	Pair of Wire Dog Staples
			L	6.879	2.056	Cross	9	Pair of Wire Dog Staples
T5A	2	5200	F	5.883	1.547	Cross	2	Pair of Wire Dog Staples
			J	5.883	1.547	Cross	2	Pair of Wire Dog Staples
TR3	6	6600	H	8.463	2.452	Cross	6	Pair of Wire Dog Staples
			L	8.463	2.452	Cross	6	Pair of Wire Dog Staples
TR3A	3	6600	F	6.574	1.589	Butt	3	JH 47x90
			G	9.356	2.726	Cross	3	Pair of Wire Dog Staples
V1	1	1755	A			Wide		No fixing selected
V10	1	2601	A			Wide		No fixing selected
V11	1	1701	A			Wide		No fixing selected

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

PlaceMakers Whangarei

Job: JR6196
Client:
Phone:
Site: SANG ARCHITECTS
G&K REID
9 DE BOER LANE
MANGAWHAI
Phone:
Description: G&K REID
Building Consent No.:

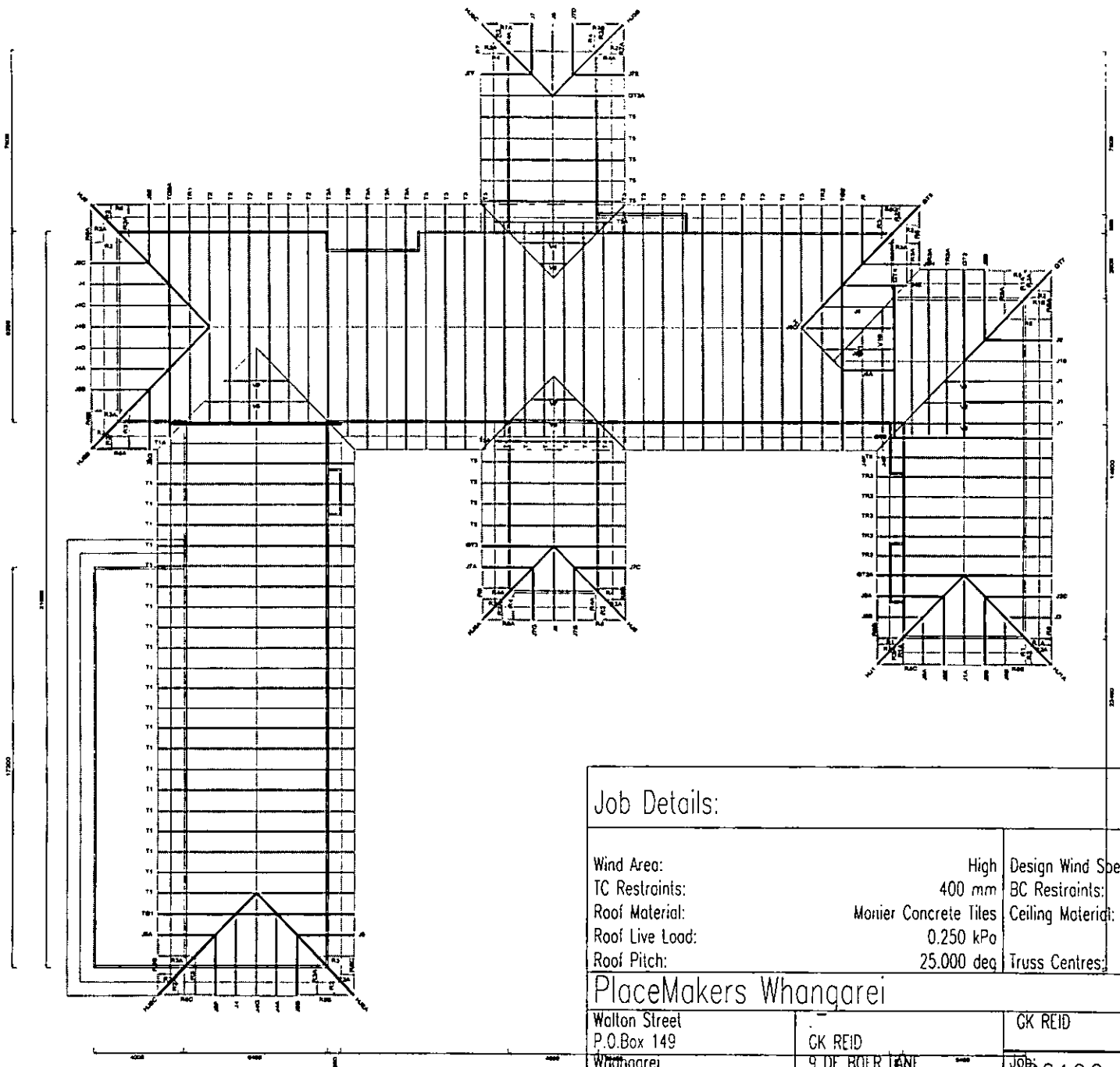
Truss	Qty	Span (mm)	Joint	Down (kN)	Uplift (kN)	Bearing	Fixing Qty	Fixing Selected
V2	1	3555	A			Wide		No fixing selected
V3	1	5355	A			Wide		No fixing selected
V4	1	2956	A			Wide		No fixing selected
V6	1	3756	A			Wide		No fixing selected
V7	1	1956	A			Wide		No fixing selected
V8	1	4600	A			Wide		No fixing selected
V9	1	2800	A			Wide		No fixing selected
*H1	1	2546						
*R1	2	1115						
*R1A	3	1115						
*R2	12	838						
*R2A	12	838						
*R3	5	1615						
*R3A	5	1615						
*R4	4	1315						
*R4A	4	1315						
*R5	1	2015						
*R5A	1	2015						
*R6	2	2515						
*R6A	2	2515						
*R6B	3	2515						
*R6C	3	2515						
*R7	1	2215						
*R7A	2	2215						
[illegible]	1	2215						
[illegible]	2	2915						
*R8A	1	2915						
*R8B	2	2915						
*R8C	1	2915						
*R9	2	2215						
*R9A	1	2215						
*R9B	1	2215						
*V5	1	1156						

Fixing List

Qty	Selected Fixing	Cost
54	CT200 pair	51.84
7	Pair of MultiGrips	6.09
214	Pair of Wire Dog Staples	85.60
36	JH 47x90	41.04
53	Pair of 3.15d Nails	1.59
10	No fixing selected	
Total		186.16

Note:
1) Fixings have been selected based on loading only. Please check that selected fixings are practical for each situation and that appropriate nailing can be applied on site.
2) Fixings are selected from the LUMBERLOK Brochure 03/4 (Timber Connectors Characteristic Loadings Data) with down and uplift characteristic loads of at least the values shown for each joint.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



Job Details:

Wind Area:	High	Design Wind Speed:	44.0 m/s
TC Restraints:	400 mm	BC Restraints:	400 mm
Roof Material:	Monier Concrete Tiles	Ceiling Material:	Standard
Roof Live Load:	0.250 kPa		
Roof Pitch:	25.000 deg	Truss Centres:	900 mm

PlaceMakers Whangarei

Walton Street
P.O.Box 149
Whangarei
New Zealand
Telephone: (09)438 6669

GK REID
9 DE BOER LANE
MANGAWHAI

GK REID

Job:
JR6196

File location: C:\M4\S\JOBS\JR6196\
Scale: 1 : 250 | Date: 15/05/2003 | Drawn By: Jed Paul

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Job: JR6196
Client:
Phone:
Site: SANG ARCHITECTS
G&K REID
9 DE BOER LANE
MANGAWHAI
Phone:
Description: G&K REID
Building Consent No.:

The computer design input has been carried out by:

Signed: ..... Date: 15-05-06

Name of Computer Operator: A D Thomson

Qualifications and Title: Manufacturing Manager

Company: **PlaceMakers Whangarei**

Verification / Acceptance of Input Data:

I have checked the input data against the construction drawings and specifications and verify that they are correct and suitable for this job.

Signed: ..... Date: .....

Name: ..... Company: .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaipara te Oranganui • Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL

Producer Statement Construction (PS3B)

Water Proof Construction

ISSUED BUILDING CONSENT NUMBER 0803:97

THIS PS3b IS ISSUED BY: Tim Taylor

TO: **KAIPARA DISTRICT COUNCIL**

IN RESPECT OF: Mapei – Ardex

AT (Address): .....

.....

LEGAL DESCRIPTION - LOT 3 DP 319142 SO .....

FROM: ..... (Water Proof membrane Applicator),

LICENSED BY Mapei / Ardex Reg./License No: 1449

engaged by.....(Owner/Builder)

In respect of clause(s) E2 and E3 and B2 of the Building Regulations 1992 for the building work described by the drawings and specifications prepared by the design firm titled;

.....

.....

.....

numbered.....

.....

I have sighted the issued building consent and sighted the waterproofing details and have inspected the substrate to which the membrane is to be applied and found it to be satisfactory. As a licensed water proof membrane applicator I can confirm that the application of the membrane has been carried out in accordance with the requirements of the New Zealand Building Code, the manufacturer's specifications and requirements.

I understand that if this producer statement is accepted, that it may be used to verify that the building work All / Part only as specified in the attached particulars, the subject of this building consent meets, the requirements of this building consent and the requirements of the Building Code in respect to clauses E2 and E3 and B2 of the Building Regulations 1992.

Name: Tim Taylor Signature: ..... Date: .....

Address: P.O. Box 139 Maungaturoto

Contractor/Applicator: Tim Taylor

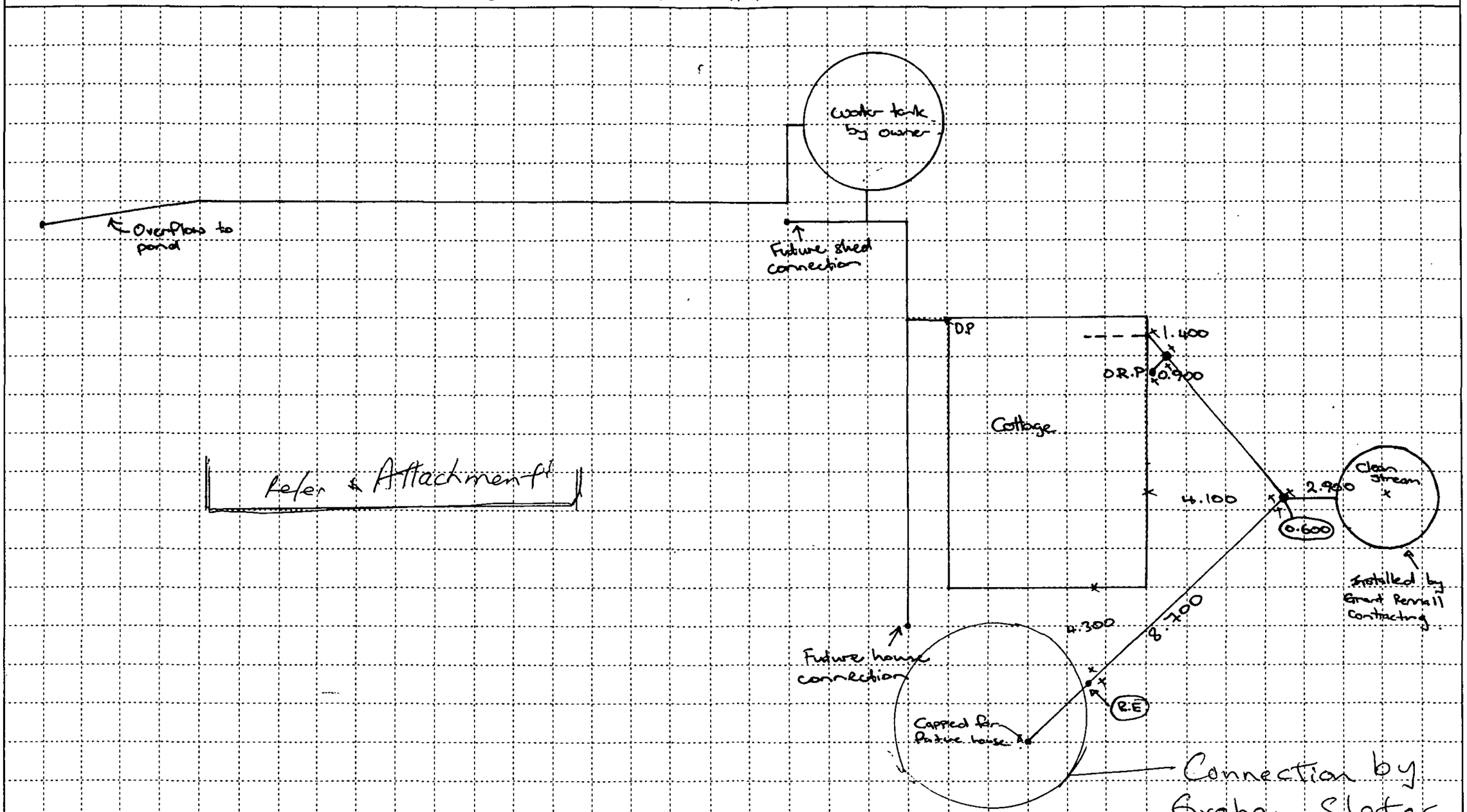
Phone: 431 5351 (bus.) 027 431 5351 (home) Fax .....

Please find attached the 15 year product and the 5 year workmanship warranties to the property owners.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1703

PART C: As Built Services Plan
(To be completed in all cases. If details are already noted on separate drawings then provide copies in duplicate as appropriate and attach to this sheet. Ensure that drawing numbers, etc, are noted below.)



Scale: N.T.S. in

Site Address:

Please provide at least two measurements for each access point for future location

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Wastewater - Pressure (Pump Make/Model)_____

Connection Diameter		Pipe Material		Connection Type	
	40mm		uPVC		Public Utility Service Connection
	50mm		Vitrified Clay		Septic Tank
	80mm		Concrete		Other _____
	Other_____mm		Other _____		

Wastewater - Gravity

Connection Diameter		Pipe Material		Connection Type	
	65mm	✓	uPVC		Public Utility Service Connection
	80mm		Vitrified Clay		Soak Hole
✓	100mm		Concrete		Stream
	Other_____mm		Other _____	✓	Other Septic

Wastewater - Disposal System Description

Septic Tank

Size: _____ litres

Type
- [ ] Ecotank
- [ ] Biocycle
- [✓] Other Clearstream by other

Effluent Field

Trench _____m

- [ ] Deep Soakhole

Depth _____m

Number of holes _____m

- [✓] Other Ram dripline (by other)

Sanitary Facilities

✓	Toilet	Number	1
	Bidet	Number	_____
	Urinal	Number	_____

Waste Disposal Unit

- [ ] No
- [ ] Yes Type _____

Certification

I Mark Wade being

	Owner		Craftsman plumber	Registration Number _____
	Occupier	✓	Registered drainlayer	Registration Number 17721

certify that this Private Utility Service As-Built Record is an accurate representation of the work carried out.

M Wade — 23/5/08

Signature — Date

KAIPARA DISTRICT

COPY

KAIPARA DISTRICT COUNCIL

Private Utility Service As-Built Record

(Section 216, Building Act 2004)

Part A Consent Details (to be completed in all cases)

Building Consent Number 080403

Applicants Name G & K Reid

Applicants Mailing Address PO Box 126 Mangawhai

Site Address De Boer Lane, Mangawhai

Part B As Built Services Information (to be completed in relation to service provided, ticking each box as appropriate)

Stormwater

Pipe Diameter		Pipe Material		Connection Type	
	80mm	✓	uPVC		Public Utility Service Connection
✓	100mm		Vitrified Clay		Soak Hole
	150mm		Ductile Iron		Stream
	225mm		Concrete		Drain
	Other_____mm		Other_____	✓	Other water tank

Water Supply

Pipe Material - Cold
- [ ] uPVC
- [ ] Copper
- [ ] Polybutylene
- [ ] Other _____

Hot Water Cylinder
- [ ] High Pressure _____Litre
- [ ] Low Pressure _____Litre

Meter Type

Make _____Model_____

Pipe Material - Hot
- [ ] uPVC
- [ ] Copper
- [ ] Polybutylene
- [ ] Other _____

Diameter _____

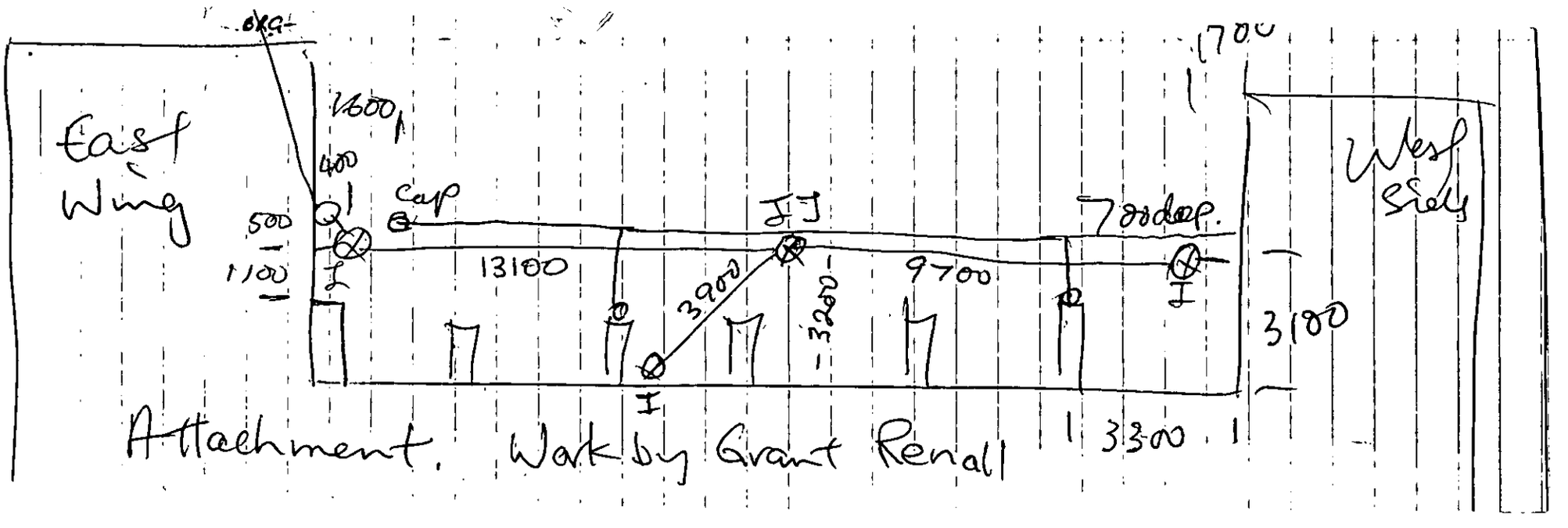
Serial Number _____

Reading [ ][ ][ ][ ][ ][ ][ ] m³

(Quote all black figures inclusive of zeros only)

Note Part B As Built Services Information **Continued on last page**

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



Attachment. Work by Grant Renall

CONSUMERS COPY

Plumbers, Gasfitters and Drainlayers Board

PLUMBERS, GASFITTERS AND DRAINLAYERS BOARD

GASFITTING CERTIFICATION CERTIFICATE
(Pursuant to the Gas Act 1992 and the Gas Regulations 1993 and amendments)
ENERGY WORK CERTIFICATE
(Pursuant to the Building Act 1991)

Certificate No 515943

9th Floor, 70 The Terrace
PO Box 10655
WELLINGTON
Tel 04 494 2970
Fax 04 494 2975
website www.pgdb.co.nz

THIS CERTIFICATE IS NOT TRANSFERABLE

Installation address: Please complete in block letters

(Box No's not acceptable) (Number) 9 (Street name) DE BOER LANE
(Suburb) MANGAWHAI
(Town/City) KAIPARA NORTHLAND

Consumer: (Title) G (Initials) REID (Family/Business name)

Category

- ☑ Domestic
- ☐ Commercial
- ☐ Industrial
- ☐ Temporary
- ☐ Other

Type (Regulation 24(1))

- ☑ New
- ☐ Addition, ☐ Extension,
- ☐ Replacement
- ☐ Alteration
- ☐ Repair following accident

Gas Type ☐ NG ☑ LPG ☐ TLP ☐ Bio

Name of Gas Supplier NOVA GAS

Pipework Installed ☑ YES ☐ NO
(attach pipework diagram)

DESCRIPTION OF GASFITTING TO WHICH THIS CERTIFICATE APPLIES

	Appliance				Flue		Ventilation	
Qty	Type	Location	Make/model	Input rate	Type	Location	Type	Location
1	HOB	KITCHEN	SMEG A5-6	67.4 MJH	RANGEHOOD		COMPLIES	
1	BAYONET FITTING	LOUNGE						
				20" copper	15" copper			
		25" copper 00		19" copper	☐ HOB			

Test Results

			Other Testing
10	min	Duration	Combustion
8	kPa	Test pressure	☐ Yes ☐ No
NIL	kPa	Loss / gain	Ventilation
2.75	kPa	Working pressure	☑ Yes ☐ No

Test Date 22/12/09

I certify that :-

- All appliances and fittings worked on by me or by persons working under my supervision are safe and that all work carried out was in accordance with all applicable requirements of the Gas Act 1992 and Gas Regulations 1993 as amended.
- The gasfitting to which this certificate applies does not make other parts of the installation unsafe or otherwise non-compliant with the Gas Act 1992 and Gas Regulations 1993 as amended.
- Gasfitting work to which this certificate applies ☐ **does** ☑ **does not** include work on an appliance or fitting imported or manufactured by a person for their own use.

Certifiers Name D DAVIS
Address PO BOX 113
PAPAROA
NORTHLAND
Registration No 04917
Signature
Date 31/12/09

Registered Gasfitter/s Supervised by certifier

Name
Registration No
Name
Registration No

Certificate owner KAIPARA PLUMBING LTD
Registration No
On behalf of
Address PO BOX
(If other than certifying gasfitter)

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

ELECTRICAL WORKERS REGISTRATION BOARD
Safety · Competency

EWRB 651

Electrical Certificate of Compliance

No. 3078536

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)

No. of attachments

To be completed whether or not an Inspection is required.

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer: G. REID — (BEAUMONT INV.) Phone: 09 431 5523

Address of installation: CNR DEBOAR LANE - COVE RD MANGAWHAI

Postal address of customer (if not as above): P.O BOX 126 MANGAWHAI

WORK DETAILS

53 No. of lighting outlets | 2 No. of ~~ranges~~ OVENS

32 No. of socket outlets | 1 No. of water heaters

Was any installation work carried out by the homeowner? ☐ Yes ☑ No

Please tick (✓) as appropriate where work includes:

SUB Mains ☐ Main earthing system

SUB Switchboard ☐ Electric lines

Description: PREWIRE, TEST, FIT OFF LTS, PWR W/W, OVENS x 2, SUB BOARD IN SCULLERY, ENSUITE 1 STRIP LT/FAN/TOILET VENT LT/FAN., RANGE HOOD, GARAGE LTS - PWR, TOWEL RAILS x 2, & ALL SOFFIT LTS. AND POWER x 56.

(LIBRARY & EXT Rooms UNCOMPLETED)

NB: HEAT/LT/FAN UNITS BY OTHERS.

If necessary attach any pages with sketches of work done

It is recommended that test results be recorded here:

Visual Examination ☑

Earth Continuity ☑

Bonding ☑

Polarity ☑

Insulation Resistance ∞ Mohm

Other [redacted]

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: R.A. STUART-MENTEATH.

Registration no: E 13565

Company: HORIZON ELECT LTD

Signature:

Date:

Contact Ph No: 027 490 761

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 4 of the Electricity Regulations 1997.

Name: Registration no:

Signature: Date:

Daytime Contact Ph No:

CUSTOMER COPY - THIS IS AN IMPORTANT DOCUMENT

This form is approved by the Electrical Workers Registration Board (PO Box 10-156, Wellington. Freephone 0800 66-1000) for the purposes of the Electricity Regulations 1997.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

ELECTRICAL WORKERS REGISTRATION BOARD
Safety · Competency

Electrical Certificate of Compliance

No. 2526447

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).

No. of attachments

To be completed whether or not an inspection is required

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer: GLEN REID Phone: 09 5211988

Address of installation: DE BOER LANE MANGAWHAI LOT 3

Postal address of customer (if not as above): P.O BOX 25749 ST HELIERS AUCK

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?			Yes / No	✓ Switchboard	✓ Electric lines

Description: INSTALL TPS

7

It is recommended that test results be recorded here:

- Visual Examination ✓
- Earth Continuity ✓
- Bonding ✓
- Polarity ✓
- Insulation Resistance 1 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: R.A. STUART-MENTEATH

Registration no: E 13565

Company: HORIZON ELECT LTD

Signature:

Date: 15-02-08

Contact Ph No: 0274940761

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 47 of the Electricity Regulations 1997.

Name: W. HAYWARD

Registration no: I 1473

Signature:

Date: 15-2-08 REG 4 A 4/c

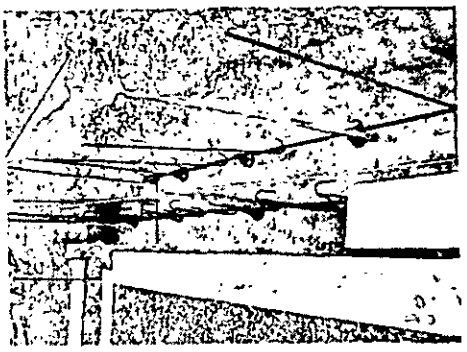
Daytime Contact:

CUSTOMER COPY - THIS IS AN IMPORTANT DOCUMENT

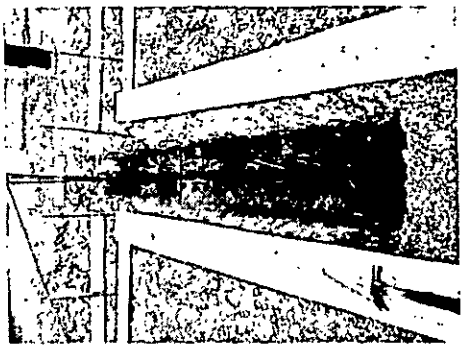
This form is approved by the Electrical Workers Registration Board (PO Box 10-156, Wellington. Freephone 0800 66-1000) for the purposes of the Electricity Regulations 1997.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

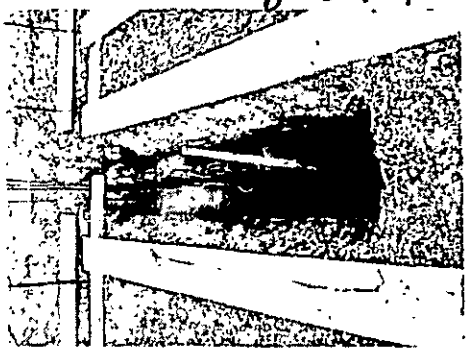
080397



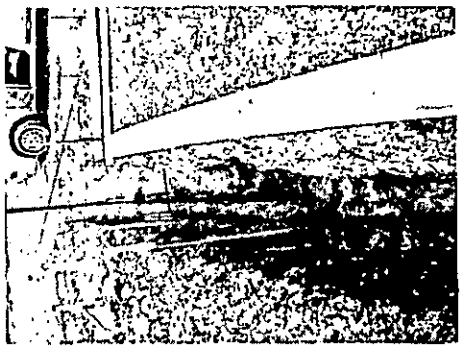
File Name	: IMG_0380.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 5.6
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



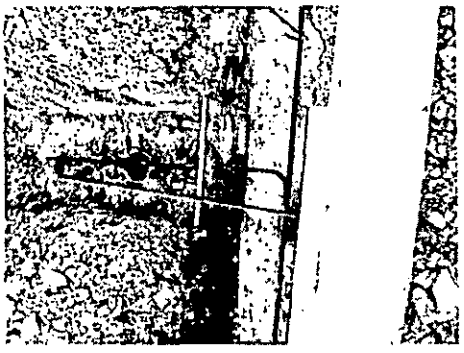
File Name	: IMG_0381.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 5.6
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



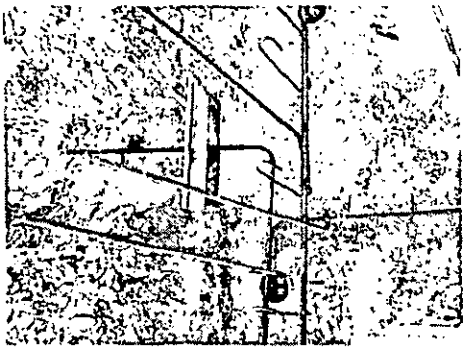
File Name	: IMG_0382.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 5.6
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



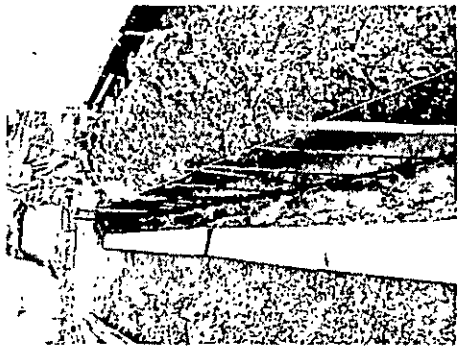
File Name	: IMG_0383.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 6.2
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



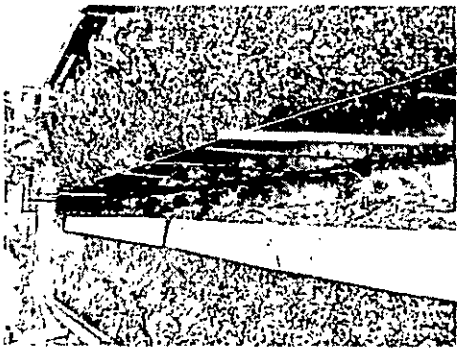
File Name	: IMG_0384.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 4.8
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



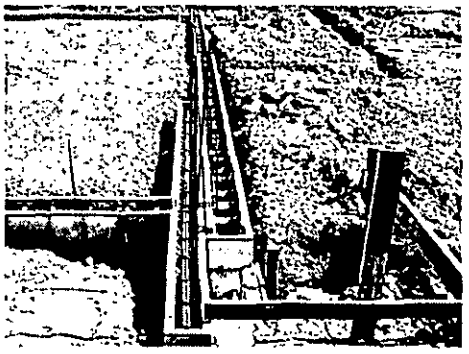
File Name	: IMG_0385.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 4.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



File Name	: IMG_0386.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 4.8
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm

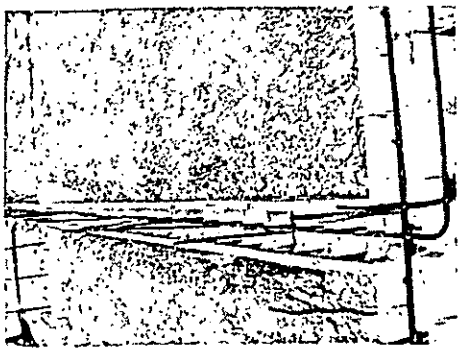


File Name	: IMG_0387.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 5.2
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm

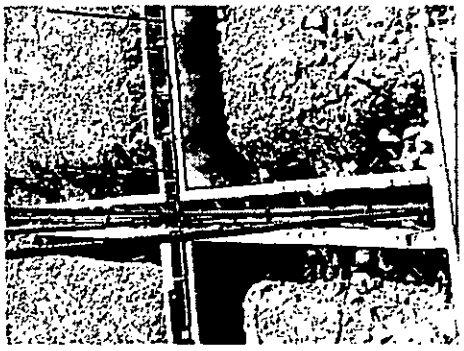


File Name	: IMG_0388.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/200
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm

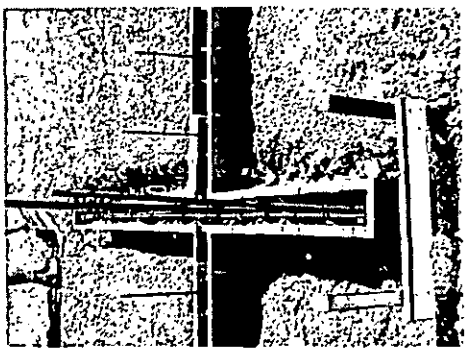
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



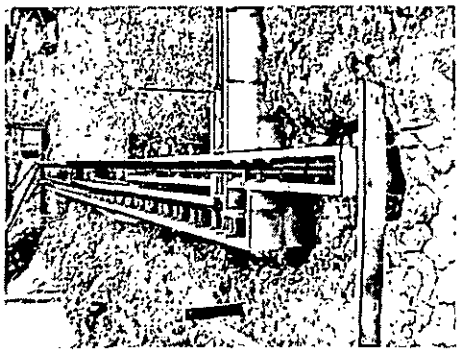
File Name	: IMG_0389.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/400
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



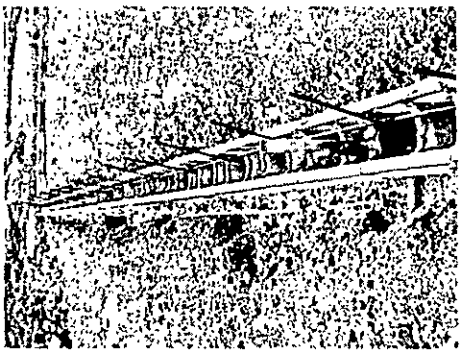
File Name	: IMG_0390.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/180
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



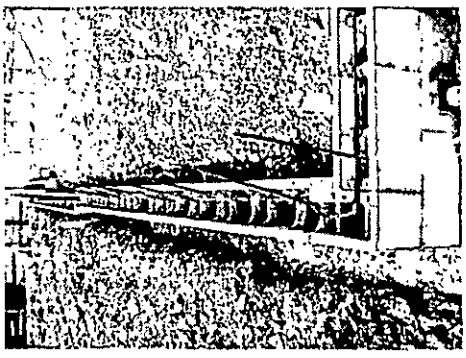
File Name	: IMG_0391.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/200
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



File Name	: IMG_0392.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/100
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



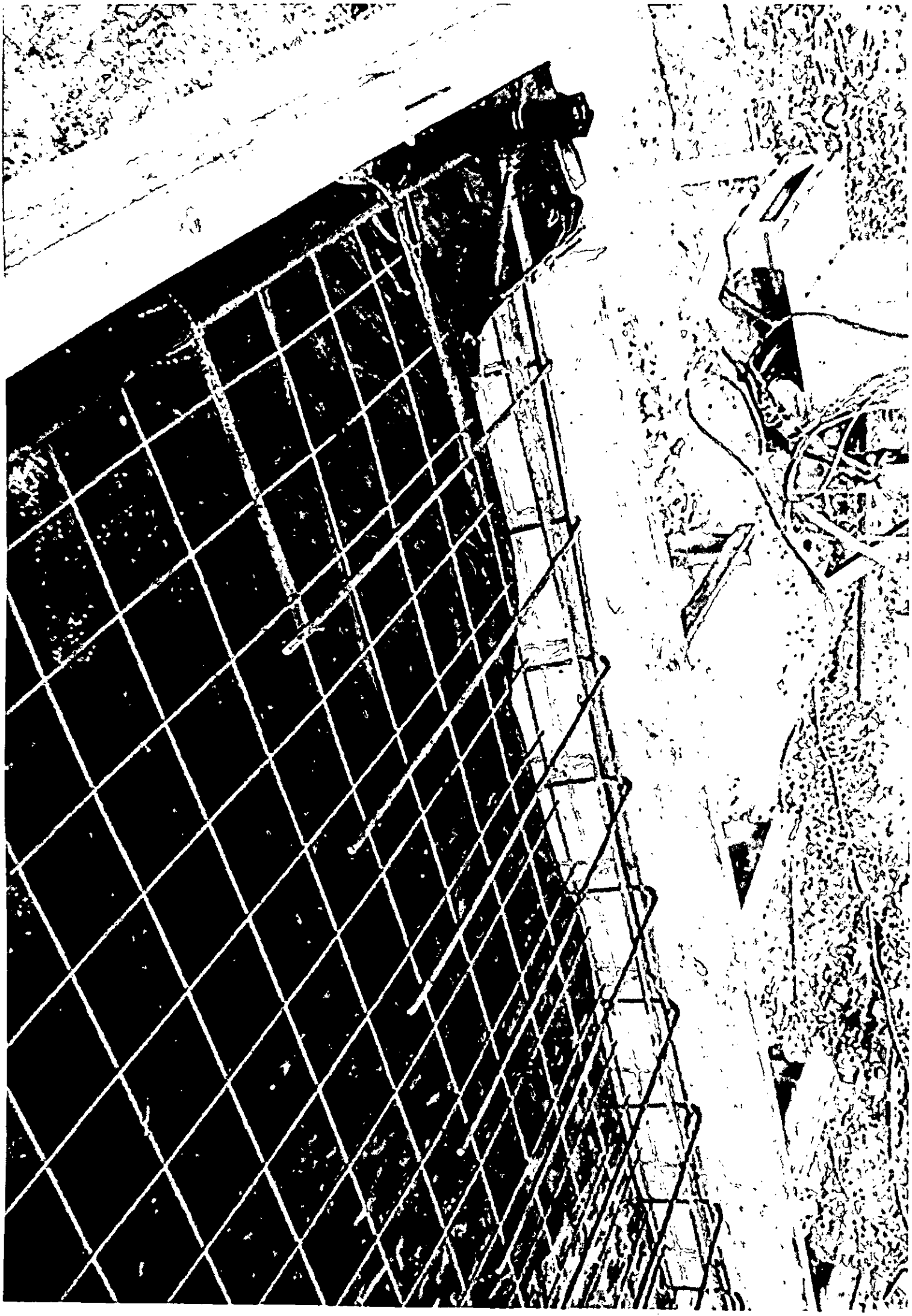
File Name	: IMG_0393.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/125
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm



File Name	: IMG_0394.JPG
Shooting Mode	: Auto
Tv (Shutter Speed)	: 1/125
Av (Aperture Value)	: 12.0
Exposure Compensation	: 0
ISO Speed	: Auto
Focal Length	: 2.6 mm

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

080797

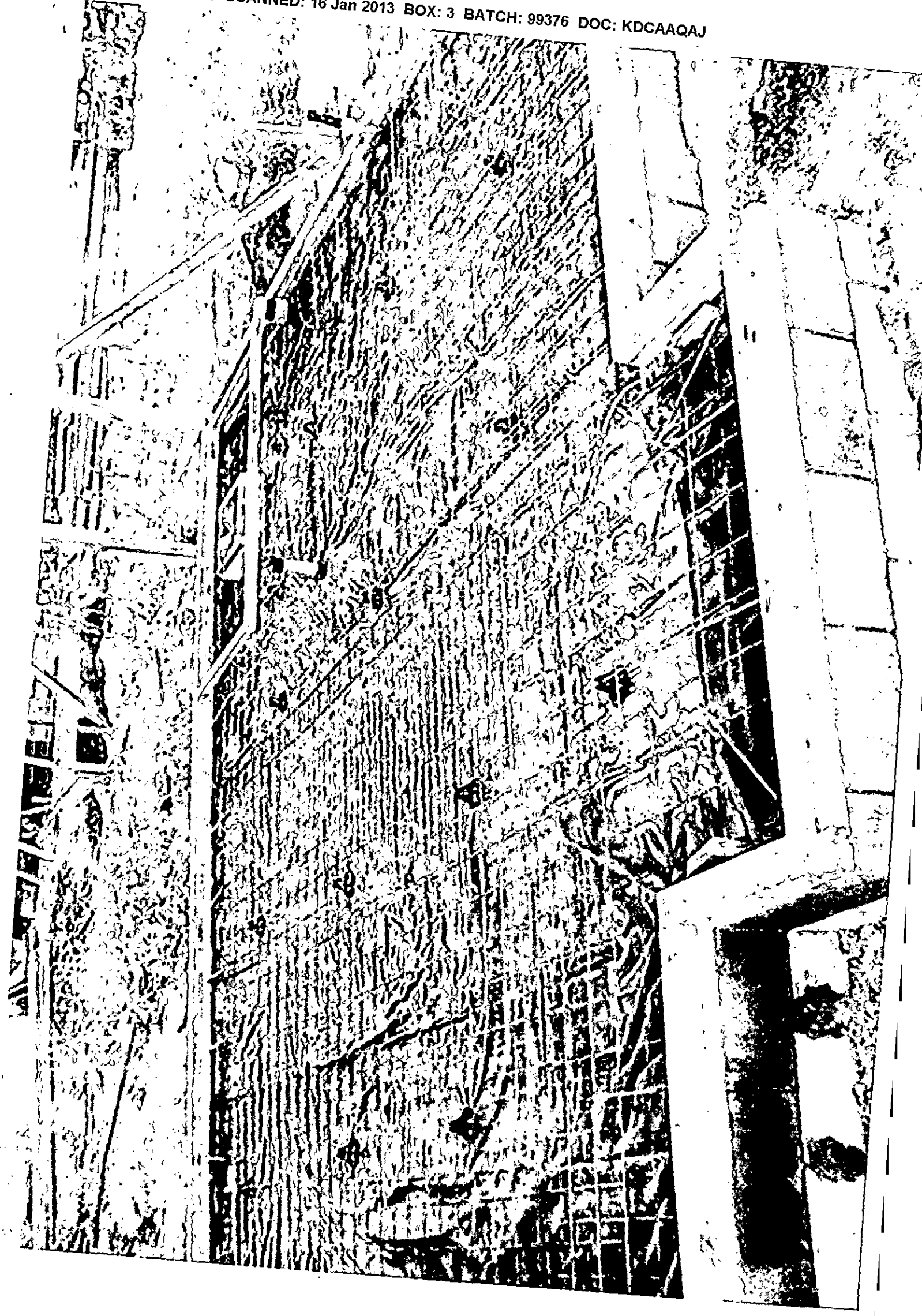


ED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

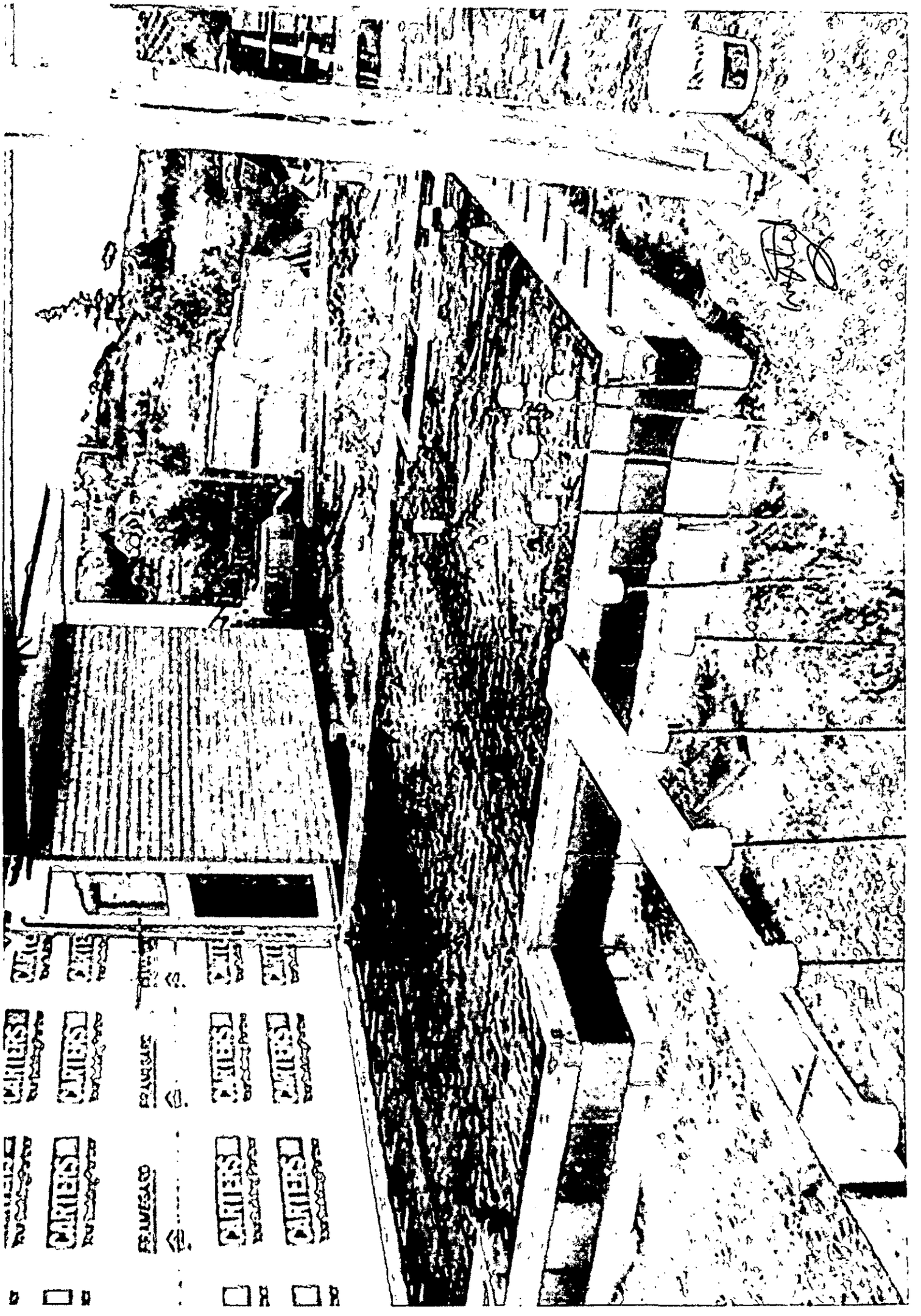


RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



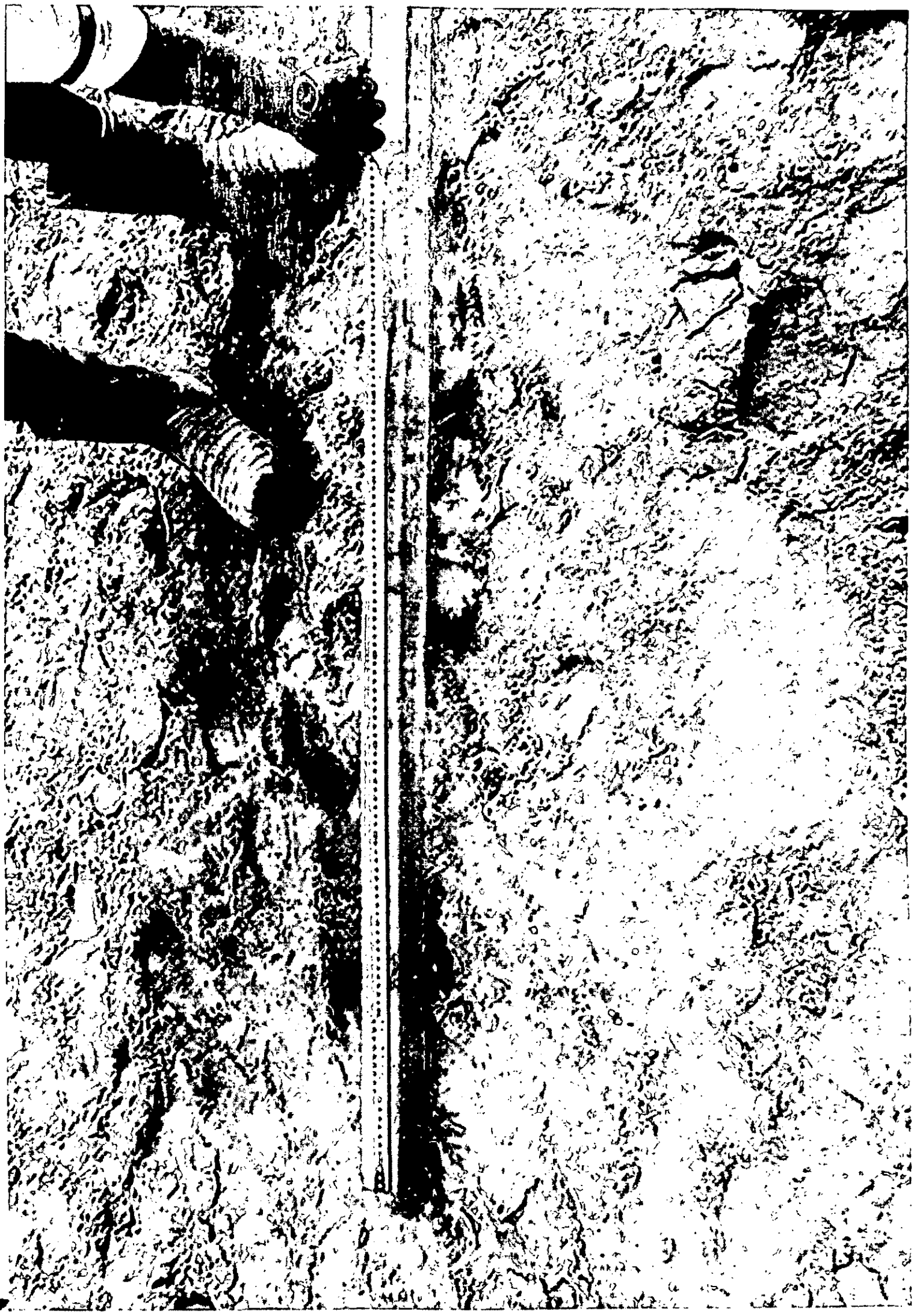
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

House pile driving

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



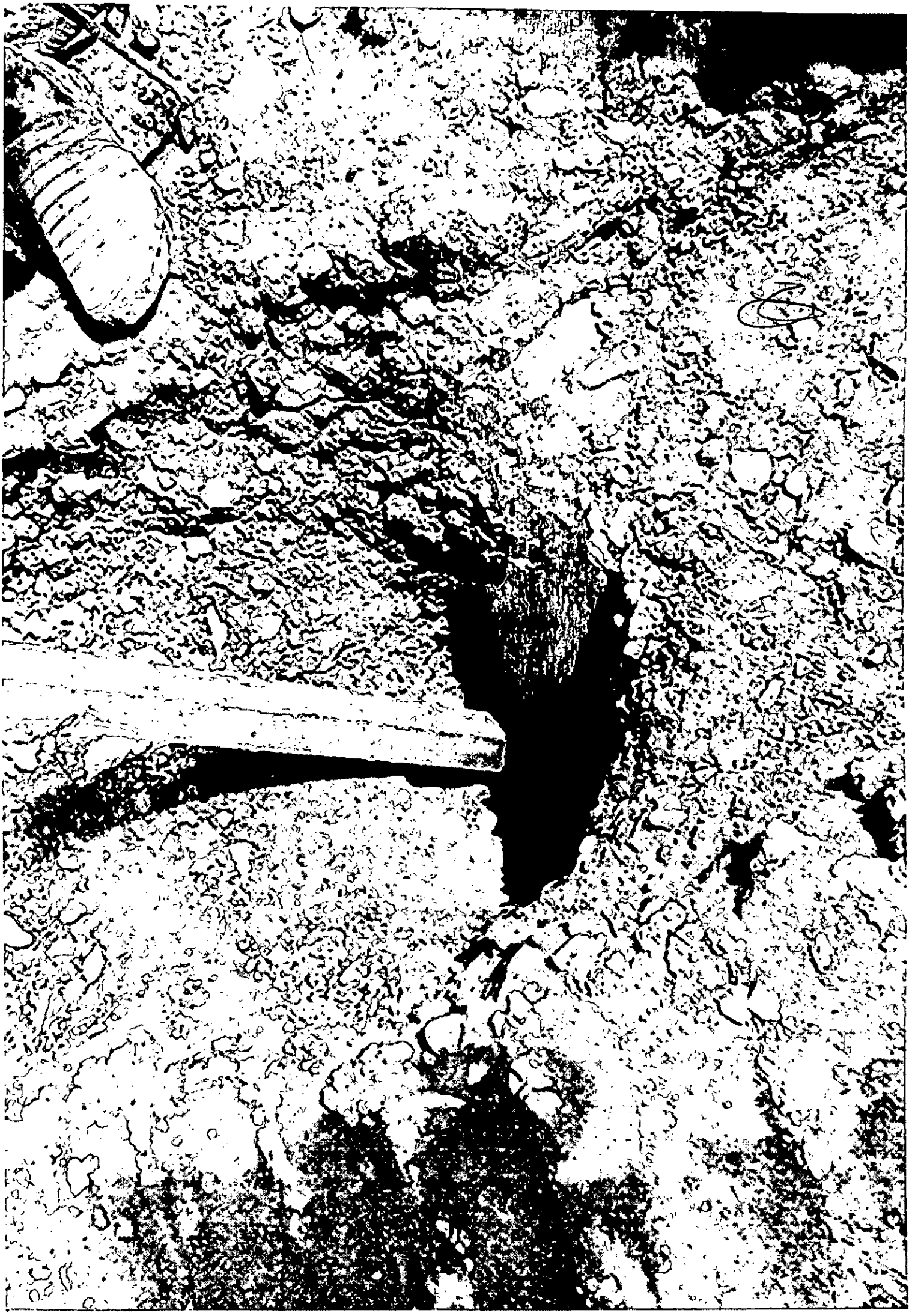
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaitiaki o te Rangatahi • Two Oceans Two Harbours

Building Consent Inspection Checklist

KAIPARA DISTRICT COUNCIL

Required Inspections		Building Consent No. 080397
✓	Foundations	Excavations level clean, reinforcement in place, starters tied, with correct clearances prior to placement of concrete. Tanking.
✓	Subfloor	Sub floor bracing connectors, crawl space, dpc.
✓	Floor Slab	Damp proofing /or reinforcement in place, correct clearances, plumbing and drainage pipes in place protected, damp proofing continuous to the exterior face of the building.
✓	Masonry	Including bond beams, reinforcement in place, starters tied, bottom of core and ports clean, plumbing and drainage pipes in place. Tanking.
✓	Pre-Cladding	Exterior bracing straps, building paper placement, external and internal flashings, cavities, fixing as per specifications, fixing materials eg stainless steel and corresponding to cladding system.
✓	Brick Veneer	When the veneer reaches sill height (brick ties, weep holes, clean cavities, steel lintels which support brickwork).
✓	Pre-lining	At the stage where exterior cladding joinery is in place, but prior to the erection or fixing of internal linings, includes plumbing in walls under test, framing, bracing, moisture content, insulation, fixings for subfloor.
	Insulation	Skillion roofs, solid construction (where insulation cannot be seen at the preline stage).
✓	Gib Nail	Sheet bracing insulation, double skin firewalls
✓	Sanitary Drainage	Manholes, benching, test on lines bedding SS connection, septic tank, irrigation installations prior to backfilling.

As Built Drainage Plan Required? YES [✓] NO [ ]

✓	Stormwater Drainage	All drains, manholes, connection to SW system, soak holes in place but prior to covering up.
	Disconnect Sanitary Drainage	Demolition work, capping sewer.
	Disconnect Stormwater	Removal capping of existing stormwater connection.
	Disconnect Water	Removal of water meter from Council supply.
✓	Special Conditions FIREPLACE	Where notice is required for specific items. GASFITTER'S CERTIFICATE REQUIRED
✓	Completion	Weathertightness, flashings, doors. deviation from plans. building, plumbing, drainage, free sting fire unit completion of all work authorised by this consent required prior to the issue of the Code Compliance Certificate.

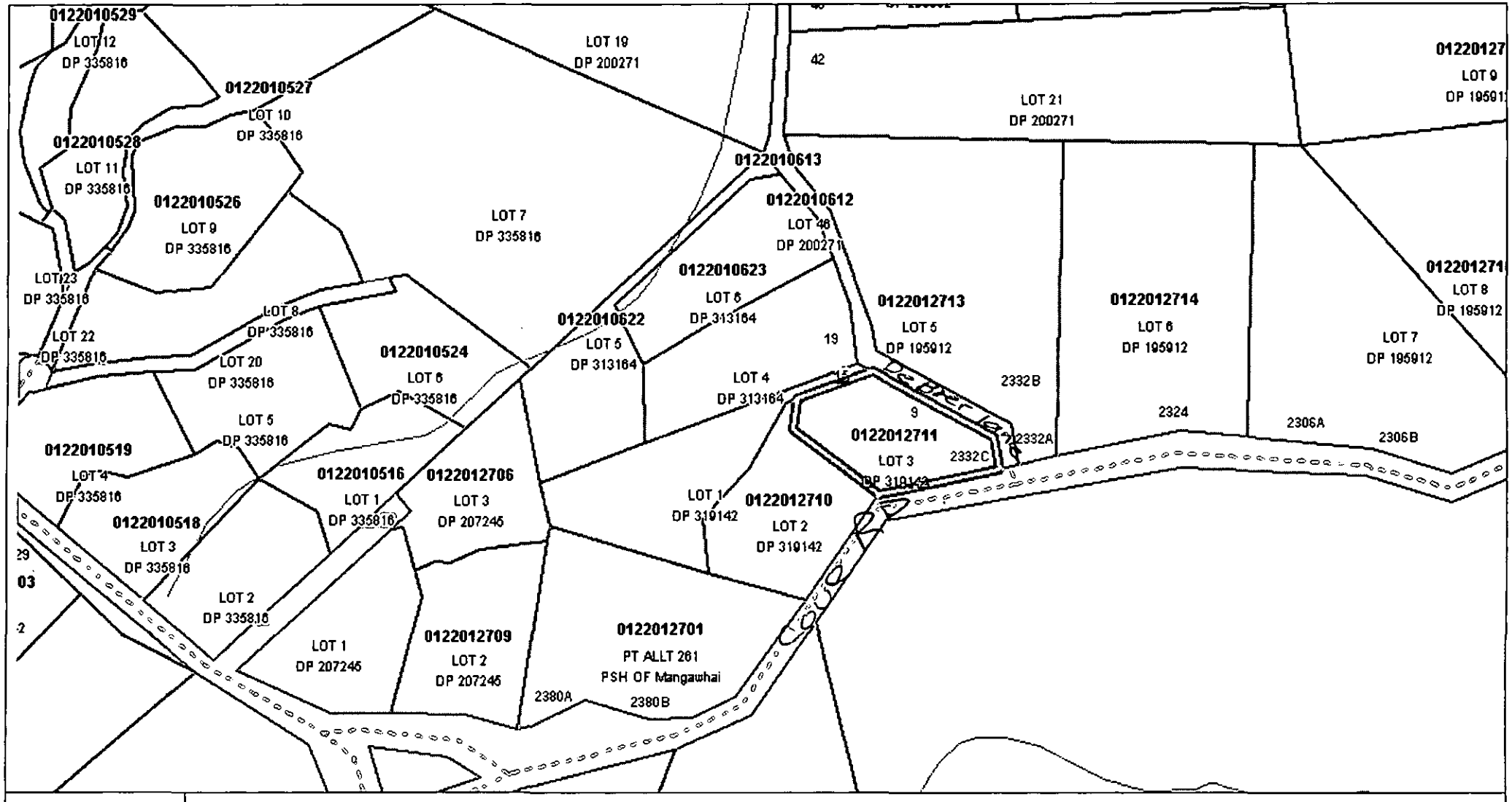
Contact: **Kaipara District Council**

Telephone: Dargaville Telephone (09) 439 7059 fax: (09) 439 6756

Kaiwaka Telephone (09) 431 2013 fax (09) 431 2023

Depending on the form of construction some of these inspections could be incorporated into one inspection
Other Inspections May Be Necessary

Note: This form is to be kept on site at all times together with the approved plans/specifications.
One working days notice is required for all inspections



KAIPARA DISTRICT

0122012711 DE BOER LANE, MANGAWHAI LOT 3 DP 319142 Reid Glenn Gibson

N

The information displayed has been taken from Kaipara District Council's databases and maps. It is made available in good faith but its accuracy or completeness is not guaranteed.

Position of property boundaries is INDICATIVE only and must NOT be used for legal purposes. All services data should be verified before commencing work. Digital cadastral data supplied by Critchlow Associates Ltd. Sourced from Land Information New Zealand data. Crown Copyright Reserved.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

FIELD ADVICE NOTICE - 2

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

05439

BC # G80397 **Date:** 7.1.13

Applicant: Reid

Contractor:

Site Address: Bryant Rd/ Cove Cove

Inspection Preline Bath **Passed / Failed**
Reinspection Required: Yes / No

VAL #
Travelling Time:

Inspection Time:

Officer:

Signature:

ENTERED

		OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
10	**CLADDING INSPECTION**				
1	Plaster: reinforcing, flashings, sealants, construction				
2	Waterproofing / Coating				
3	EPS (polystyrene), nailing, flashings etc.				
4	Sheet Systems: layout, nailing, flashing, construction				
5	Weatherboard: grading, type, fixing, flashing		✓		
6	Other Bath	✓			cavity sit c sup cavity flashed c.t.f.
9 13	**FRAMING INSPECTION PRELINE BUILDING INSPECTION**	**OK**	**Not**	**N/A**	P/L. Garage only.
1	Trusses: fixing, spacing, bracing, support	✓			
2	Pitched roof; fixing, spacing, bracing, strutting, span	✓			
3	Ceiling: joists/Batten: fixing, spacing, support	✓			P/L. Garage All connect
4	Bottom-Top plate: fixing, size, DPC	✓			in place ready for
5	Bracing: Strapping, bolts, check plan	✓			inspection to be
6	Moisture content	✓			carried out.
7	Frame timber treatment	✓			
8	Frame; stud size, space, lintel fixings, grade	✓			
9	Recheck cladding: flashing, nog spacing (480mm-board/batten)				
10	Insulation: type, thickness			✓	Garage Part.
11	Glazing: safety glass, thickness				
12	Fire & Sound walls: sealer, staggered laps, fire collars				
13	Other				
15	**PRELINE PLUMBING INSPECTION**	**OK**	**Not**	**N/A**	Scottia Mynnas Plumbing
1	Pressure Test	✓			
2	Pipe material, size, support, insulation	✓			Copper.
3	Stacks			✓	
4	Wastes			✓	
5	Supply Tank			✓	
6	Other			✓	
16	**POST LINING INSPECTION**	**OK**	**Not**	**N/A**	
1	Sheet brace nailing				
2	Fire & Sound walls: sealer, staggered laps, fire collars				
3	Other				
17	**DRAINAGE INSPECTION**	**OK**	**Not**	**N/A**	
1	Accurate "as built" plan provided				
2	Depth of drain				
3	Bedding				
4	Gradient Line; Inspections, diameter correct				
5	Water test - connection to main				
6	Gullys: max 600mm depth, finish 25mm above protected or 100mm above protected ground				
7	Drains within boundaries, too close to foundations				
8	Other				
18	**SEPTIC TANKS**	**OK**	**Not**	**N/A**	
1	TP58 on site - is it per design?				
2	Depth of beds, length, scoria, matting, cut off drain				
3	Tank installed properly on level				
4	Ventilation provided-distribution box				
5	Aerated mechanical systems installed to manufacturers specifications				
6	Access or tank maintenance (no vertical air loading)				
7	Other				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui • Two Oceans Two Harbours
P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

FIELD ADVICE NOTICE - 1

BC # 010397 **Date:** 20.2.09

Applicant: REID 05939

Contractor:

Site Address: 9 Belmont Cres **Inspection** Slab. **Passed / Failed**

Reinspection Required: Yes / No
Re-visited - as noted previously

VAL #

Travelling Time: Nguwun **Inspection Time:**

Officer: *Signature:*

	02/03 FOUNDATION INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited			✓	
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required				
3	Ground bearing, fill, expansive clay				
4	Reinforcing: spacing, size, clearance etc				
5	Excavation: depth, width				
6	Pile/pole holes: depth, diameter				
7	Pile / Pole: Correct grade, diameter				
8	Driven Piles: Engineers Certification				
9	Retaining Wall: polythene underneath				
10	Other				
	04 UNDER SLAB PLUMBING INSPECTION	**OK**	**Not**	**N/A**	
1	Pipes: gradient, protection, sizing, tested (pressure)			-	
2	Other				
	05 SLAB INSPECTION / 06 TILT slab inspection	**OK**	**Not**	**N/A**	
1	Slab thickness: D.P.M., Tape, rebates	✓			
2	Slab Reinforcing: Thickenings, tying, cover etc	✓			
3	Fill: Compaction, depth, binding				
4	Other				
	07 SUBFLOOR INSPECTION	**OK**	**Not**	**N/A**	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
	08 BOND BEAM - BLOCK INSPECTION	**OK**	**Not**	**N/A**	
1	Block size				
2	Reinforcing: Size, grade, laps, tied				
3	Washouts: If pour exceed 1.2m in height				
4	Design Calculation on site				
5	Retaining Wall: DPM, type, protection, Novacoil siting				
6	Adequate propping				
7	Services Installation (Fire Collars)				
8	Identify proprietary pre-stress components				
9	Other				
	11 FLASHING/WRAP/CAVITY INSPECTION	**OK**	**Not**	**N/A**	
1	Flashings				
2	Battening (air cavity)				
3	Wrap				
4	Vermin protection				
	12 BRICK VENEER INSPECTION	**OK**	**Not**	**N/A**	
1	Brick Ties SS / Galv				
2	Other				
	14 FIREPLACE CHIMNEY INSPECTION	**OK**	**Not**	**N/A**	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
	19 SWIMMING POOL FENCE INSPECTION	**OK**	**Not**	**N/A**	
1	Swimming pool: backwash, fencing, registration				

ENTERED

Dwelling Slab.
All Rq per engineers design in
Dry area - including 300 x
300 DIA GLUD with
mesh over
& for the perimeter to go
in - 12-1016 CVRING
going in - Rebates straight.
Connelly Cox to putting
Steps going in - Cvr and Carport
footings to go in Backfilled
On Benefit

inform heating boys f-t Rear
300 c by. KWD tech
RJ3 to Come

Swimmer Hours - Of the Same
As - Any or Amended, Staff - Sat
out by engineers signed Drawings
& Plans As per Design

Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

tion to be taken:

ed by:

gnation: Building Officer

Inspection:

This notice Received By: NA Jacobs
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui - Two Oceans Two Harbours

FIELD ADVICE NOTICE - 1

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

BC # 080397 **Date:** 12.3.09

Applicant: Reid

05461

Contractor: a

Site Address: 9 Debbar Lane **Inspection** Block / Drainage - Passed / Failed
Reinspection Required: Yes / No

VAL # Regional
Travelling Time: **Inspection Time:**

Officer: *Signature:*

	02/03 FOUNDATION INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited				
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required				
3	Ground bearing, fill, expansive clay				
4	Reinforcing: spacing, size, clearance etc				
5	Excavation: depth, width				
6	Pile/pole holes: depth, diameter				
7	Pile / Pole: Correct grade, diameter				
8	Driven Piles: Engineers Certification				
9	Retaining Wall: polythene underneath				
10	Other				
	04 UNDER SLAB PLUMBING INSPECTION	**OK**	**Not**	**N/A**	
1	Pipes: gradient, protection, sizing, tested				
2	Other				
	05 SLAB INSPECTION / 06 TILT slab inspection	**OK**	**Not**	**N/A**	
1	Slab thickness: D.P.M., Tape, rebates				
2	Slab Reinforcing: Thickenings, tying, cover etc				
3	Fill: Compaction, depth, binding				
4	Other				
	07 SUBFLOOR INSPECTION	**OK**	**Not**	**N/A**	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
	08 BOND BEAM - BLOCK INSPECTION	**OK**	**Not**	**N/A**	
1	Block size	/			
2	Reinforcing: Size, grade, laps, tied	/			
3	Washouts: If pour exceed 1.2m in height			/	
4	Design Calculation on site	/			
5	Retaining Wall: DPM, type, protection, Novacoil siting				
6	Adequate propping				
7	Services Installation (Fire Collars)				
8	Identify proprietary pre-stress components				
9	Other				
	11 FLASHING/WRAP/CAVITY INSPECTION	**OK**	**Not**	**N/A**	
1	Flashings				
2	Battening (air cavity)				
3	Wrap				
4	Vermin protection				
	12 BRICK VENEER INSPECTION	**OK**	**Not**	**N/A**	
1	Brick Ties SS / Galv				
2	Other				
	14 FIREPLACE CHIMNEY INSPECTION	**OK**	**Not**	**N/A**	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
	19 SWIMMING POOL FENCE INSPECTION	**OK**	**Not**	**N/A**	
1	Swimming pool: backwash, fencing, registration				

ENTERED
Also by Grant Howat (13787)
Drainage between Blocks backfilled into Ready on piers Foundation Soil. Inspection @ 12m Mesh D ch to Cover

ENTERED
(2nd Lift.)
Block work filling 4 Bar with Stirrups RB @ NF. 250 (400 ctrs on Pier) Ch.
Piers - 0.20 Vert 3 Min. Lift Grout with Pios @ 400' Ok to pour

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:
Issued by:
Designation: Building Officer
Next Inspection:

This notice Received By:
Owner / Agent / Contractor ML Bond

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaipara te Oneroanui • Two Oceans Two Harbours

FIELD ADVICE NOTICE - 1

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

05579

BC # 080397 **Date:** 11.5.09

Applicant: REID

Contractor: DAVE WHITE.

Site Address: GUERNS

Inspection Brick Veneer ~~Passed / Failed~~

Reinspection Required: ~~Yes~~ / No

VAL #

Travelling Time: Nequal **Inspection Time:**

ENTERED

Officer: *Signature:*

	02/03 FOUNDATION INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited				
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required				
3	Ground bearing, fill, expansive clay				
4	Reinforcing: spacing, size, clearance etc				
5	Excavation: depth, width				
6	Pile/pole holes: depth, diameter				
7	Pile / Pole: Correct grade, diameter				
8	Driven Piles: Engineers Certification				
9	Retaining Wall: polythene underneath				
10	Other				
	04 UNDER SLAB PLUMBING INSPECTION	**OK**	**Not**	**N/A**	
1	Pipes: gradient, protection, sizing, tested				
2	Other				
	05 SLAB INSPECTION / 06 TILT slab inspection	**OK**	**Not**	**N/A**	
1	Slab thickness: D.P.M., Tape, rebates				
2	Slab Reinforcing: Thickenings, tying, cover etc				
3	Fill: Compaction, depth, binding				
4	Other				
	07 SUBFLOOR INSPECTION	**OK**	**Not**	**N/A**	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
	08 BOND BEAM - BLOCK INSPECTION	**OK**	**Not**	**N/A**	
1	Block size				
2	Reinforcing: Size, grade, laps, tied				
3	Washouts: If pour exceed 1.2m in height				
4	Design Calculation on site				
5	Retaining Wall: DPM, type, protection, Novacoil siting				
6	Adequate propping				
7	Services Installation (Fire Collars)				
8	Identify proprietary pre-stress components				
9	Other				
	11 FLASHING/WRAP/CAVITY INSPECTION	**OK**	**Not**	**N/A**	
1	Flashings for Vermin to window	✓			Brick Veneer
2	Battening (air cavity)				Good to go 14 PA Cons
3	Wrap				penetrations taped.
4	Vermin protection				Ok to Lock
	12 BRICK VENEER INSPECTION	**OK**	**Not**	**N/A**	Brian Lord
1	Brick Ties SS / Galv	✓			
2	Other				
	14 FIREPLACE CHIMNEY INSPECTION	**OK**	**Not**	**N/A**	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
	19 SWIMMING POOL FENCE INSPECTION	**OK**	**Not**	**N/A**	
1	Swimming pool: backwash, fencing, registration				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:

Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui / Two Oceans Two Harbours

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

FIELD ADVICE NOTICE - 2

BC # 080397 **Date:** 26.3.09

Applicant: REID

Contractor: Glen Rand

Site Address: 9 Deborah Lane **Inspection** Pre-wrap **Passed / Failed**
Reinspection Required: Yes / No 2nd Hi Pressure to

VAL #
Travelling Time: Approx

Inspection Time: 12

Officer: *Signature:*

05697
ENTERED

10	CLADDING INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Plaster: reinforcing, flashings, sealants, construction				
2	Waterproofing / Coating				
3	EPS (polystyrene), nailing, flashings etc.				
4	Sheet Systems: layout, nailing, flashing, construction				
5	Weatherboard: grading, type, fixing, flashing				
6	Other				
9	**FRAMING INSPECTION** **13 PRELINE BUILDING INSPECTION**	**OK**	**Not**	**N/A**	Pre wrap:
1	Trusses: fixing, spacing, bracing, support	✓	Acc off plan		
2	Pitched roof; fixing, spacing, bracing, strutting, span	✓			
3	Ceiling: joists/Batten: fixing, spacing, support			✓	Steel work. All as per plan
4	Bottom-Top plate: fixing, size, DPC	✓			+ Design. Weld'd on site.
5	Bracing: Strapping, bolts, check plan	✓			
6	Moisture content			✓	
7	Frame timber treatment H3.1	✓			Jeff Rimmer
8	Frame; stud size, space, lintel fixings, grade	✓			
9	Recheck cladding: flashing, nog spacing (480mm-board/batten)			✓	Tot plate to m/c Bolts @ 900
10	Insulation: type, thickness			✓	Thwites Gyvel AS for manufacturers
11	Glazing: safety glass, thickness			✓	
12	Fire & Sound walls: sealer, staggered laps, fire collars			✓	Plan: 2's to cut on
13	Other				
15	**PRELINE PLUMBING INSPECTION**	**OK**	**Not**	**N/A**	ALL HIPS @ 90° WRAP
1	Pressure Test				Bottom plate to be
2	Pipe material, size, support, insulation				covered + clear
3	Stacks				
4	Wastes				
5	Supply Tank				
6	Other				
16	**POST LINING INSPECTION**	**OK**	**Not**	**N/A**	
1	Sheet brace nailing				
2	Fire & Sound walls: sealer, staggered laps, fire collars				
3	Other				
17	**DRAINAGE INSPECTION**	**OK**	**Not**	**N/A**	
1	Accurate "as built" plan provided				
2	Depth of drain				
3	Bedding				
4	Gradient Line; Inspections, diameter correct				
5	Water test - connection to main				
6	Gullys: max 600mm depth, finish 25mm above protected or 100mm above protected ground				
7	Drains within boundaries, too close to foundations				
8	Other				
18	**SEPTIC TANKS**	**OK**	**Not**	**N/A**	
1	TP58 on site - is it per design?				
2	Depth of beds, length, scoria, matting, cut off drain				
3	Tank installed properly on level				
4	Ventilation provided-distribution box				
5	Aerated mechanical systems installed to manufacturers specifications				
6	Access or tank maintenance (no vertical air loading)				
7	Other				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

FIELD ADVICE NOTICE - 2

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

06228

BC # 080397 **Date:** 14.8.09

Applicant: REID

Contractor: "

Site Address: 9 Deboers Lane **Inspection** ~~P/C~~ PARTIAL **Reinspection Required:** ~~Passed / Failed~~ Yes / No

ENTERED

VAL #

Travelling Time: Approximately **Inspection Time:**

Officer: *Signature:*

Balance P/C.

10	CLADDING INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Plaster: reinforcing, flashings, sealants, construction				
2	Waterproofing / Coating				
3	EPS (polystyrene), nailing, flashings etc.				
4	Sheet Systems: layout, nailing, flashing, construction				
5	Weatherboard: grading, type, fixing, flashing				
6	Other				Western end not to Ground Bldg Line
9	FRAMING INSPECTION PARTIAL	OK	Not	N/A	
13	PRELINE BUILDING INSPECTION				
1	Trusses: fixing, spacing, bracing, support	✓			All Bracing as per plan
2	Pitched roof; fixing, spacing, bracing, strutting, span	✓			Moisture test Ok 17%
3	Ceiling: joists/Batten: fixing, spacing, support	✓			Stud to Ridge a counter Glue
4	Bottom-Top plate: fixing, size, DPC	✓			and Dwang walls not bracing
5	Bracing: Strapping, bolts, check plan	✓			as per plan.
6	Moisture content < 17%	✓			
7	Frame timber treatment H3.1.	✓			
8	Frame; stud size, space, lintel fixings, grade	✓			
9	Recheck cladding: flashing, nog spacing (480mm-board/batten)			✓	
10	Insulation: type, thickness As per plan	✓			As per plan - 2.6 walls. ? 2 ceiling
11	Glazing: safety glass, thickness Manufacturer	✓			
12	Fire & Sound walls: sealer, staggered laps, fire collars			✓	
13	Other			✓	
15	PRELINE PLUMBING INSPECTION	OK	Not	N/A	
1	Pressure Test	✓			Water test Gardner Sisters
2	Pipe material, size, support, insulation	✓			under Bldg for testing Jn
3	Stacks		✓		
4	Wastes	✓			1 Vent to finish above roof
5	Supply Tank			✓	
6	Other			✓	
16	POST LINING INSPECTION	OK	Not	N/A	
1	Sheet brace nailing				
2	Fire & Sound walls: sealer, staggered laps, fire collars				
3	Other				
17	DRAINAGE INSPECTION	OK	Not	N/A	
1	Accurate "as built" plan provided				
2	Depth of drain				
3	Bedding				
4	Gradient Line; Inspections, diameter correct				
5	Water test - connection to main				
6	Gullys: max 600mm depth, finish 25mm above protected or 100mm above protected ground				
7	Drains within boundaries, too close to foundations				
8	Other				
18	SEPTIC TANKS	OK	Not	N/A	
1	TP58 on site - is it per design?				
2	Depth of beds, length, scoria, matting, cut off drain				
3	Tank installed properly on level				
4	Ventilation provided-distribution box				
5	Aerated mechanical systems installed to manufacturers specifications				
6	Access or tank maintenance (no vertical air loading)				
7	Other				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:

Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

FIELD ADVICE NOTICE - 2

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

06109

BC # ~~090745~~ 2 **Date:** 1.9.09

Applicant: Reid. 090397

Contractor: ~ Balance P/L.

Site Address: 9 Roberts Line Kaiwaka

Inspection Pauline Post **Passed / Failed**
Reinspection Required: Yes / No
Post Balance

VAL #
Travelling Time: **Inspection Time:**

Officer: *Signature:*

10	**CLADDING INSPECTION**	**OK**	**Not**	**N/A**	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Plaster: reinforcing, flashings, sealants, construction				
2	Waterproofing / Coating				
3	EPS (polystyrene), nailing, flashings etc.				
4	Sheet Systems: layout, nailing, flashing, construction				
5	Weatherboard: grading, type, fixing, flashing				
6	Other				
9	**FRAMING INSPECTION**	**OK**	**Not**	**N/A**	
13	**PRELINE BUILDING INSPECTION**				Balance. Roof.
1	Trusses: fixing, spacing, bracing, support	✓			
2	Pitched roof; fixing, spacing, bracing, strutting, span	✓			
3	Ceiling: joists/Batten: fixing, spacing, support	✓			
4	Bottom-Top plate: fixing, size, DPC	✓			
5	Bracing: Strapping, bolts, check plan	✓			
6	Moisture content <18%	✓			ENTERED
7	Frame timber treatment H3.1 ACC	✓			
8	Frame; stud size, space, lintel fixings, grade	✓			
9	Recheck cladding: flashing, nog spacing (480mm-board/batten)			✓	
10	Insulation: type, thickness As per plan	✓			
11	Glazing: safety glass, thickness	✓			Supply / Double Glazed
12	Fire & Sound walls: sealer, staggered laps, fire collars			✓	
13	Other			✓	
15	**PRELINE PLUMBING INSPECTION**	**OK**	**Not**	**N/A**	
1	Pressure Test				Pressure.
2	Pipe material, size, support, insulation				Inspect
3	Stacks				
4	Wastes				
5	Supply Tank				
6	Other				
16	**POST LINING INSPECTION**	**OK**	**Not**	**N/A**	(West End) Villa as built.
1	Sheet brace nailing	✓			Accept TLF in drawings.
2	Fire & Sound walls: sealer, staggered laps, fire collars	✓			Villa in Laundry / Bath.
3	Other Villa 4	✓			All Done. to Schedule
17	**DRAINAGE INSPECTION**	**OK**	**Not**	**N/A**	2 to
1	Accurate "as built" plan provided				ENTERED Soil wet and
2	Depth of drain				
3	Bedding				
4	Gradient Line; Inspections, diameter correct				
5	Water test - connection to main				
6	Gullys: max 600mm depth, finish 25mm above protected or 100mm above protected ground				
7	Drains within boundaries, too close to foundations				
8	Other				
18	**SEPTIC TANKS**	**OK**	**Not**	**N/A**	
1	TP58 on site - is it per design?				
2	Depth of beds, length, scoria, matting, cut off drain				
3	Tank installed properly on level				
4	Ventilation provided-distribution box				
5	Aerated mechanical systems installed to manufacturers specifications				
6	Access or tank maintenance (no vertical air loading)				
7	Other				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection: Balance Roof Line

This notice Received By:

Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL
P/Bag 1001, Dargaville Ph 09 439 7059 Free Phone 0800 727 059
PO Box 26, Kaiwaka Ph 09 431 2013 Free Phone 0800 100 388
Email: council@kaipara.govt.nz www. kaipara.govt.nz

FIELD ADVICE NOTICE - FOUNDATIONS AND SLAB

2627

To: Reids
Address: Dehaan - Lot 5
4 Cove Road
Ngunguru

Date: 13.11.08

Consent No: 080397

IN ORDER TO COMPLY WITH THE BUILDING ACT 2004 AND APPROVED DOCUMENTS

THE FOLLOWING ITEMS HAVE BEEN NOTED: (Specify ✓for yes, × for no, - for not applicable)

		Y/N
1.	Is a water meter connected	✓
2.	Boundary Pegs sited	☐
3.	Is a resource consent required	☐
4.	Pole Holes	☐
5.	Post Holes	☐
6.	Ordinary piles	☐
7.	Brace piles	☐
8.	Anchor piles	☐
9.	Other.....	☐
	FOUNDATIONS/BLOCKWORK	
10.	Depth and width	✓
11.	Reinforcing cover 75mm	✓
12.	Reinforcing size	✓
13.	Reinforcing tied	✓
14.	Reinforcing laps (40D Plan - 32 D Deformed)	✓
15.	Bond beam	☐
16.	Foundation wall reinforcing	☐
17.	Floor to ground level	☐
18.	Block washouts	☐
19.	Other.....	☐

	SUBFLOOR	
19.	Bracing	☐
20.	Solid blocking	☐
21.	Bearer to pile fixing	☐
22.	6Kn/12Kn fixings	☐
23.	Other.....	☐
	CONCRETE FLOORS	
24.	Hardfill <37.5mm	✓
25.	Sand blinding	✓
26.	Moisture barrier	✓
27.	Steel supported	✓
28.	Pipework sleeved	☐
29.	Fall on waste pipes	☐
30.	HWC drain installed	☐
31.	Floor waste	☐
32.	Pipes correctly bedded	☐
33.	AS.NZ.3500.2.2 tested	☐
34.	Other.....	☐

ENTERED

Block work Columns
1-2 High Steel in an
for Plate - D10 Rod -
@ 300 — 4mm a
Plan.

ACTION TO BE TAKEN: Slab for Dwelling Garaging 1ST Stage
As per plan Thickening as per plan D12 x 3 GK110
@ 300 centers. Piping in and Sand blinding
Membrane going onto Cusps formwork in place
Steel going into. for Garage. Buy Roof Plans to

FURTHER INSPECTION REQUIRED: YES/NO COMPLIANCE: YES/NO

INSPECTOR:

THIS NOTICE RECEIVED BY: Mr Reid

NEXT INSPECTION: Framing Garage

to fax

PRINTED BY: Dargaville Print, Copy & Graphics Centre Ltd 09 439 3100

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL
P/Bag 1001, Dargaville Ph 09 439 7059 Free Phone 0800 727 059
PO Box 26, Kaiwaka Ph 09 431 2013 Free Phone 0800 100 388
Email: council@kaipara.govt.nz www. kaipara.govt.nz

FIELD ADVICE NOTICE - FOUNDATIONS AND SLAB

2654

To: Lead
Address: Nelson - Lane & Cove
engineering

Date: 25.11.08

Consent No: 080397

IN ORDER TO COMPLY WITH THE BUILDING ACT 2004 AND APPROVED DOCUMENTS

THE FOLLOWING ITEMS HAVE BEEN NOTED: (Specify ✓for yes, × for no, / for not applicable)

		Y/N
1.	Is a water meter connected	/
2.	Boundary Pegs sited	☐
3.	Is a resource consent required	☐
4.	Pole Holes	☐
5.	Post Holes	☐
6.	Ordinary piles	☐
7.	Brace piles	☐
8.	Anchor piles	☐
9.	Other.....	☐
	FOUNDATIONS/BLOCKWORK	
10.	Depth and width	☐
11.	Reinforcing cover 75mm	☐
12.	Reinforcing size	☑
13.	Reinforcing tied	☑
14.	Reinforcing laps (40D Plan - 32 D Deformed)	☑
15.	Bond beam	☑
16.	Foundation wall reinforcing	☑
17.	Floor to ground level	☐
18.	Block washouts	☐
19.	Other.....	☐

	SUBFLOOR	
19.	Bracing	☐
20.	Solid blocking	☐
21.	Bearer to pile fixing	☐
22.	6Kn/12Kn fixings	☐
23.	Other.....	☐
	CONCRETE FLOORS	
24.	Hardfill <37.5mm	☐
25.	Sand blinding	☐
26.	Moisture barrier	☐
27.	Steel supported	☐
28.	Pipework sleeved	☐
29.	Fall on waste pipes	☐
30.	HWC drain installed	☐
31.	Floor waste	☐
32.	Pipes correctly bedded	☐
33.	AS.NZ.3500.2.2 tested	☐
34.	Other.....	☐

ENTERED

Photo for Rear garage
Rear - Viewed at
AS Requested Rod D

ACTION TO BE TAKEN: Block work wing walls
D16 x 2 cont Hor + D12 cut Vert at
D10 Hor. @ 400 c AS per plan for
2nd Lift. Tie bars ok & dry Pour

FURTHER INSPECTION REQUIRED: YES/NO COMPLIANCE: YES/NO

INSPECTOR:

THIS NOTICE RECEIVED BY: Mr Rees

NEXT INSPECTION: Framing

PRINTED BY: Dargaville Print, Copy & Graphics Centre Ltd 09 439 3100

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL
P/Bag 1001, Dargaville Ph 09 439 7059 Free Phone 0800 727 059
PO Box 26, Kaiwaka Ph 09 431 2013 Free Phone 0800 100 388
Email: council@kaipara.govt.nz www. kaipara.govt.nz

FIELD ADVICE NOTICE - FOUNDATIONS AND SLAB

2659

To: REID
Address: Deboar Cove + Cove Agency

Date: 2/12/08

Consent No: 080397

IN ORDER TO COMPLY WITH THE BUILDING ACT 2004 AND APPROVED DOCUMENTS

THE FOLLOWING ITEMS HAVE BEEN NOTED: (Specify ✓for yes, × for no, - for not applicable)

		Y/N
1.	Is a water meter connected	
2.	Boundary Pegs sited	✓
3.	Is a resource consent required	❑
4.	Pole Holes	❑
5.	Post Holes	❑
6.	Ordinary piles	❑
7.	Brace piles	❑
8.	Anchor piles	❑
9.	Other..... under Perimeter Piles Note	✓

FOUNDATIONS/BLOCKWORK

10.	Depth and width	❑
11.	Reinforcing cover 75mm	❑
12.	Reinforcing size	❑
13.	Reinforcing tied	❑
14.	Reinforcing laps (40D Plan - 32 D Deformed)	❑
15.	Bond beam	❑
16.	Foundation wall reinforcing	❑
17.	Floor to ground level	❑
18.	Block washouts	❑
19.	Other.....	❑

SUBFLOOR

19.	Bracing	✓
20.	Solid blocking	❑
21.	Bearer to pile fixing	❑
22.	6Kn/12Kn fixings	❑
23.	Other.....	❑

ENTERED

CONCRETE FLOORS

24.	Hardfill <37.5mm	❑
25.	Sand blinding	❑
26.	Moisture barrier	❑
27.	Steel supported	❑
28.	Pipework sleeved	❑
29.	Fall on waste pipes	❑
30.	HWC drain installed	❑
31.	Floor waste	❑
32.	Pipes correctly bedded	❑
33.	AS.NZ.3500.2.2 tested	❑
34.	Other.....	❑

ACTION TO BE TAKEN: Piles Req for under perimeter
AND AS per Detail. 6 + 7
All min 1m Deep - in to good ground
Steel. to go in. West + NTH Side
+ Post + East AS per plan. 2.5 APART NTH
All in Good Cond to DL to Post
Summer House Included

FURTHER INSPECTION REQUIRED: YES/NO COMPLIANCE: YES/NO

INSPECTOR:

THIS NOTICE RECEIVED BY: Mr Reid

NEXT INSPECTION: Pile Check after Pouring

PRINTED BY: Dargaville Print, Copy & C

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaiparoate Oranganui Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL
P/Bag 1001, Dargaville Ph 09 439 7059 Free Phone 0800 727 059
PO Box 26, Kaiwaka Ph 09 431 2013 Free Phone 0800 100 388
Email: council@kaipara.govt.nz www. kaipara.govt.nz

FIELD ADVICE NOTICE - FOUNDATIONS AND SLAB

2569

To: REID
Address: Delamere Lane
CNR. Cove.
Aquaculture

Date: 12.9.08

Consent No: 080397

ENTERED

IN ORDER TO COMPLY WITH THE BUILDING ACT 2004 AND APPROVED DOCUMENTS

THE FOLLOWING ITEMS HAVE BEEN NOTED: (Specify ✓for yes, × for no, - for not applicable)

		Y/N
1.	Is a water meter connected	
2.	Boundary Pegs sited Road	☑
3.	Is a resource consent required	☐
4.	Pole Holes	☐
5.	Post Holes	☐
6.	Ordinary piles	☐
7.	Brace piles	☐
8.	Anchor piles	☐
9.	Other.....	☐
	FOUNDATIONS/~~BLOCKWORK~~ Garage.	
10.	Depth and width 400 for curtail	☑
11.	Reinforcing cover 75mm D16's	☑
12.	Reinforcing size D16's	☑
13.	Reinforcing tied	☑
14.	Reinforcing laps (40D Plan - 32 D Deformed)	☑
15.	~~Bond beam~~	☐
16.	~~Foundation wall reinforcing~~	☐
17.	~~Floor to ground level~~	☐
18.	~~Block washouts~~	☐
19.	Other.....	☑

	SUBFLOOR	
19.	Bracing	☐
20.	Solid blocking	☐
21.	Bearer to pile fixing	☐
22.	6Kn/12Kn fixings	☐
23.	Other.....	☐
	CONCRETE FLOORS	
24.	Hardfill <37.5mm	☐
25.	Sand blinding	☐
26.	Moisture barrier	☐
27.	Steel supported	☐
28.	Pipework sleeved	☐
29.	Fall on waste pipes	☐
30.	HWC drain installed	☐
31.	Floor waste	☐
32.	Pipes correctly bedded	☐
33.	AS.NZ.3500.2.2 tested	☐
34.	Other.....	☐

Detail S6 9 to
Curtain Ed. Piersabs
Perimeter Line Garage
Slab as per agreed

ACTION TO BE TAKEN: Foundations for Garage Part
of Dwelling perimeter As per detail 18
to pour 200 floor to block. with D16 in place.
Wing walls Let to pour 200 1ST pour. D16 Links
Comp. -p @ 400 Detail S4 detail 2 (photo taken)

FURTHER INSPECTION REQUIRED: YES/NO COMPLIANCE: YES/NO

INSPECTOR:

THIS NOTICE RECEIVED BY:

NEXT INSPECTION:

PRINTED BY: Dargaville Print, Copy & Graphics Centre Ltd 09 439 3100

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui - Two Oceans Two Harbours
P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

FIELD ADVICE NOTICE - 2

BC # 080397 **Date:** 9-12-08

05319

Applicant: Reid

Contractor:

Site Address: De Boar Lane

Inspection **Passed / ~~Failed~~**
Reinspection Required: **Yes / No**

VAL #
Travelling Time: **Inspection Time:**

Officer: Des Skelton *Signature:*

		OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
10	**CLADDING INSPECTION**				
1	Plaster: reinforcing, flashings, sealants, construction			✓	
2	Waterproofing / Coating			✓	
3	EPS (polystyrene), nailing, flashings etc.			✓	
4	Sheet Systems: layout, nailing, flashing, construction			✓	
5	Weatherboard: grading, type, fixing, flashing			✓	
6	Other			✓	
9	**FRAMING INSPECTION**				
13	**PRELINE BUILDING INSPECTION**	**OK**	**Not**	**N/A**	
1	Trusses: fixing, spacing, bracing, support	✓			Pre wrap to garage
2	Pitched roof; fixing, spacing, bracing, strutting, span				
3	Ceiling: joists/Batten: fixing, spacing, support				
4	Bottom-Top plate: fixing, size, DPC	✓			All OK
5	Bracing: Strapping, bolts, check plan	✓			
6	Moisture content			✓	
7	Frame timber treatment	✓			
8	Frame; stud size, space, lintel fixings, grade	✓			
9	Recheck cladding: flashing, nog spacing (480mm-board/batten)			✓	
10	Insulation: type, thickness			✓	
11	Glazing: safety glass, thickness			✓	
12	Fire & Sound walls: sealer, staggered laps, fire collars			✓	
13	Other				
15	**PRELINE PLUMBING INSPECTION**	**OK**	**Not**	**N/A**	
1	Pressure Test			✓	
2	Pipe material, size, support, insulation			✓	
3	Stacks			✓	
4	Wastes			✓	
5	Supply Tank			✓	
6	Other			✓	
16	**POST LINING INSPECTION**	**OK**	**Not**	**N/A**	
1	Sheet brace nailing			✓	
2	Fire & Sound walls: sealer, staggered laps, fire collars			✓	
3	Other			✓	
17	**DRAINAGE INSPECTION**	**OK**	**Not**	**N/A**	
1	Accurate "as built" plan provided			✓	
2	Depth of drain			✓	
3	Bedding			✓	
4	Gradient Line: Inspections, diameter correct			✓	
5	Water test, connection to main			✓	
6	Gullys: max 600mm depth, finish 25mm above protected or 100mm above protected ground			✓	
7	Drains within boundaries, too close to foundations			✓	
8	Other			✓	
18	**SEPTIC TANKS**	**OK**	**Not**	**N/A**	
1	TP58 on site - is it per design?			✓	
2	Depth of beds, length, scoria, matting, cut off drain			✓	
3	Tank installed properly on level			✓	
4	Ventilation provided-distribution box			✓	
5	Aerated mechanical systems installed to manufacturers specifications			✓	
6	Access or tank maintenance (no vertical air loading)			✓	
7	Other			✓	

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui - Two Oceans Two Harbours

FIELD ADVICE NOTICE - 1

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

BC # 680397 **Date:** 23/12/08

ENTERED

05027

Applicant: Reid

Contractor:

Site Address: Oebor Lane

Inspection (Passed / Failed)
Reinspection Required: (Yes) No
Ok and part of ILI inspection

VAL #
Travelling Time:

Inspection Time:

Officer: Bry *Signature:*

02/03	FOUNDATION INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited			✓	Landry, Mud bedroom, shed living, wash, cupboard, kitchen, family, Room (Foundation area only. Mark off. (K Brace not done)
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required	✓			
3	Ground bearing, fill, expansive clay	✓			
4	Reinforcing: spacing, size, clearance etc	✓			1 016 used
5	Excavation: depth, width	✓			
6	Pile/pole holes: depth, diameter			✓	done by Reids
7	Pile / Pole: Correct grade, diameter			✓	
8	Driven Piles: Engineers Certification			✓	
9	Retaining Wall: polythene underneath			✓	
10	Other			✓	
04	UNDER SLAB PLUMBING INSPECTION	OK	Not	N/A	
1	Pipes: gradient, protection, sizing, tested				
2	Other				
05	SLAB INSPECTION / 06 TILT slab inspection	OK	Not	N/A	
1	Slab thickness: D.P.M., Tape, rebates				
2	Slab Reinforcing: Thickenings, tying, cover etc				
3	Fill: Compaction, depth, binding				
4	Other				
07	SUBFLOOR INSPECTION	OK	Not	N/A	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
08	BOND BEAM - BLOCK INSPECTION	OK	Not	N/A	
1	Block size				
2	Reinforcing: Size, grade, laps, tied				
3	Washouts: If pour exceed 1.2m in height				
4	Design Calculation on site				
5	Retaining Wall: DPM, type, protection, Novacoil siting				
6	Adequate propping				
7	Services Installation (Fire Collars)				
8	Identify proprietary pre-stress components				
9	Other				
11	FLASHING/WRAP/CAVITY INSPECTION	OK	Not	N/A	
1	Flashings				
2	Battening (air cavity)				
3	Wrap Garage	✓			
4	Vermin protection				
12	BRICK VENEER INSPECTION	OK	Not	N/A	
1	Brick Ties SS / Galv				
2	Other				
14	FIREPLACE CHIMNEY INSPECTION	OK	Not	N/A	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
19	SWIMMING POOL FENCE INSPECTION	OK	Not	N/A	
1	Swimming pool: backwash, fencing, registration				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:
Issued by: Bry
Designation: Building Officer
Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui · Two Oceans Two Harbours

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

FIELD ADVICE NOTICE - 1

BC # 080397 **Date:** 7.1.09

05905

Applicant: Reid.

Contractor:

Site Address: Baynall RD Cnr Cowie

Final Balance

Inspection Dwelling **Passed / Failed**
Reinspection Required: **Yes / No**

VAL #
Travelling Time:

Inspection Time:

Officer:

Signature:

ENTERED

	02/03 FOUNDATION INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited				Balance Pegs for -
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required				North Face Only -
3	Ground bearing, fill, expansive clay				Piles Previously Inspected &
4	Reinforcing: spacing, size, clearance etc				Passed - All Remaining
5	Excavation: depth, width				Pegs on Floor Level Final +
6	Pile/pole holes: depth, diameter				Capped Ready for Plumber
7	Pile / Pole: Correct grade, diameter				
8	Driven Piles: Engineers Certification				
9	Retaining Wall: polythene underneath				
10	Other				
	04 UNDER SLAB PLUMBING INSPECTION	**OK**	**Not**	**N/A**	
1	Pipes: gradient, protection, sizing, tested				
2	Other				
	05 SLAB INSPECTION / 06 TILT slab inspection	**OK**	**Not**	**N/A**	
1	Slab thickness: D.P.M., Tape, rebates				
2	Slab Reinforcing: Thickenings, tying, cover etc				
3	Fill: Compaction, depth, binding				Pre Pour.
4	Other				Under floor Drains/ Plumbing
	07 SUBFLOOR INSPECTION	**OK**	**Not**	**N/A**	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
	08 BOND BEAM - BLOCK INSPECTION	**OK**	**Not**	**N/A**	
1	Block size				
2	Reinforcing: Size, grade, laps, tied				
3	Washouts: If pour exceed 1.2m in height				
4	Design Calculation on site				
5	Retaining Wall: DPM, type, protection, Novacoil siting				
6	Adequate propping				
7	Services Installation (Fire Collars)				
8	Identify proprietary pre-stress components				
9	Other				
	11 FLASHING/WRAP/CAVITY INSPECTION	**OK**	**Not**	**N/A**	
1	Flashings				
2	Battening (air cavity)				
3	Wrap				
4	Vermin protection				
	12 BRICK VENEER INSPECTION	**OK**	**Not**	**N/A**	
1	Brick Ties SS / Galv				
2	Other				
	14 FIREPLACE CHIMNEY INSPECTION	**OK**	**Not**	**N/A**	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
	19 SWIMMING POOL FENCE INSPECTION	**OK**	**Not**	**N/A**	
1	Swimming pool: backwash, fencing, registration				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By: Brian Reid

Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui • Two Oceans Two Harbours

FIELD ADVICE NOTICE - 1

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

BC # 080397 **Date:** 2/2/09

Applicant: Reid 05103

Contractor:

ENTERED

Site Address: De Bay Lane **Inspection** Passed / Failed
Reinspection Required: Yes / No

VAL #
Travelling Time: **Inspection Time:**

Officer: Bry *Signature:*

02/03	**FOUNDATION INSPECTION**	**OK**	**Not**	**N/A**	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited				Carpal column lastic
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required				
3	Ground bearing, fill, expansive clay	✓			
4	Reinforcing: spacing, size, clearance etc	✓			
5	Excavation: depth, width	✓			
6	Pile/pole holes: depth, diameter				
7	Pile / Pole: Correct grade, diameter				
8	Driven Piles: Engineers Certification				
9	Retaining Wall: polythene underneath				
10	Other				
04	**UNDER SLAB PLUMBING INSPECTION**	**OK**	**Not**	**N/A**	
1	Pipes: gradient, protection, sizing, tested				
2	Other				
05	**SLAB INSPECTION / 06 TILT slab inspection**	**OK**	**Not**	**N/A**	
1	Slab thickness: D.P.M., Tape, rebates				
2	Slab Reinforcing: Thickenings, tying, cover etc				
3	Fill: Compaction, depth, binding				
4	Other				
07	**SUBFLOOR INSPECTION**	**OK**	**Not**	**N/A**	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
08	**BOND BEAM - BLOCK INSPECTION**	**OK**	**Not**	**N/A**	70 % complete.
1	Block size	✓			
2	Reinforcing: Size, grade, laps, tied	✓			
3	Washouts: If pour exceed 1.2m in height			✓	
4	Design Calculation on site	✓			
5	Retaining Wall: DPM, type, protection, Novacoil siting			✓	
6	Adequate propping			✓	
7	Services Installation (Fire Collars)			✓	
8	Identify proprietary pre-stress components			✓	
9	Other			✓	
11	**FLASHING/WRAP/CAVITY INSPECTION**	**OK**	**Not**	**N/A**	
1	Flashings				
2	Battening (air cavity)				
3	Wrap				
4	Vermin protection				
12	**BRICK VENEER INSPECTION**	**OK**	**Not**	**N/A**	
1	Brick Ties SS / Galv				
2	Other				
14	**FIREPLACE CHIMNEY INSPECTION**	**OK**	**Not**	**N/A**	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
19	**SWIMMING POOL FENCE INSPECTION**	**OK**	**Not**	**N/A**	
1	Swimming pool: backwash, fencing, registration				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by: BRy

Designation: Building Officer

Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara ki Onerahi - Two Oceans Two Harbours

FIELD ADVICE NOTICE - 1

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

BC # 080397 **Date:** 16.1.09

Applicant: Gun Reid

05914

Contractor: Lawson Guest

Site Address: 9 Deborah Lane **Inspection** Slab **Passed / Failed** only

Reinspection Required: Yes / No

VAL #

Travelling Time: **Inspection Time:**

Officer: *Signature:*

ENTERED

	02/03 FOUNDATION INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Boundary Pegs Sited				
2	Correct site & building siting (closer than 1.1m to boundary surveyors Certificate required				
3	Ground bearing, fill, expansive clay				
4	Reinforcing: spacing, size, clearance etc				
5	Excavation: depth, width				
6	Pile/pole holes: depth, diameter				
7	Pile / Pole: Correct grade, diameter				
8	Driven Piles: Engineers Certification				
9	Retaining Wall: polythene underneath				
10	Other				
	04 UNDER SLAB PLUMBING INSPECTION	**OK**	**Not**	**N/A**	
1	Pipes: gradient, protection, sizing, tested	✓			by - Mgwaun Plumbing LTD
2	Other				
	05 SLAB INSPECTION / 06 TILT slab inspection	**OK**	**Not**	**N/A**	
1	Slab thickness: D.P.M., Tape, rebates	✓			Soil granular + ants Logan made
2	Slab Reinforcing: Thickenings, tying, cover etc	✓			
3	Fill: Compaction, depth, binding	✓			to Vern
4	Other				
	07 SUBFLOOR INSPECTION	**OK**	**Not**	**N/A**	
1	Sub floor brace connectors				
2	Bracing: washers, timber size etc				
3	Bearer / Joist: Size, spacing, joist hangers				
4	Notching/holes/clocking for lines of horizontal supports				
5	Ventilation & Insulation				
6	Other				
	08 BOND BEAM - BLOCK INSPECTION	**OK**	**Not**	**N/A**	
1	Block size				
2	Reinforcing: Size, grade, laps, tied				
3	Washouts: If pour exceed 1.2m in height				
4	Design Calculation on site				
5	Retaining Wall: DPM, type, protection, Novacoil siting				
6	Adequate propping				
7	Services Installation (Fire Collars)				
8	Identify proprietary pre-stress components				
9	Other				
	11 FLASHING/WRAP/CAVITY INSPECTION	**OK**	**Not**	**N/A**	
1	Flashings				
2	Battening (air cavity)				
3	Wrap				
4	Vermin protection				
	12 BRICK VENEER INSPECTION	**OK**	**Not**	**N/A**	
1	Brick Ties SS / Galv				
2	Other				
	14 FIREPLACE CHIMNEY INSPECTION	**OK**	**Not**	**N/A**	
1	Solid fuel heating, chimney check, setback				
2	fixing, flue flashing, mantel shelf, hearth construction				
	19 SWIMMING POOL FENCE INSPECTION	**OK**	**Not**	**N/A**	
1	Swimming pool: backwash, fencing, registration				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:

Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oranganui • Two Oceans Two Harbours

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

FIELD ADVICE NOTICE - 2

BC # 080397 **Date:** 24.11.09

06447

Applicant: Reid

Contractor: "

Site Address: 9 Delaware Lane Maungaturoto

Inspection Postline / Wetfloor (Passed / Failed)
Reinspection Required: Yes / No

VAL #
Travelling Time:

Inspection Time:

Officer:

Signature:

		OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
10	**CLADDING INSPECTION**				
1	Plaster: reinforcing, flashings, sealants, construction				
2	Waterproofing / Coating				
3	EPS (polystyrene), nailing, flashings etc.				
4	Sheet Systems: layout, nailing, flashing, construction				
5	Weatherboard: grading, type, fixing, flashing				
6	Other				
9	**FRAMING INSPECTION**				
13	**PRELINE BUILDING INSPECTION**	**OK**	**Not**	**N/A**	
1	Trusses: fixing, spacing, bracing, support				
2	Pitched roof; fixing, spacing, bracing, strutting, span				
3	Ceiling: joists/Batten: fixing, spacing, support				
4	Bottom-Top plate: fixing, size, DPC				
5	Bracing: Strapping, bolts, check plan				
6	Moisture content				
7	Frame timber treatment				
8	Frame; stud size, space, lintel fixings, grade				
9	Recheck cladding: flashing, nog spacing (480mm-board/batten)				
10	Insulation: type, thickness				
11	Glazing: safety glass, thickness				
12	Fire & Sound walls: sealer, staggered laps, fire collars				
13	Other				
15	**PRELINE PLUMBING INSPECTION**	**OK**	**Not**	**N/A**	
1	Pressure Test				
2	Pipe material, size, support, insulation				
3	Stacks				
4	Wastes				ENTERED
5	Supply Tank				
6	Other				Bot/area Postline - AM
16	**POST LINING INSPECTION**	**OK**	**Not**	**N/A**	for Schedule + Soundline
1	Sheet brace nailing	✓			SH Mark Dalrymple
2	Fire & Sound walls: sealer, staggered laps, fire collars				
3	Other				Villa Board - set for paint
17	**DRAINAGE INSPECTION**	**OK**	**Not**	**N/A**	Mark Dalrymple
1	Accurate "as built" plan provided				
2	Depth of drain				
3	Bedding				Sam Kipa, wetfloor. m.
4	Gradient Line; Inspections, diameter correct				
5	Water test - connection to main				
6	Gullys: max 600mm depth, finish 25mm above protected or 100mm above protected ground				
7	Drains within boundaries, too close to foundations				
8	Other				
18	**SEPTIC TANKS**	**OK**	**Not**	**N/A**	
1	TP58 on site - is it per design?				
2	Depth of beds, length, scoria, matting, cut off drain				
3	Tank installed properly on level				
4	Ventilation provided-distribution box				
5	Aerated mechanical systems installed to manufacturers specifications				ENTERED
6	Access or tank maintenance (no vertical air loading)				
7	Other				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:

Issued by:

Designation: Building Officer

Next Inspection:

This notice Received By:

Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT
Kaipara te Oneroa a Tohe · The Ocean Two Harbours

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

FIELD ADVICE NOTICE - 3 Pg 1

BC # 080403 + 07939 **Date:** Main Dwelling

Applicant: Rebate → Recvd → Owner.

Contractor: G + K REID

Site Address: 9 De Boer Lane

VAL #

Travelling Time: 45 minutes

Inspection Final (Passed / ~~Failed~~)

Reinspection Required: ~~Yes~~ / (No)

Recommended to issue CCC: (Yes) / ~~No~~

Inspection Time: 0 to CCC

Officer: Rob

Signature: [signature] 07939

21	FINAL INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Peer Review required (over 5 yrs)			✓	
2	Owners Application for CCC / Contractors List	✓			
3	Consent Documents on Site	✓			
4	Photos Taken	✓			on site
20	**FINAL FIREPLACES INSPECTION**	**OK**	**Not**	**N/A**	
1	Smoke Alarms with Hush				07939.
2	Hearth size and & secured				- Not. Inst - Ready
3	Fire Place Clearances				All works Complete
4	Fire Place secured				& - from Main Item
5	Flue Shield				to Two up
6	Flashings / Flue Height				All Ok
7	Wet back circulators correct size and fall				
PLUMBING		**OK**	**Not**	**N/A**	
1	Waste pipe correct support & gradient	✓			
2	Water filtration system installed	✓			
3	Hot water pipe lagged	✓			
4	1 metre minimum of copper outlet of HWC	✓			
5	Hot water cylinder seismic restraint	✓			
6	Hot water tempering value set at 45/55 degrees	✓			
7	Hot water energy cut out switch to all valve vented systems	✓			
8	Hot water drain OK (falls to outside of building)	✓			
9	Filter, non return, stop, cold water expansion, pressure reducing & pressure relief valves	✓			
10	Notches & holes in joists & bearers			✓	
11	Waste pipes sizing / fall / support to gully trap	✓			
12	Soil pipe sizing / fall / support	✓			
13	Adequate support to water pipes	✓			
14	Water supply tank / bore / supply	✓			
15	Back flow prevention where required	✓			
16	Other			✓	
FINAL INTERNAL INSPECTION		**OK**	**Not**	**N/A**	
1	Smoke alarms with hush	✓			
2	Sink insert secured correctly	✓			
3	Service rooms inpervious walls	✓			
4	Service rooms impervious floors	✓			
5	Producer statement membrane in wet areas	✓			Provided - by Tim Taylor.
6	Ceiling insulation (clear of downlights)	✓			Attn Rob
7	Safety glass where required	✓			Rob
8	Ventilation	✓			
9	Stairs gap / tread / rise / handrails			✓	
10	Barrier Height 1.0m / 1.1m / Stairs 900mm			✓	
11	Safety from falling eg. 100mm balustrade gaps			✓	
12	Access for disabled *(commercial only)*			✓	
13	Facilities for disabled *(commercial only)*			✓	
14	All surfaces completed	✓			

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:
Issued by: [signature]
Designation: Building Officer
Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

FIELD ADVICE NOTICE - 3 Pg 2

P O Box 26, Kaiwaka, Northland
Free Phone: 0800 100 388
Phone: (09) 431 2013
Fax: (09) 431 2023
www.kaipara.govt.nz

07939

	FINAL EXTERIOR INSPECTION	OK	Not	N/A	Reason for the decision / Comments ..... If further inspection needed please indicate
1	Conditions on Resource / Building consent	✓			
1a	Landscaping Complete	✓			
2	Joints in bearers supported			✓	
3	Ground clearance to u/side of floor			✓	
4	Subfloor ventilation	✓			
5	Subfloor bracing			✓	
6	U/floor insulation	✓			
7	Finished ground level	✓			
8	Cladding (joints, corner, scribers window flashing etc)	✓			
9	Cladding - painted / penetrations sealed	✓			
10	Brick veneer weep holes cleared	✓			
11	Roof & post fixings	✓			
12	Roof, ridging and flashings fixed correctly	✓			
13	Roof penetrations flashed correctly	✓			
14	Spouting fixed correctly	✓			
15	Down pipe clips at 1.2	✓			
16	Vent pipe clips at 1.2	✓			
17	Vent Discharge / Vermin cage	✓			
18	Stairs gap / tread / rise / handrails			✓	
19	Barriers 1.0m / 1.1m / stairs 900mm			✓	
20	Safe from falling ballustrades			✓	
21	RAMPS grade / slip resistance			✓	
22	Safety Glass (Glass Visible - commercial)			✓	
	DRAINAGE	**OK**	**Not**	**N/A**	
1	As built drainage plan s/water and sewer	✓			
2	Gully dish 25mm above sealed surface "A"	✓			
3	Gully dish 75mm above unsealed surface "B"	✓			
4	Relief gully installed	✓		✓	
5	Foulwater drain finished	✓			
6	Ventilation to drains, e.g. TV & or valves	✓			
7	Stormwater drain finished	✓			
8	Retaining wall drainage connected into stormwater drain			✓	
9	Overflow to water tank	✓			
10	Access for septic tank maintenance	✓			
11	Commissioning statements	✓			
12	Effluent Completed Barking / Planting	✓			
	PRODUCER STATEMENTS	**OK**	**Not**	**N/A**	
1	Engineer / Licenced Building Practioneer	✓			
2	Membranes / Roof			✓	
	FINAL POOL INSPECTION	**OK**	**Not**	**N/A**	
1	Pool fencing compliance (sheet completed)			✓	
2	Back flow prevention where required			✓	
	ENERGY CERTIFICATES	**OK**	**Not**	**N/A**	
1	Electrical	✓			
2	Gas	✓			
	ROAD DAMAGE	**OK**	**Not**	**N/A**	
1	Footpath & kerb damage				
2	Crossing installed				
	COMMERCIAL	**OK**	**Not**	**N/A**	
1	Compliance Schedule				
2	Fire Design Compliance				
3	FPIS report				
4	Certificate of Public Use				
5	Fire Service - Evacuation Scheme				
6	Fire Service - Conditions meet				
7	Producer Statements - Fire Alarm, Ventilation etc				

An Inspection of the above mentioned premises has been undertaken and the matters as listed must be completed within ..... Days or otherwise stated

Action to be taken:
Issued by:
Designation: Building Officer
Next Inspection:

This notice Received By:
Owner / Agent / Contractor

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Building Consent Enquiry

Prev Change, Inspection Load, Print Forms, Print Letters, Search, Resource Consent Search (Change Log) Next

PIM/Consent No. 080397

The Building

Valuation No	0122012711
	General Property Enquiry
Street Address	DE BOER LANE, MANGAWHAI
Legal Description	LOT 3 DP 319142
Floor (m2)	590
Current use	Housing - detached - new dwelling
Building Category	R1
Current Status	CCC Application Received 7/09/12
	ok to ccc
Process Days Taken To Issue	18
Overseer	
Zone	Rural - Mangawhai Catchment

The Owner

Name	G and K Reid
Contact	G Reid
Mailing Address	P.O.Box 126
	Mangawhai
Landline Phone	095286462

The Agent

Name	G and K Reid
Mailing Address	C/- Sang Architects & Company Ltd
	11 Glenfell Place
	Epsom, Auckland 1023
Landline Phone	096388026
Fax	096388079
E-mail	ronsang@sangarchitects.co.nz
Relationship to Owner	Architect
Debtor	BC080397 Edit Debtor
Balance	$ 0.00
Invoice	21713

Building Work

Type of Work	New residential dwelling
Intended use	Housing - detached - dwelling
Intended life / Durability	INDEFINITE
Being stage	1 OF 1
Stats code	1100 NEW (& PREBUILT) HOUSE, UNIT, BACH, CRIB, TOWN HOUSE
Estimated value	$400,000
Resource Consent?	
Dev Contrib	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Notice?

Building Consent	$1,886.00
BRANZ Levy	$400.00
DBH Levy	$788.00
Total Charges	$3,074.00

Status history

Deadline	8/10/12	
Formally Received	21/05/08	
Invoiced	21/05/08	21713
Further Information Requested	21/05/08	fees not paid inv 21713 posted
Information Received	22/05/08	fees paid receipt 548619
Further Information Requested	17/06/08	refer to notes
Information Received	18/06/08	
Information Received	20/06/08	ok to issue
Consent Granted	20/06/08	
Letter Sent	10/06/10	
Letter Sent	23/08/12	CCC 1
CCC Application Received	7/09/12	ok to ccc

Contractors None recorded.

Forms that should have been saved

Consent

Forms and Letters Actually Saved

080397 FI 17062008.pdf
080397L24MTH1_20120823.doc
080397L324mth_20100610.doc
080397bc.doc

Notes

Date	22/05/08
Officer	Bridget Sewell
	PIM 080137. There is BC080403 that is connected to this consent. Mr Reid would like to put the sleepout on the property to live in while they are building dwelling and once completed they will remove the kitchen from sleepout
Date	5/06/08
	Received copy of letter today from Mr Reids Consultancy Engineers Smith and Henry advising his confirmation of compliance of the Geotechnical assessment done by john Hawley of John Hawley consultancy.
Date	5/06/08
	Recieved today from Mr Reid a copy of trusses, stud report from Placemakers Whangarei
Date	17/06/08
Officer	David Hughes
	Need wet area details and flue flashing details. Emailed agent. Copy in file.
Date	18/06/08
Officer	Bridget Sewell
	received 3 copies of wet area details and flue flashing details.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Diary Reminders

None found

Standard and Non-Standard Conditions

Officer: David Hughes

Gas Fireplaces installed by registered member of NZHH

PS3 Construction Certificates for Nuraply and insulclad required prior to final inspection

This building consent will lapse and be of no effect if the building work to which it relates does not commence within 12 months after the date of issue. The consent may be extended for any further period at the discretion of council.

No deviation or alteration from the original plans and specifications can be carried out without written approval of Council and no building may be converted to any other use other than that stated on the building consent.

IMPORTANT: YOU ARE FULLY RESPONSIBLE FOR ANY DAMAGE DONE TO ANY WORKS SUCH AS TELEPHONE CABLES, POWER CABLES, WATER MAINS, GAS MAINS, SEWERS, PIPES, FOOTPATHS, ROADS OR OTHER SERVICES.

As the property owner is responsible for the correct siting of all works in accordance with the NZ Building Code and the Resource Management Act, the owner must ascertain the true position of survey pegs before work commences.

Restrictions on the Erection of Buildings near Overhead Electric Lines:- Under the Electrical Supply Regulations 1976, it is an offence to erect any building or structure etc, within certain prescribed distances of an overhead electric line.

To enquire about these restrictions, contact the nearest office of the NZ Electricity Department or your local Power Supply Authority.

NOTICE THAT BUILDING WORK IS READY FOR INSPECTION. For the purposes of Section 222 of the Building Act 2004, and unless otherwise provided by the building consent, the owner or other person undertaking any building work shall give:

a) at least 2 working days notice of the intended commencement of construction.

At least 2 working days notice of the covering up of any

i) drainage or plumbing

ii) excavation for a foundation

iii) reinforcing steel for a foundation

iv) timber required to have a specific moisture content

v) other work required to give notice as a condition

Council MUST be notified at the completion of building work on the attached form.

From 28 April 2003 all new dwellings, additions or alterations to dwellings must be provided with domestic smoke alarm(s) in order to comply with the Building Code.

Standard and Non-Standard PIM Notes

None found

Inspections

Type	**B02 B02 Foundations - Slab or wall concrete strip foundations**
Inspected	12/09/08
Officer	Derek Free
Result	Okay
	Foundation for garage part: refer fan 2569 items 10-14 ok. Perimeter as per detail 18 ok to pour to 200mm for block above. D16 in place. Wingwalls set to pour d16 in links to attach- photo to view, can view at block inspection. Detail S6 no. 9 to check at preslab(perimeter thickening under garage lintel- as per engineer)

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Type	**B05 B05 Slab - Concrete floors**
Inspected	13/11/08
Officer	Derek Free
Result	Okay
	Slab for Dwelling Garaging: refer fan 2627. ok to pour.
Type	**B08 B08 Bond Beam**
Inspected	25/11/08
Officer	Derek Free
Result	Okay
	Blockwork wingwalls: refer fan 2654. ok to pour
Type	**B03 B03 Footings - Pile or posts**
Inspected	2/12/08
Officer	Derek Free
Result	Okay
	Piles under dwelling footings: refer fan 2659. ok to pour.
Type	**B09 B09 Framing**
Inspected	9/12/08
Officer	Des Sheldon
Result	Okay
	Field sheet 05319 This is the prewrap to the garage area only. All fixings are in place and correct.
Type	**B02 B02 Foundations - Slab or wall concrete strip foundations**
Date required	23/12/08
Inspected	23/12/08
Officer	Bryan McKay
Result	Reinspection Required
	Sheet 05027 Fan 1 Part only Laundry, main bedroom,study, living room,entrance,kitchen,family room foundation areas only. K brace not done 1-D16 used in foundation, piles done by Derek
Type	**B11 B11 Flashing/Wrap/Cavity**
Date required	23/12/08
Inspected	23/12/08
Officer	Bryan McKay
Result	Reinspection Required
	Sheet 05027 Fan 1 Garage wrap ok only. Reinspection for house when built
Type	**B02 B02 Foundations - Slab or wall concrete strip foundations**
Inspected	7/01/09
Officer	Derek Free
Result	Okay
	Balance Ftgs Nth face and returns dwg: refer fan 1 sheet 05905. ok to pour. next insp. underfloor beams.
Type	**B12 B12 Brick Veneer**
Inspected	7/01/09
Officer	Derek Free
Result	Okay
	refer fan 2 sh 05439. ok
Type	**B13 B13 Preline**
Inspected	8/01/09
Officer	Derek Free
Result	Okay
	P/L Garage part: refer fan 2 sh 05439. photo to view rafter hurricane ties. ok

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Type	**B05 B05 Slab - Concrete floors**
Inspected	16/01/09
Officer	Derek Free
Result	Okay
	Slab- laundry / guest only: refer fan 1 05914. ok to pour.
Type	**B02 B02 Foundations - Slab or wall concrete strip foundations**
Date required	3/02/09
Inspected	3/02/09
Officer	Bryan McKay
Result	Okay
	Sheet 05103 Fan 1 Carport column footings as consented
Type	**B08 B08 Bond Beam**
Date required	3/02/09
Inspected	3/02/09
Officer	Bryan McKay
Result	Okay
	Sheet 05103 Fan 1 70% completed ok to continue
Type	**B05 B05 Slab - Concrete floors**
Inspected	20/02/09
Officer	Derek Free
Result	Okay
	Slab: refer fan sheet 05939. ok to pour. PS3 underfloor heating from rad tech to come, photos to come also.
Type	**B08 B08 Bond Beam**
Inspected	12/03/09
Officer	Derek Free
Result	Okay
	blockwork pillars and piers: refer fan 1 sh 05461. 2 nd lift as per plan + some additional on some. ok to pour.
Type	**B17 B17 Drainage**
Inspected	12/03/09
Officer	Derek Free
Result	Okay
	Drainage between bldgs: refer fan 1 sh 05461. by Grant rennall lic 13787 with adequate fall and fines. ok to cover.
Type	**B09 B09 Framing**
Inspected	26/03/09
Officer	Derek Free
Result	Reinspection Required
	Prewrap: refer fan 2 sh 05697. Steel work all as per plan welded on site by Jeff beazer eng. roof connect as per mnfcr accept- Zed nails to check on all hip sections and bottom plate to stud connects to check at wrap or p/l.
Type	**B12 B12 Brick Veneer**
Inspected	11/05/09
Officer	Derek Free
Result	Okay
	Brick Veneer: refer fan 1 sh 05579. ok to finish brickwork.
Type	**B15 B15 Preline Plumbing - often part of Preline**
Inspected	14/08/09
Officer	Derek Free
Result	Okay

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

	Plumbing:refer fan 2 sh 06228 under test by graham slater. ok
Type	**B13 B13 Preline**
Inspected	14/08/09
Officer	Derek Free
Result	Okay
	Partial p/l west end. refer fan 2 sh 06228 ok to line west end.
Type	**B13 B13 Preline**
Inspected	1/09/09
Officer	Derek Free
Result	Okay
	Balance P/l: refer fan 2 sh 06109. ok to line
Type	**B16 B16 Post Line**
Inspected	1/09/09
Officer	Derek Free
Result	Okay
	post line west end. refer fan 2 sh 06109.ok
Type	**B16 B16 Post Line**
Inspected	24/11/09
Officer	Derek Free
Result	Okay
Type	**B16 B16 Post Line**
Inspected	24/11/09
Officer	Derek Free
Result	Okay
	Balance Postline: refer fan 2 sh 06447 all to schedule ok to finish.
Type	**B16 B16 Post Line**
Inspected	24/11/09
Officer	Derek Free
Result	Okay
	Wet seal: refer fan 2 sh 06447. by tim taylor. semiflex in south Bthrm. Marpai into nth. ps3 to come for both.
Type	**B21 B21 Final - Building Code Compliance Certificate**
Inspected	7/09/12
Officer	Derek Free
Result	Okay
	Final: refer fan 3 sh 07939. All works completed and required documentation received including geotechnical information. a few min items to tidy up - all complies. ok to issue CCC

Print Summary

Standard and Non-Standard CCC Conditions

None found

Work to be Stopped and Notice to Fix Conditions None found

RM Certificate None found

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaipara te Oranganui • Two Oceans Two Harbours

Code Compliance Certificate Checklist

KAIPARA DISTRICT COUNCIL

Code Compliance Certificate Checklist

Address of Property	Delmar Lane.		
Consent Number	090397	**Date**	7.9.12
Staff Responsible	DF	**Building Category**	R1

Note: In some cases some of the following items may not need to be checked

Number	Issue	Yes	No	N/A	
1 *	Change of owner or address	Yes	No	(N/A)	
2 *	Request for CCC within 2 year timeframe	(Yes)	No	N/A	over 2 yrs. Consent ok
3 *	All inspections completed	(Yes)	No	N/A	
4 *	Development contributions paid	Yes	No	(N/A)	
5 *	Energy works certificate provided	(Yes)	No	N/A	
6 *	Inspections Extra inspections to be charged	Yes	No	(N/A)	
7 *	All building consent conditions fulfilled	(Yes)	No	N/A	
8 *	Ensure that conditions of geotechnical reports, engineers reports of producer statements are complied with	(Yes)	No	N/A	Like a file
9 *	Work complies with approved building consent documentation	(Yes)	No	N/A	
10 *	Check that items are completed from Final Checklist (FAN)	(Yes)	No	N/A	
11 *	Survey certificates – siting, height in relation to boundary, maximum height of building or minimum floor level	Yes	No	(N/A)	
12 *	List of contractors	(Yes)	No	N/A	
13 *	Amendments, variations and associated documentation properly completed	(Yes)	No	N/A	Gas fires deleted on Plan (ion)
14 *	Document applies to **building work** for which a building consent has been issued **before the date** on which the compliance document came into force	Yes	No	(N/A)	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

15 *	Reference (if applicable) to acceptable solutions of verification methods	Yes	No	N/A	
16 *	File forwarded to Senior Building Services Officer to undertake a Peer Review (over 5 years old) and arrange issue of CCC	Yes	No	N/A	
17 *	If compliance schedule must be issued, co-ordinate issue with issue of CCC	Yes	No	N/A	
18 *	Photographs	Yes	No	N/A	
19 *	CCC Consent issued under the transitional provisions of Section 436 Building Act 2004 noted added to CCC	Yes	No	N/A	
20 *	Regulatory approvals, dispensations, waivers or modifications	Yes	No	N/A	

Issue CCC	**Yes**	**No**
Reason for Decision	I am satisfied on reasonable grounds that the: ~~Building work complies with the building code at the time the Building~~ Consent was granted ~~(see number 19)~~ Building work complies with the Building Consent issued; and ~~The specified systems in the building are capable of performing to the performance standards set out in this building consent (Added~~ to CCC and the ~~compliance schedule as attachment) (compliance schedule statement~~ issued)	
Signed		

"Yes" means Approved "No" Means not Approved "N/A" means Not Applicable

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

Kaipara te Oranganui • Two Oceans Two Harbours

KAIPARA DISTRICT COUNCIL

Application for a Code Compliance Certificate for 080397

(Form 6) Section 92 Building Act 2004

G and K Reid
C/- Sang Architects & Company Ltd
11 Glenfell Place
Epsom, Auckland 1023

Issue Date: 20/06/08
Application Date: 21/05/08
Overseer:

IMPORTANT:

You need to submit this form when requesting your final inspection. Please check that the details below are still current when submitting it, and that all information required is provided. Once you make this request, Council will have 20 working days within which to deal with it. You will need to insure that all fees relating to this Building Consent are paid. The Code Compliance Certificate will not be issued while fees are owing.

THE OWNER:

Owners Name:	G and K Reid			
Owners Mailing Address:	P.O.Box 126, Mangawhai			
Street Address/Registered Office:				
Phone Number	**Landline:** 095286462	**Daytime:**	**After Hours:**	
	Mobile:	**Fax:**		
Email:		**Website:**		

THE BUILDING (The following building work was authorised by this Building Consent)

Description:	New residential dwelling
Street Address of Building:	9 DE BOER LANE, MANGAWHAI
Valuation Number:	0122012711
Legal Description:	LOT 3 DP 319142

THE AGENT:

Agents Name:				
Agents Mailing Address:				
Street Address/Registered Office:				
Phone Number	**Landline:**	**Daytime:**	**After Hours:**	
	Mobile:	**Fax:**		
Email:		**Website:**		

Relationship to Owner: (State details of authorisation from the owner to make the application on the owner's behalf)

FIRST POINT OF CONTACT: ~~(with the Council/Building Authority)~~

First Point of Contact:	Glenn Reid, 9 de Boer Lane Mangawhai			
Mailing Address:	~~C/- Sang Architects & Company Ltd, 11 Glenfell Place, Epsom, Auckland 1023~~			
Phone Number	**Landline:** ~~096388026~~	**Daytime:** 09 431 5523	**After Hours:**	
	Mobile: 021 232 1217	**Fax:** ~~096388079~~		
Email:	~~ronsang@sangarchitects.co.nz~~	**Website:** X		

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

KEY PERSONNEL: The Personnel who carried out the building work are as follows:

Designer

Name : Sang Architects Reg No : — Phone No: 09 6388026
Address : 11 Glenfell Pl Auckland 1023
Mobile No : Email:

Builder (Licensed Building Practitioner From 01/03/12)

Name : Glenn Reid Reg No : — Phone No: 09 431 5523
Address : 9 de Boer Lane RD2 Kaiwaka
Mobile No : — Email: —

Registered Drainlayer

Name : Graham Slater Reg No : 10399 Phone No:
Address : Maungatoroto
Mobile No : Email:

Registered Plumber

Name : Graham Slater Reg No : 10399 Phone No:
Address : Maungatoroto
Mobile No : Email:

Registered Electrician Stuart.

Name : Richard Mentath Reg No : E13565 Phone No:
Address :
Mobile No : Email:

Registered Gas Fitter

Name : D Davis Reg No 04817 Phone No:
Address : P O Box 113 Paparoa.
Mobile No : Email:

Other

Name : Reg No : Phone No:
Address :
Mobile No : Email:

Other

Name : Reg No : Phone No:
Address :
Mobile No : Email:

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

SPECIFIED SYSTEMS: The following specified systems are contained on the compliance schedule for the building and, in the opinion of the personnel who installed them, are capable of performing to the performance standards set out in the building consent.

Type of system	Existing	New	Altered	Added	Removed
1 Automatic systems for fire suppression	☐	☐	☐	☐	☐
2 Automatic or manual emergency warning systems	☐	☐	☐	☐	☐
3/1 Automatic doors	☐	☐	☐	☐	☐
3/2 Access controlled doors	☐	☐	☐	☐	☐
3/3 Interfaced fire or smoke doors or windows	☐	☐	☐	☐	☐
4 Emergency lighting systems	☐	☐	☐	☐	☐
5 Escape route pressurisation systems	☐	☐	☐	☐	☐
6 Riser mains for use by fire services	☐	☐	☐	☐	☐
7 Any automatic backflow preventers fitted to a potable water supply	☐	☐	☐	☐	☐
8/1 Passenger carrying lifts	☐	☐	☐	☐	☐
8/2 Service lifts	☐	☐	☐	☐	☐
8/3 Escalators and moving walks	☐	☐	☐	☐	☐
9 Mechanical ventilation systems, or air conditioning systems	☐	☐	☐	☐	☐
10 Building maintenance units for providing access to buildings (internal or external)	☐	☐	☐	☐	☐
11 Laboratory fume cupboards	☐	☐	☐	☐	☐
12/1 Audio loops	☐	☐	☐	☐	☐
12/2 FM radio frequency systems and infrared beam transmis	☐	☐	☐	☐	☐
13/1 Mechanical smoke control systems	☐	☐	☐	☐	☐
13/2 Natural smoke control	☐	☐	☐	☐	☐
13/3 Smoke curtains	☐	☐	☐	☐	☐
14/1 Emergency power systems for any of the above systems	☐	☐	☐	☐	☐
14/2 Signs for systems	☐	☐	☐	☐	☐
15/1 Systems for communicating spoken information for evacuation	☐	☐	☐	☐	☐
15/2 Final exits	☐	☐	☐	☐	☐
15/3 Fire separations	☐	☐	☐	☐	☐
15/4 Signs for fire systems	☐	☐	☐	☐	☐
15/5 Smoke separations	☐	☐	☐	☐	☐
A – Safety barriers	☐	☐	☐	☐	☐
B – Means of access and facilities	☐	☐	☐	☐	☐
C – Handheld hose reels	☐	☐	☐	☐	☐
16 Cable car	☐	☐	☐	☐	☐

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

KAIPARA DISTRICT

ATTACHMENTS: The following documents are attached to this application:

☐	Certificates from the personnel who carried out the work
☐	Certificates that relate to the energy work
☐	Evidence that specified systems are capable of performing to the performance standards set out in the Building Consent

EVIDENCE OF OWNERSHIP: (The following evidence of ownership is attached to this application):

☐	Copy of Certificate of Title
☐	Lease Agreement for Sale and Purchase
☐	Other document showing full name of legal owner(s) of the building/property
Please state other document:	

REQUEST TO ISSUE A CODE COMPLIANCE CERTIFICATE FOR BC 080397:

All of the building work relating to the Building Consent 080397 was completed on:

I request that the Kaipara District Council issue a Code Compliance Certificate for the Building Consent 080397 under Section 95 of the Building Act 2004:

Signed by / for and on behalf of/ the owner

Note: If acting for and on behalf of, please read the following declaration prior to signing

'I hereby declare that I am authorised to act as the Agent of the Applicant':

Signed: _____ _____ _____ 6-9-12

Signature **Name** **Date**

The Code Compliance Certificate should be sent to:

Name: _____ **Owner / Agent** (delete one)

Address: _____

_____

_____

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Code Compliance Certificate 080397

Form 7, Section 95, Building Act 2004

G and K Reid
PO Box 126
Mangawhai 0540

Issue Date: 7/09/12
Overseer:

THE BUILDING:

Street Address of Building:	DE BOER LANE, MANGAWHAI
Valuation Number:	0122012711
Legal Description:	LOT 3 DP 319142
Building Name:	
Location of Building within site/block number:	
Level/Unit Number:	
Current Lawfully Established Use:	Housing - detached - new dwelling
Year First Constructed:	

THE PROJECT:

Description:	New residential dwelling NEW (& PREBUILT) HOUSE, UNIT, BACH, CRIB, TOWN HOUSE
Type of Work:	
Intended Use:	Housing - detached - dwelling
Intended Life:	Indefinite, but not less than 50 years
Stages:	Being Stage 1 of an intended 1 Stages

THE OWNER:

Owners Name:	G and K Reid			
Owners Mailing Address:	P.O.Box 126, Mangawhai			
Street Address/Registered Office:				
Phone Number	**Landline:** 095286462	**Daytime:**		**After Hours:**
	Mobile:	**Fax:**		
Email:			**Website:**	

FIRST POINT OF CONTACT:

First Point of Contact:	Full Name: G and K Reid Mailing Address: C/- Sang Architects & Company Ltd, 11 Glenfell Place, Epsom, Auckland 1023 Phones:: 096388026 Fax: 096388079

BUILDING WORK:

Building Consent Number:	080397
Issued By:	Kaipara District Council

This Code Compliance Certificate is issued by the Kaipara District Council. As the Building Consent Authority it is satisfied, on reasonable grounds that:

- The building work complies with the Building Consent 080397

Signature  **Date:** 7/09/12 **Position** Building Services Officer

On behalf of: Kaipara District Council

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SPECIFICATION

of the work to be done and the materials to be used in the erection and completion

of a

NEW HOUSE

to comply with the NZ Building Act 2004
Classified Using Housing - Detached Dwelling

at

[redacted]
MANGAWHAI

for

[redacted]

SANG ARCHITECTS & COMPANY LIMITED

Job Number 3366
Date April 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

NZIA Standard Conditions of Contract
SCC 2007 : 1st Edition

NEW ZEALAND INSTITUTE OF
ARCHITECTS
INCORPORATED

Between

Principal | G and K REID

And

Contractor |

For

Contract | NEW HOUSE

At

Location | 9 DE BOER LANE, MANGAWHAI

NZIA Practice | SANG ARCHITECTS & COMPANY LIMITED

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

About this Contract

Further information about this contract document

This NZIA Standard Conditions of Contract document (NZIA SCC 2006) is published by the New Zealand Institute of Architects Incorporated. Further information may be obtained from :

New Zealand Institute of Architects
PO Box 2516, Auckland

Telephone: (09) 623 6080
Facsimile: (09) 623 6081
Email: profservices@nzia.co.nz

Involvement of the New Zealand Master Builders Federation

This NZIA Standard Conditions of Contract document has been negotiated with and is endorsed by the New Zealand Master Builders Federation.

Acknowledgements

We acknowledge the following:

- The substantial commitment made by the members of the NZIA Conditions of Contract Committee in finalizing and negotiating this NZIA Standard Conditions of Contract document: Russell Hawken, Norrie Johnson, Tom Dixon, John Sutherland, Brendan Rawson and Christopher Mason.
- The substantial commitment made by the members of the Registered Master Builders Federation Commercial and Contracts Committee in finalising and negotiating this NZIA Standard Conditions of Contract document, in particular David Beard and Robert Finley.

Copyright

© December 2006 New Zealand Institute of Architects Incorporated

This document may only be used by an NZIA Practice currently holding an annual Architects Document Set License.

It must not be copied, stored in any kind of information retrieval system, or reproduced in any form by any individual organization without the express authority of a Principal of such NZIA Practice.

First Edition Published December 2006 in electronic reference and working formats

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Schedules

A1 Contract Agreement and Contract Documents

B1 Specific conditions of Contract
B2 Special conditions of Contract

C1 Fluctuations in Cost
C2 Schedule of quantities

D1 Contractor's performance bond
D2 Principal's bond
D3 Contractor's bond in lieu of retentions

E1 Contractor's advice of achieving Practical Completion
E2 Producer statement – construction

F1 Contractor's insurance information
F2 Contractor's professional indemnity insurance
F3 Principal's insurance information

G1 Warranty agreement
G2 Separate agreement to arbitration
G3 Security for off Site goods / materials

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Contract Agreement and Contract Documents

Schedule A1

This Agreement is for

NEW HOUSE
Contract name

Physical address of Site of the Contract Works

9 DE BOER LANE, MANGAWHAI
Location

This Agreement is between

Contractor

and

G and K REID
Principal

for

$
Contract Price in figures

Contract Price in words

It is agreed as follows:

1. The Contractor will carry out the obligations imposed on the Contractor by the Contract Documents.
2. The Principal will pay the Contractor the Contract Price or such greater or lesser sum as will become payable under the Contract Documents together with Goods and Services Tax at the times and in the manner provided in the Contract Documents.
3. Each party will carry out and fulfill all other obligations imposed on that party by the Contract Documents.
4. The Contract Documents are this *Schedule A1 Contract Agreement and Contract Documents,* and the following which form part of this Contract :

   - Principal's letter of acceptance dated .....
   - Post Tender correspondence
     (list details and dates)

   Contractor's Tender submission :

   - Contractor's Tender dated .....
   - Schedule T4 Tender Submission
   - Schedule T5 Trade Summary
   - Notices to Tenderers
     (list details and dates)

   The following schedules which formed part of the Tender :

   - Schedule T1 Specific Conditions of Tender
   - Schedule T2 Special Conditions of Tender
   - Schedule T3 General Conditions of Tender

   The following schedules which form part of the Contract :

   - Schedule B1 Specific Conditions of Contract
   - Schedule B2 Special Conditions of Contract
   - Schedule C1 Fluctuations in Cost
   - Schedule C2 Schedule of Quantities
   - Schedule D1 Contractor's Performance Bond
   - Schedule D2 Principal's Bond
   - Schedule D3 Contractor's Bond in Lieu of Retentions
   - Schedule E1 Contractor's Advice of Achieving Practical Completion
   - Schedule E2 Producer Statement – Construction

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

- Schedule F1 Contractor's Insurance Information
- Schedule F2 Contractor's Professional Indemnity Insurance
- Schedule F3 Principal's Insurance Information
- Schedule G1 Warranty Agreement
- Schedule G2 Separate Agreement to Arbitration
- Schedule G3 Security for Off Site Goods / Materials

The following additional documents :
(list details and dates)

- NZIA Standard Conditions of Contract SCC 2007 1st Edition Sections 1 to 19 inclusive
- Specifications issued prior to the date of acceptance of Tender
- Drawings issued prior to the date of acceptance of Tender

Strike out those items that do not apply and identify any additional documents to be included (for example, agreed correspondence).

This Contract Agreement was signed by the Contractor

Name .....
Print name of person authorised to sign

Signed by .....

Date signed ..... .

This Contract Agreement was signed by the Principal

Name .....
Print name of person authorised to sign

Signed by .....

Date signed .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Specific Conditions of Contract

Schedule **B1**

Principal

Principal ..... G and K REID
Street Address ..... 22 HOPKINS CRESCENT
Postal Address ..... KOHIMARAMA
Telephone 09 528 6462
Facsimile .....
Mobile .....
E-mail .....

Principal's representative

Person ..... RON SANG, SANG ARCHITECTS & COMPANY LIMITED
Telephone 09 638 8026
Facsimile 09 638 8079
Mobile .....
E-mail ..... ronsang@sangarchitects.co.nz

Principal's address for submission of Payment Claims *(if different from above)*

Street Address ..... as above
Postal Address .....
Telephone .....
Facsimile .....
E-mail .....

Contractor

Contractor.....
Street Address .....
Postal Address .....
Telephone .....
Facsimile .....
E-mail .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

NZIA Practice

Practice ..... SANG ARCHITECTS & COMPANY LIMITED
Street Address ..... 11 GLENFELL PLACE, EPSOM, AUCKLAND
Postal Address ..... 11 GLENFELL PLACE, EPSOM, AUCKLAND
Telephone 09 638 8026
Facsimile 09 638 8079
Mobile .....
E-mail ..... ronsang@sangarchitects.co.nz

Architect *(Architect to the Contract)*

Person ..... RON SANG
Telephone 09 638 8026
Facsimile 09 638 8079
Mobile .....
E-mail ..... ronsang@sangarchitects.co.nz
E-mail .....

Rule 2.1 Contract Documents

Number.....
Number of sets of Contract Documents to be given to the Contractor

Cost .....
Cost of additional copies of the Contract Documents excluding Goods and Services Tax

To complete this schedule, choices must be made where indicated below. Select alternative box if default selection is not preferred.

Rule 3.1 Contractor's performance bond

A Contractor's Performance Bond is not required.

A Contractor's Performance Bond is required.

Amount of Bond: $

Form of Bond: *Schedule D1*

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Rule 3.3 Contractor's bond in lieu of retentions

A Contractor's Bond in lieu of Retentions is not acceptable.

A Contractor's Bond in lieu of Retentions is acceptable.

Amount of Bond: $to be agreed

Form of Bond: *Schedule D3*

Rule 3.5 Principal's bond

A Principal's Bond is not available.

A Principal's Bond is available.

Amount of Bond: $to be agreed

Form of Bond: *Schedule D2*

Rule 4.10 Warranties and other information

Warranties and other information required from the Contractor which are essential for the Principal's use of the Contract Works.

List items

Rule 6.1 Insurance of the Contract Works

The Contract Works are to be insured by the Contractor

The Contract Works are to be insured by the Principal

When the contractor insures the contract works, the insurance of the Contract Works must be the sum of the following: **Amount**

6.1.1 At least as much as the original Contract Price.
Amount excluding Goods and Services Tax $

6.1.1 (a) An amount for items, supplied by the Principal to be included in the Contract Works, which are not included in the Contract Price plus an amount for consents costs.
Amount excluding Goods and Services Tax $

6.1.1 (b) An amount for Variations that the Architect may direct during the contract period.
Amount excluding Goods and Services Tax $

6.1.1 (c) An amount for increased construction costs due to fluctuations during the Contract period.
Amount excluding Goods and Services Tax $

6.1.1 (d) An amount for professional fees and similar costs, including clerks of works and inspectors salaries.
Amount excluding Goods and Services Tax $

6.1.1(e) An amount for demolition, disposal and preparation for replacement work necessarily incurred following loss or damage to the Contract Works.
Amount excluding Goods and Services Tax $

6.1.1 (f) An amount to cover increased construction costs incurred as a result of loss or damage.
Amount excluding Goods and Services Tax $

Total $

Goods & Services Tax $

Total Amount $

Total $

Maximum deductible in Contract Works Insurance: $

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Rules 6.1 / 6.2 Where Principal arranges insurance

	Amount
6.1 Maximum deductible in Contract Works insurance.	$

Principal's insurance for existing structures includes consequential loss.

Rule 6.3 Contractor's public liability insurance

	Amount
Minimum amount of insurance.	$
Maximum deductible in insurance.	$

Rule 6.4 Contractor's motor vehicle liability insurance

	Amount
Minimum amount of insurance.	$
Maximum deductible in insurance.	$

Rule 6.5 Contractor's Construction Machinery insurance

	Amount
Required only for items with a value above	$10,000.00 *Default.*

Rules 6.6 / 8.5 Contractor's professional indemnity (design) insurance

Contractor's professional indemnity (design) insurance is not required.

Contractor's professional indemnity (design) insurance is required.

	Amount
6.6 Amount of professional indemnity insurance.	$

8.5 Contractor design is required for the following items:

List items

Rule 7.1 Site possession date

Time, after notice of acceptance of Tender, for Principal to give possession of the Site to the Contractor.

Working Days after notice of acceptance of tender

Time / Date

Rule 8.1 Principal supply items

The Principal is supplying the following items for inclusion in the Contract Works

Hardware

Wall and Floor Tiles

Sanitary fixtures,, tapware and accessories

Electrical light fittings, heaters, towel rails, extract fans

Waste water treatment system

Rain water storage tanks, pump, filter

Rule 8.3 Separate contractors

The Principal is engaging the following separate contractors to carry out the following separate contracts on the Site.

Cleanstream Waste Water Treatment system

Duracrete Products Ltd rain water tanks

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Rule 10.1 Monetary allowances

There are no Prime Cost Sums included in this Contract.

There are no Provisional Sums included in this Contract.

Rule 10.2 Contingency

There is no contingency sum included in this Contract.

Rule 11.2 Practical Completion

Time, from date Contractor is given possession of the Site for Contractor to achieve Practical Completion of the Contract Works.

To be agreed

Rule 11.3 Construction programme

Date when Contractor is to supply construction programme :

Rule 12.1 Contractor's advice of achieving Practical Completion

Contractor's Advice of Achieving Practical Completion is required. The form for this is *Schedule E1*.

Rule 12.2 Separate Sections

There are no Separate Sections.

Rule 13.1 Defects Liability Period

Period during which the Contractor must correct defective work and defective materials.

3 Months
Default period

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Rule 14.1.2 Off Site Payments

☐ Offsite payments are not allowed.

Rule 14.2.3 Retentions

Rate	10% of the first $200,000, plus 5% of the next $800,000, plus 1.75% of any amount in excess of $1,000,000.00
Maximum	$200,000
Release of retentions	40% of the retentions are payable when a certificate of Practical Completion has been issued.

Rule 14.10 Liquidated damages

Liquidated damages apply to this Contract.

To be agreed.

Rule 14.11 Bonus for early completion

There is no bonus for early completion.

Rule 15.1.1 Final Payment Claim

Time after Practical Completion for the Contractor to submit the final Payment Claim.

Three months from the date of achieving Practical Completion

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Special Conditions of Contract

Schedule **B2**

The following Special Conditions of Contract modify the standard conditions.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Fluctuations in Cost

Schedule C1

1. Basic Costs

Where allowed the Contractor may submit a Statement of Fluctuations* on those items or materials for which the Contractor has submitted the Basic Costs* in a manner approved by the Architect. The Contractor must satisfy the Architect that the Basic Cost submitted for each item for which the Fluctuation* is claimed is accepted to qualify for inclusion as a Fluctuation.

- *Statement of Fluctuations refers to the statement prepared by the Contractor which shows the Fluctuations which have occurred for the period for which a claim for Fluctuations is being made and includes the amounts, calculated as percentages, described in Schedule C1 Rules 8 and 9.*
- *Basic Costs means the price of materials, from normal sources of supply, which form part of the Contract Works, effective on the date 5 Working Days before the closing date for tenders. The Contractor's Basic Costs include subcontractor's basic costs.*
- *A Fluctuation means an increase or decrease in Basic Costs.*

2. Decreases in Cost

The Architect may prepare a statement covering Fluctuations which result in a decrease in costs if the Contractor fails to:

- *provide those details in its Statement of Fluctuations**.
- *claim Fluctuations in the Basic Costs.*

The statement prepared by the Architect, must be included in the Architect's next Payment Schedule. The statement must be verified by a Quantity Surveyor.

3. Other changes in Costs

Fluctuations can be claimed, for any increase or decrease in cost arising from changes in government, local or other authority fees or charges from the Tender date if not otherwise provided for under the Contract. These Fluctuations must be claimed in the same manner as Fluctuations in Basic Costs.

4. Alternative methods

If the Architect agrees, the Contractor may use a different method to that described in *Schedule C1 Rule 1* for calculating Fluctuations for labour or any items of material.

5. Statement of fluctuations for basic Costs

A Statement of Fluctuations for Basic Costs must include:

(a) the materials affected and the dates of purchase; and

(b) the dates the Fluctuations occurred; and

(c) prices of materials and the Fluctuations on them; and

(d) a statement that the materials were used in the Contract Works.

To the above amount must be added the percentages described in *Schedule C1 Rules 8 and 9*. The total of these amounts must be included in the Statement of Fluctuations.

6. Verification

Each Statement of Fluctuations must be verified by a Quantity Surveyor who is a Registered Quantity Surveyor and a current Member of the New Zealand Institute of Quantity Surveyors, who is approved by the Architect and is not an employee of the Contractor, unless the Architect notifies the Contractor to the contrary. The Quantity Surveyor must state that, to the best of the Quantity Surveyor's knowledge and belief, the Statement of Fluctuations is fair and reasonable and that the labour and materials included were used in the Contract Works. Alternatively, each Statement of Fluctuations can be verified by a member of the Society of Accountants who is approved by the Architect and is not an employee of the Contractor, unless the Architect notifies the Contractor to the contrary.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

7. Time for claim

All claims for Fluctuations must be made within 3 months of the date of the submission of the Payment Claim in which the Basic Costs to which the Fluctuations relate were included. No claim for Fluctuations will be accepted after the Contractor applies for approval of the Contractor's final Payment Claim.

8. Margin for subcontractors

A margin of 5% is to be added to the amounts of the Fluctuations in Basic Costs in respect of subcontractors, as described in *Schedule C1 Rule 5*. This is to cover all related costs of the subcontractor.

9. Contractor's cost recovery

Ten percent is to be added to the amounts of the Fluctuations for the Contractor's Basic Costs (which include the basic costs of subcontractor, including margins added as described in *Schedule C1 Rule 8*) for the first 12 months of the Contract. This is to cover all related costs of the Contractor, including the cost of verification required by *Schedule C1 Rule 6*. An amount of 11% is to be added to the amounts of the Fluctuations in regard to the Contractor's Basic Costs for the second 12 months of the Contract. After that an amount of 12% is to be added for each subsequent 12 months of the Contract.

10. Labour

The Contractor can claim Fluctuations for labour costs in a manner approved by the Architect. Fluctuations for labour costs must be claimed on the basis of proportional movements of the Labour Cost Index: All salary and wages rates, applied to the Contractor's certified payrolls including wages, allowances and salaries of personnel employed by the Contractor on the Contract Works. The base rate shall be that applying for the quarter during which the Tender was submitted.

11. After time for Practical Completion

Fluctuations in Basic Costs which occur after the date on which Practical Completion is achieved must be calculated on the basis of rates applying on the date upon which Practical Completion should have been achieved.

12. Supporting information

The Contractor must give the Architect any information about Basic Costs and Fluctuations that the Architect may require.

13. Indices

If at any time the index referred to in *Schedule C1 Rule 10* is no longer published by the Department of Statistics, or if the basis of the index is materially changed, the adjustment shall thereafter be calculated by using such other index, or in such other manner, as will fairly reflect changes as previously measured by the index.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Contractor's performance bond

Schedule D1

Contract for .....

This deed is made on .....

by .....
Contractor

of.....

and .....
Sureties

of.....

Bond sum ..... $
Bond sum in New Zealand dollars

Principal .....

It is made in the following circumstances:

The Contractor has entered into a Contract with the Principal to carry out and fulfill the obligations imposed on the Contractor by the Contract.

The Contract requires the Contractor to provide the Principal with security in the form of a bond to ensure performance of the Contractor's obligations under the Contract.

By this deed:

1. THE Contractor and sureties are jointly and severally held and bound to the Principal in the bond sum and bind themselves, their successors and assigns jointly and severally for the payment of that sum.
2. THE condition of this bond is that it will be null and void if:
   (a) the Contractor duly carries out and fulfils all the obligations imposed on the Contractor by the Contract Documents prior to the commencement of the Defects Liability Period referred to in the Contract Documents; or
   (b) the Contractor satisfies and discharges the damages sustained by the Principal in respect of all defaults by the Contractor up to the commencement of the Defects Liability Period or the termination of the Contract; or
   (c) the sureties satisfy and discharge up to the amount of the bond the damages sustained by the Principal in respect of all defaults by the Contractor up to the commencement of the Defects Liability Period or the termination of the Contract; or
   (d) a Practical Completion certificate has been issued in respect of the Contract Works in accordance with *Section 12 Practical Completion Rule 12.1.*
3. EXCEPT as provided in *Schedule D1 Rule 2* this bond will be and remains in full force and effect.
4. THE sureties will not be released from any liability under this bond:
   (a) by any alteration in the terms of the Contract between the Principal and the Contractor;
   (b) by any alteration in the extent or nature of the Contract Works to be completed, delivered and having defects remedied;
   (c) by any allowance of time by the Principal or by the Architect appointed by the Principal under the Contract;
   (d) by any forbearance or waiver by the Principal or by the Architect in respect of any of the Contractor's obligations or in respect of any default on the part of the Contractor.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

5. THIS bond is governed by New Zealand law.

SIGNED by .....
Contractor *Print name* *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Print name *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Surety *Print name* *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Print name *Sign*

in the presence of .....
Print name *Sign*

NOTE *This bond must be executed by the Contractor and by the surety or sureties in the manner required for execution of a deed. Any of these parties which are a company must execute the bond by having it signed, under the name of the company, by two or more directors. If there is only one director, it is sufficient if the bond is signed under the name of the company by that director, but the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address. Alternatively, companies may execute under power of attorney. Any party which is a body corporate (other than a company) must execute by affixing its seal, which must be attested in the manner provided for in the rules of, or applicable to, the body corporate. In the case of a party who is an individual, the party must sign and the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address.*

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Principal's bond

Schedule **D2**

Contract for .....

This deed is made on .....

by ..... *Principal*

of .....

and ..... *Sureties*

of .....

Bond sum ..... $ *Bond sum in New Zealand dollars*

Contractor .....

It is made in the following circumstances:

The Principal has entered into a Contract with the Contractor by which the Contractor has agreed to carry out and fulfill the obligations imposed on the Contractor by the Contract Documents.

The Contract agreement requires the Principal to provide the Contractor with security in the form of a bond to ensure performance of the Principal's obligations under the Contract.

By this deed

1. THE Principal and sureties are jointly and severally held and bound to the Contractor in the bond sum and bind themselves, their successors and assigns jointly and severally for the payment of this sum.

2. THE condition of this bond is that it will be null and void if:

   (a) the Principal pays the Contract Price and any other monies payable under the Contract and:

      (i) duly carries out and fulfils all the obligations imposed on the Principal by the Contract; or

      (ii) satisfies and discharges the damages sustained by the Contractor in respect of all defaults by the Principal; or

   (b) the sureties pay, satisfy and discharge up to the amount of the bond any unpaid balance of the Contract Price and of any other monies payable under the Contract, and of the damages sustained by the Contractor in respect of all defaults by the Principal.

3. EXCEPT as provided in *Schedule D2 Rule 2*, this bond will be and remains in full force and effect.

4. THE sureties will not be released from any liability under this bond:

   (a) by any alteration in the terms of the Contract between the Principal and the Contractor;

   (b) by any alteration in the extent or nature of the Contract Works to be completed, delivered and having defects remedied;

   (c) by any allowance of time by the Contractor;

   (d) by any forbearance or waiver by the Contractor in respect of any of the Principal's obligations or in respect of any default on the part of the Principal.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

5. THIS bond is governed by New Zealand law.

SIGNED by .....
Principal *Print name* *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Print name *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Surety *Print name* *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Print name *Sign*

in the presence of .....
Print name *Sign*

NOTE *This bond must be executed by the Principal and by the surety or sureties in the manner required for execution of a deed. Any of these parties which are a company must execute the bond by having it signed, under the name of the company, by two or more directors. If there is only one director, it is sufficient if the bond is signed under the name of the company by that director, but the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address. Alternatively, companies may execute under power of attorney. Any party which is a body corporate (other than a company) must execute by affixing its seal, which must be attested in the manner provided for in the rules of, or applicable to, the body corporate. In the case of a party who is an individual, the party must sign and the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address.*

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Contractor's bond in lieu of retentions

Schedule D3

Contract for .....

This deed is made on .....

by .....
Contractor

of .....

and .....
Sureties

of .....

Bond sum ..... $
Bond sum in New Zealand dollars

Principal .....

It is made in the following circumstances:

The Contractor has entered into a Contract with the Principal to carry out and fulfill the obligations imposed on the Contractor by the Contract Documents.

The Contract requires the Contractor to provide the Principal with security in the form of a bond in lieu of retentions additional to any other bond required under the Contract.

By this deed

1. THE Contractor and sureties are jointly and severally held and bound to the Principal for the bond sum and bind themselves, their successors and assigns jointly and severally for the payment of this sum.

2. THE condition of this bond is that it will be null and void if:

   (a) the Contractor duly carries out and fulfils all the obligations imposed on the Contractor by the Contract prior to the issue of the defects liability certificate referred to in the Contract; or
   (b) the Contractor satisfies and discharges the damages sustained by the Principal in respect of all defaults by the Contractor up to the issue of the defects liability certificate or the termination of the contract; or
   (c) the sureties satisfy and discharge up to the amount of the bond the damages sustained by the Principal in respect of all defaults by the Contractor up to the issue of the defects liability certificate or the termination of the contract.

3. EXCEPT as provided in *Schedule D3 Rule 2* this bond will be and remains in full force and effect.

4. THE sureties will not be released from any liability under this bond:

   (a) by any alteration in the terms of the Contract between the Principal and the Contractor;

   (b) by any alteration in the extent or nature of the Contract Works to be completed, delivered and having defects remedied;

   (c) by any allowance of time by the Principal or by the Architect appointed by the Principal under the Contract;

   (d) by any forbearance or waiver by the Principal or by the Architect in respect of any of the Contractor's obligations or in respect of any default on the part of the Contractor.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

5. This bond is governed by New Zealand law.

SIGNED by .....
Contractor *Print name* *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Print name *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Surety *Print name* *Sign*

in the presence of .....
Print name *Sign*

SIGNED by .....
Print name *Sign*

in the presence of .....
Print name *Sign*

NOTE *This bond must be executed by the Contractor and by the surety or sureties in the manner required for execution of a deed. Any of these parties which are a company must execute the bond by having it signed, under the name of the company, by two or more directors. If there is only one director, it is sufficient if the bond is signed under the name of the company by that director, but the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address. Alternatively, companies may execute under power of attorney. Any party which is a body corporate (other than a company) must execute by affixing its seal, which must be attested in the manner provided for in the rules of, or applicable to, the body corporate. In the case of a party who is an individual, the party must sign and the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address.*

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Contractor's advice of achieving Practical Completion

Schedule **E1**

Issued by

Contractor .....

To

Architect .....

In respect of

Contract .....

Location .....

We, (*Contractor*), advise that the Contract Works will achieve Practical Completion on:

Date

We have agreed that completion of the following items can be achieved after Practical Completion:

List items

SIGNED by .....
Contractor *Print name* *Sign*

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Producer statement - construction

Schedule **E2**

Issued by

Contractor .....

To

Principal .....

In respect of

Contract .....

Location .....

The Contractor has contracted to the Principal to carry out and complete certain Contract Works in accordance with the Contract.

I .....;
Name of duly authorised agent

a duly authorised representative of the Contractor believe on reasonable grounds that the Contractor has carried out and completed

all / part only as specified in the attached particulars
Delete one

of the Contract Works in accordance with the Contract.

Signed by .....

Name .....

Date .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Contractor's insurance information

Schedule F1

Issued by

Broker .....

To

Principal .....

In respect of

Contract .....

Location .....

We have read the Contract in all areas relating to insurance.

We certify that:

(a) the Contractor has a policy in place for which the premium has been paid;

(b) the insurance issued is subject to the terms and conditions of the policy.

We do not warrant that this policy complies with the requirements of this Contract.

Contract Works Insurance *Refer NZIA SCC 2007 Rule 6.1*

Insurer .....

Cover ..... $ Deductible ..... $

Expiry date .....

Signed by .....
Broker/Insurer

Public Liability Insurance *Refer NZIA SCC 2007 Rule 6.3*

Insurer .....

Cover ..... $ Deductible ..... $

Expiry date .....

Signed by .....
Broker/Insurer

Motor Vehicle Liability Insurance *Refer NZIA SCC 2007 Rule 6.4*

Insurer .....

Cover ..... $ Deductible ..... $

Expiry date .....

Signed by .....
Broker/Insurer

Construction Machinery Insurance *Refer NZIA SCC 2007 Rule 6.5*

Insurer .....

Cover ..... $ Deductible .....$

Expiry date .....

Signed by .....
Broker/Insurer

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Contractor's professional indemnity insurance information Schedule F2

Issued by

Broker .....

To

Principal .....

In respect of

Contract .....

Location .....

We have read the Contract in all areas relating to insurance.

We certify that:

(a) the Contractor has a policy in place for which the premium has been paid;

(b) the insurance issued is subject to the terms and conditions of the policy.

We do not warrant that this policy complies with the requirements of this Contract.

Contractor's professional indemnity insurance *Refer NZIA SCC 2007 Rule 6.6*

Insurer .....

Cover ..... $ Deductible ..... $

Expiry date ..... years from date of Practical Completion of the Contract

Signed by .....
Broker/Insurer

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Principal's insurance information

Schedule F3

Issued by

Broker .....

To

Contractor .....

In respect of

Contract .....

Location .....

We have read the Contract in all areas relating to insurance.

We certify that:

(a) the Principal has a policy in place for which the premium has been paid;

(b) the insurance issued is subject to the terms and conditions of the policy.

We do not warrant that this policy complies with the requirements of this Contract.

Contract Works insurance *Refer NZIA SCC 2007 Rule 6.1*

Insurer .....

Cover ..... $ Deductible ..... $

Expiry date .....

Signed by .....
Broker/Insurer

Existing structures *Refer NZIA SCC 2007 Rule 6.2*

Insurer .....

Cover ..... $ Deductible ..... $

Expiry date .....

Signed by .....
Broker/Insurer

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Warranty Agreement

Schedule **G1**

Contract for ..... NEW HOUSE
The Contract Works

Contractor .....
The Contractor

Principal ..... G and K REID
The Principal

Warrantor .....
Name of Contractor or Subcontractor

Warranted works .....
The Warranted Works

Warranty period ..... years from the date of Practical Completion of the Contract Works

The Principal has entered into a Contract (the Contract) with the Contractor for carrying out the Contract Works. The warranted works are part of the Contract Works.

The Contractor has agreed to arrange for the provision of a warranty in respect of the warranted works for the warranty period on the terms set out in this warranty.

The warrantor has agreed to provide a warranty in respect of the warranted works for the warranty period on the terms set out in this warranty.

1. IT IS HEREBY AGREED

The warrantor warrants to the Principal that the warranted works performed shall be as required in the Contract. If not specified the works shall be of good trade practice with materials and fittings of merchantable quality.

This warranty shall be in addition to and shall not derogate from any manufacturer's warranty or any warranty implied by law, attaching to any part of the warranted Works.

1.1 WARRANTOR'S OBLIGATIONS

The warrantor agrees that if the warrantor is advised by the Principal in writing of any defect in the warranted works within the warranty period for which the warrantor is liable under the terms of this warranty, the warrantor will promptly take steps to remedy the defect.

1.2 REMEDIAL WORK

Any remedial work which the warrantor is liable to undertake under this warranty shall be carried out :

- to the standard required by the Contract; and
- in a prompt and timely manner; and
- without unnecessary inconvenience to any occupants; and
- at the warrantor's cost; and
- subject to reasonable access being provided to the warrantor for the purpose of carrying out the remedial work.

1.3 REPAIR AND /OR COMPENSATION

Where the cost of replacement of work and / or materials is out of all proportion to the consequences of the defect, or where the defect may not be reasonably capable of rectification without substantial expense which is out of all proportion to the cost of the Contract Works, the warrantor may:

- where the defect is reasonably rectified by repair rather than by replacement, the warrantor's obligation under this warranty shall be only to repair or otherwise make good the defect; or
- propose reasonable monetary compensation in lieu of remedying the defect; or
- propose a combination of both repair and compensation.

The Principal must consider the warrantor's reasonable proposals and the parties must endeavour in good faith to reach agreement. Where agreement cannot be reached, the dispute shall be resolved in accordance with the disputes clause in this warranty.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.4 FAILURE BY WARRANTOR TO PERFORM REMEDIAL WORK

If the warrantor fails to promptly, adequately and satisfactorily carry out the remedial work or to propose acceptable repair/compensation, the Principal may then arrange for the remedial work to be carried out by others.

The Principal must first give the warrantor 10 working days notice to carry out and complete the remedial work. If the warrantor does not do this within the time, the Principal must then advise the warrantor in writing that the work will be carried out by other Persons.

In such event the warrantor is not released from obligations under this warranty, which continues in full force and effect, except in respect of the defect remedied by the Principal or by another person contracted by the Principal. the reasonable cost of remedial work carried out by such other persons including all reasonable costs of the Principal is to be paid to the Principal by the warrantor on demand.

1.5 EXCLUSIONS

The Principal agrees that the warrantor is not liable for any defect or damage caused by :

- wilful act or negligence of the Principal or any person other than the warrantor; or
- fire, explosion, earthquake, war, subsidence, slips, faulty materials or workmanship other than caused by the defect in the warranted work; or
- any force of nature which the warrantor could not reasonably foresee; or
- any neglect or unnecessary delay by the Principal in giving notice to the warrantor of a defect in the warranted Works becoming apparent; or
- design faults, errors or discrepancies, unless the warrantor undertook the design of the part of the warranted works the subject of the defect; or
- unintended use of the warranted Works by the Principal or any occupant thereof; or
- failure by the Principal or any occupant thereof to maintain the warranted works in accordance with good practice and any manufacturer's stated or recommended instructions or requirements.

1.6 ASSIGNMENT

The Principal may assign the benefit of this warranty to any person.

1.7 DISPUTES

Any dispute between the Principal and the warrantor arising out of this warranty is to be referred to arbitration before a sole arbitrator. If within 15 working days of notice of dispute, the Principal and the warrantor cannot agree on a single arbitrator, either party may request the president of the Arbitrators & Mediators Institute of New Zealand to appoint an arbitrator.

1.8 NOTICES

Notices given to the warrantor are deemed to have been effectively served on the warrantor if given in accordance with the Contract.

EXECUTED BY

Signed by the Warrantor:

on this: day of 200

(and where required to be executed as a deed) signed in the presence of :

Witness *(signature)* .....

Name *(print)* .....

Address *(print)* .....

Occupation *(print)* .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Signed by the Principal:

on this: day of 200

(and where require to be executed as a deed) signed in the presence of :

Witness *(signature)* .....

Name *(print)* .....

Address *(print)* .....

Occupation *(print)* .....

NOTE – Where the warrantor is not the Contractor, the warranty agreement must be executed by the warrantor and the Principal in the manner required for execution of a deed.

Any of these parties which are a company must execute the warranty by having it signed, under the name of the company, by two or more directors. If there is only one director, it is sufficient if the warranty agreement is signed under the name of the company by that director, but the signature must be witnessed by another person.

The witness must not only sign but must also add his or her occupation and address. Alternatively, companies may execute under power of attorney. Any party which is a body corporate (other than a company) must execute by affixing its seal, which must be attested in the manner provided for in the rules of, or applicable to, the body corporate.

In the case of a party who is an individual, the party must sign and the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Separate agreement to arbitration

Schedule G2

This separate agreement to arbitration is made to satisfy the requirement of section 11 of the Arbitration Act 1996.

Section 11 of the Arbitration Act 1996 states that:

Where –

(a) a contract contains an arbitration agreement:

(b) a person enters into that contract as a consumer,

the arbitration agreement is enforceable against the consumer only if –

(c) the consumer, by way of separate written agreement, certifies that, having read and understood the arbitration agreement, the consumer agrees to be bound by it; and

(d) the separate written agreement referred to in paragraph (c) discloses, if it is the case, the fact that all or any of the provisions of the Second Schedule do not apply to this arbitration agreement.

For the purposes of this section, a person enters into a contract as a consumer if-

(a) that person enters into the contract otherwise than in trade;

(b) the other party to the contract enters into that contract in trade

By this separate arbitration agreement I, as a consumer as defined in subsection 2 of section 11 of the Arbitration Act 1996, certify that:

I have read and understood *NZIA SCC 2007 Section 17 Disputes Rule 17.3 Resolution of disputes*, and as provided for in section 11 of the Act, I agree to be bound by it.

This agreement to arbitration was signed by the Principal as a consumer

Name .....
Print name of person signing

Signed by .....

Date .....

in the presence of

Name .....
Print name of person signing

of .....
Address of witness

Signed by .....

and was signed by the Contractor

Name .....
Print name of person signing

Signed by .....

Date .....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Security for off Site goods / materials

Schedule G3

Issued by

Contractor /
Subcontractor .....

To

Principal ..... G and K REID

In respect of

Contract ..... NEW HOUSE

Location ..... 9 DE BOER LANE, MANGAWHAI

The Contract provides, subject to certain conditions (*NZIA SCC 2007 Section 14 Payments Rule 14.2.2*), for payment to be made for goods that are not on the Site.

We, (Contractor / subcontractor) advise that the manufacture / supply of the goods or materials detailed in the schedule below / attached has been completed.

We warrant that the Contractor / subcontractor has the authority to deal with the goods / materials scheduled below and to pass good title in the goods / materials to the Principal.

We acknowledge that on payment by the Principal to the Contractor for the goods / materials scheduled below, ownership of the goods / materials will pass to the Principal.

We undertake to arrange insurance of the goods / materials while they are off site.

We agree to securely store, free of charge, the said goods / materials at the premises described on the attached schedule. The goods / materials will be clearly marked as the property of the Principal and will be dealt with strictly in accordance with instructions given by the Architect.

The Architect will be given free access to inspect the goods / materials during normal working hours.

Location

The premises where the goods / materials will be stored are located as follows:

Address

Schedule

The following are the goods / materials referred to above:

Number *Details of goods / materials*

Signed by ..... Date .....
Contractor/subcontractor

© NZIA Standard Conditions of Contract SCC 2007 1st Edition

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1012 TABLE OF CONTENTS

1012	TABLE OF CONTENTS	2
1220	PROJECT	3
1231	CONTRACT	4
1231NA	NZIA SCC CONTRACT	5
1232	INTERPRETATION & DEFINITIONS	6
1233	REFERENCED DOCUMENTS	7
1234	DOCUMENTATION	8
1237	WARRANTIES	11
1237WA	WARRANTY AGREEMENT	13
1240	ESTABLISHMENT	16
1250	TEMPORARY WORKS & SERVICES	17
1260	PROJECT MANAGEMENT	19
1270	CONSTRUCTION	25
2201	PREPARATION AND GROUNDWORK	30
2301	FOUNDATIONS	32
3101	CONCRETE	34
3301	CONCRETE MASONRY	38
3401	STRUCTURAL STEELWORK	41
3801	CARPENTRY	45
4101	TANKING	49
4102T	THERMAKRAFT WRAPS, UNDERLAYS AND DPC	52
4203	BRICK VENEER CLADDING	56
4208	EIFS CLADDING	59
4209	SOLID PLASTER	65
4302	TILE ROOFING	70
4305D	DIMOND RAINWATER SYSTEMS	73
4402N	NURALITE ROOFING	76
4501	TIMBER DOOR	80
4502MT	METRO THERMAL HEART WINDOWS & DOORS	82
4505	GARAGE DOORS	90
4601	GLAZING	93
4701	THERMAL INSULATION	103
4701A	AUTEXGREENSTUF® AND QUIETSTUF® INSULATION	105
4801	FLASHINGS	109
4901	METALWORK	112
5101G	GIB® PLASTERBOARD LININGS	115
5101H	JAMES HARDIE FIBRE CEMENT SHEET LINING	120
5201	INTERIOR DOORS	125
5201C	CS FOR DOORS®	127
5501	HARDWARE	134
6201	TILING	136
6701R	RESENE PAINTING	141
7101R	REHAU HOT AND COLD WATER SYSTEM	145
7102	RAINWATER STORAGE TANKS	157
7103	SANITARY FIXTURES, TAPWARE & ACCESSORIES	161
7105	SOLAR WATER HEATING SYSTEM	166
7201	GAS SYSTEM	171
7402	SANITARY PLUMBING	174
7403	DRAINAGE	176
7404	WASTE WATER TREATMENT SYSTEM	179
7503	UNDERFLOOR HEATING	184
8500	APPENDIX	189

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1220 PROJECT

This general section describes the project including:
- A description of the work
- Site description, features and restrictions

1.1 READ ALL SECTIONS TOGETHER

Read all general sections together with all other sections.

Description of the work

1.2 SCOPE OF THE WORK

New house and garages and plumbing and drainage services associated with septic tank and water tanks.

1.3 SITE

The site consists of a flat building platform with access off De Boer Lane Mangawhai as shown on Drawing No. A01 Site Plan

1.4 LEGAL DESCRIPTION

The site of the works, the street address and the legal description are shown on the drawings.

1.5 SITE ACCESS

Access to the site is limited to access off De Boer Lane.

1.6 GROUND CONDITIONS

Refer to the soils investigation report included with this specification in Appendix.

1.7 WORKING AREA

Limited to the following designated working areas on the site:
-Building platform

1.8 EXISTING SERVICES

The following are the network utility services:

Electrical:	At Cove Road boundary South West corner of the site.
Telecommunication:	At Cove Road boundary at South West corner of the site.

The principal will arrange the following:

Water:	Water tanks
Gas:	LPG gas
Foul water:	Aerated wastewater treatment system

The services are also shown on drawing A01 Site and Drainage Plan

1.9 SITE FEATURES

The site is gently sloping North facing with existing trees along the boundaries.

The building foundation design anticipates unconsolidated fill over topsoil on the North side of the house. In these areas the house is suspended on piles. Only a DPC and capillary break are required.

Wind zone: High

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1231 CONTRACT

1. **GENERAL**
This GENERAL section refers to contract related matters.

1.1 NOMINATED SUBCONTRACTORS
The contractor must appoint the following to carry out specific parts of the work.

1.3 PRINCIPAL SUPPLY ITEMS
The principal is supplying the following items for inclusion in the contract works.
Hardware
Wall and floor tiles
Sanitary fixtures, tapware and accessories
Electrical light fittings, heaters towel rails, extract fans
Rainwater storage tanks
Wastewater treatment system

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1231NA NZIA SCC CONTRACT

1. GENERAL

This general section refers to requirements relating to the New Zealand Institute of Architects Standard Conditions of Contract NZIA SCC:2007 under which this work will be constructed.

1.1 THE ARCHITECT

The architect means the Architect to the Contract and is the person named in schedule B1 of the New Zealand Institute of Architects Standard Conditions of Contract NZIA SCC:2007. They are referred to in this specification as the Contract administrator.

1.2 NOMINATED SUBCONTRACTORS

Refer to NZIA SCC:2007, standard conditions rule 8.2: Contractor can appoint subcontractors.

1.3 SEPARATE CONTRACTORS

Refer to NZIA SCC:2007, Schedule B1, rule 8.3: Separate contractors, and the standard conditions rule 8.3: Principal can engage other people

1.4 PRINCIPAL SUPPLY ITEMS

Refer to NZIA SCC:2007, Schedule B1: rule 8.1 Principal supply items, and the standard conditions rule 8.1: Contractor must supply all requirements.

1.5 MONETARY ALLOWANCES

Refer to NZIA SCC:2007, Schedule B1 rule 10.1 Monetary allowances, and the standard conditions rule 10.1 Monetary allowances.

1.6 INCONSISTENCIES IN CONTRACT DOCUMENTS

Refer to NZIA SCC:2007 standard conditions rule 2.2, Inconsistencies in contract documents, for the method of handling inconsistencies, errors or omissions.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1232 INTERPRETATION & DEFINITIONS

1. GENERAL

This general section relates to interpretation and definitions that are used in this specification.

1.1 INTERPRETATIONS

Required:	Required by the documents, or by a statutory authority.
Proprietary:	Identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.
Provide and fix:	"Provide" or "fix" or "supply" or "fix" if used separately mean provide and fix unless explicitly stated otherwise.
Review:	Review by the contract administrator is for general compliance only. Review does not remove the need for the contractor to comply with the stated requirements, details and specifications of the manufacturers and suppliers of individual components, materials and finishes. Neither can the review be construed as authorising departures from the contract documents.

1.2 PERSONNEL

Owner:	The person defined as "owner" in the New Zealand Building Code.
Principal:	The person defined as "principal" in the conditions of contract.
Contractor:	The person contracted by the principal to carry out the contract.
Contract administrator:	The person appointed by the principal to administer the contract on the principal's behalf. It includes the architect, engineer, designer, project manager or other person so appointed. Where no person has been appointed by the Principal, it means the Principal or the Principal's representative.

1.3 ABBREVIATIONS

The following abbreviations are used throughout the specification:

AAMA	American Architectural Manufacturers Association
AS	Australian Standard
AS/NZS	Joint Australian/New Zealand Standard
ASTM	American Society for Testing and Materials
AWCINZ	Association of Wall and Ceiling Industries of New Zealand Inc
BRANZ	Building Research Association of New Zealand
BS	British Standard
CSIRO	Commonwealth Scientific and Industrial Research Organisation
HERA	Heavy Engineering Research Association
MPNZA	Master Painters New Zealand Association Inc
NZBC	New Zealand Building Code
NZS	New Zealand Standard
NZS/AS	Joint New Zealand/Australian Standard
TNZ	Transit New Zealand

1.4 DEFINED WORDS

Words defined in the conditions of contract, New Zealand Standards, or other reference documents, to have the same interpretation and meaning when used in their lower case, title case or upper case form in the specification text.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1233 REFERENCED DOCUMENTS

1. GENERAL

This general section relates to other documents referred to in this specification.

1.1 REFERENCED DOCUMENTS

Throughout this specification, reference is made to various New Zealand Building Code (NZBC) acceptable solutions and verification methods for criteria and/or methods used to establish compliance with the Building Act.

Reference is also made to various Standards produced by Standards New Zealand (NZS, AS/NZS, NZS/AS), Transit New Zealand specifications (TNZ) to overseas standards and to listed Acts, Regulations and various industry codes of practice and practice guides. The latest edition (including amendments and provisional editions) at the date of this specification applies unless stated otherwise.

It is the responsibility of the contractor to be familiar with the materials and expert in the techniques quoted in these publications.

Documents cited both directly and within other cited publications are deemed to form part of this specification. However, this specification takes precedence in the event of it being at variance with the cited documents, with the resolution of any variance being confirmed by the Contract administrator in writing and then notified to the Building Consent Authority for consent prior to any work proceeding.

1.2 DOCUMENTS REFERRED TO

Documents referred to in the GENERAL sections are:

NZBC F4/AS1	Safety from falling, 2.0 Construction site barriers
NZBC F5/AS1	Construction and demolition hazards, 1.0 Work-site barriers
NZS 6803	Acoustics - Construction Noise

Building Act 2004
Building Regulations 1992
Health and Safety in Employment Act 1992
Health and Safety in Employment Regulations 1995
New Zealand Building Code 1992
Resource Management Act 1991
Smoke Free Environments Act 1990

OSH	Approved code of practice for the safe erection and use of scaffolding
OSH	Guidelines for the provision of facilities and general safety in the construction industry

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1234 DOCUMENTATION

1. GENERAL

This general section relates to documentation required by the Territorial Authority/Building Consent Authority for compliance with the New Zealand Building Code. It also includes documentation relating to:
- Substitutions
- Manufacturers documents

Building Consent Authority documentation

1.1 BUILDING CONSENT

Obtain the original or copies of the building consent forms and documents from the owner and keep them on site. Liaise with the Building Consent Authority for all notices to be given and all inspections required during construction to ensure compliance. Return the consent form and documents to the owner on completion.

1.2 BUILDING CONSENT COMPLIANCE

It is an offence under the Building Act 2004 to carry out any work not in accordance with the building consent.
- The resolution of matters concerning building code compliance to be referred to the contract administrator for a direction in writing and then to the Building Consent Authority for consent.
- Where any alteration is requested by the territorial authority or any other authority, do not undertake such alteration until the matter has been referred to the contract administrator for direction.

1.3 PROJECT PERSONNEL

Provide names and contact detail of the contractor's key personnel and tradespersons who are involved with the project. Provide the names in the form required in the GENERAL section of the specification. Review the list once a month and reissue it if changes have been made.

1.4 KEY PERSONNEL

Provide names and contact detail of key personnel. Provide names, registrations numbers (where appropriate) and contact detail of key personnel that are required by the Building Consent Authority as part of the application for the Code Compliance Certificate.

Include the following as applicable:
- Registered drainlayer
- Registered plumber
- Registered gasfitter
- Registered electrician

- Roofer
- Block layer
- Bricklayer
- External plasterer
- External window manufacturer
- Waterproof membrane applicator

1.5 PRODUCER STATEMENTS

When producer statements verifying construction are required, provide copies to both the Building Consent Authority and the contract administrator. Provide producer statements in the form required by the Building Consent Authority.

1.6 DOCUMENTATION REQUIRED FOR CODE COMPLIANCE

Review the issued Building Consent for details of documents and information that will be required by the Principal for the application for a Code Compliance Certificate. Obtain such required documents from the relevant parties for delivery to the contract administrator after the final inspection has been carried out by the Building Consent Authority

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Substitutions

1.7 PROPOSED SUBSTITUTIONS
A substitution may be proposed where specified products are not reasonably available.A substitution m any substitutions. Where branded work sections are included in this specification, substitution of those products or systems will not be allowed.

1.8 NOTIFICATION OF SUBSTITUTIONS
Notify proposed substitution of specified products. Notification to include but not be limited to:
- Product identification
- Manufacturer's name, address, telephone and facsimile numbers, website and email address
- Detailed comparison between the properties and characteristics of the specified product and the proposed substitution
- Statement of NZBC compliance, including durability
- Details of manufacturer warranties

plus an assessment of
- Any changes required to the programme including any extension of time required
- Any consequential effects of the proposed substitution
- Allowance for time and cost for re-design and documentation (if applicable)
- Allowance for time and cost for obtaining an amendment to the Building Consent (if applicable)
- Any change in cost associated with the proposed substitution

and if requested
- All current manufacturer's literature on the product
- Accreditations and appraisals available
- Reference standards
- Product limitations
- Samples
- List of existing installations in the vicinity of the project

1.9 ACCEPTANCE OF SUBSTITUTIONS
The Contract administrator must advise of acceptance of substitutions in writing.

Amendment to issued Building Consent

1.10 CONTRACTOR AMENDMENTS TO BUILDING CONSENT
Where the contactor has sought acceptance of a substitution or a variation which is for the contractor's own convenience and the substitution or variation requires an amendment to the Building Consent, the contractor must apply for and obtain the required amendment.

The contractor must:
- Obtain approval for substitutions from the Contract administrator.
- Prepare and provide to the Building Consent Authority all documentation required for the amendment.
- Pay all fees and other costs associated with this amendment.
- Where the amendment affects other approved plans, also amend those plans.

1.11 PRINCIPALS AMENDMENTS TO BUILDING CONSENT
Where the principal is proposing a substitution or a variation which requires an amendment to the Building Consent, the contractor must provide to the principal information that the contractor has that is required for the amendment.

The principal will:
- Prepare and provide to the Building Consent Authority all documentation required for the amendment.
- Pay all fees and other costs associated with this amendment.
- Where the amendment affects other approved plans, also amend those plans.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Manufacturer's documents

1.12 BRANDED WORK SECTIONS
Branded sections may be included in this specification relating to specific products and systems to be installed as part of the contract works. Where branded sections are included, substitutions to the branded products and systems will not be allowed.

1.13 MANUFACTURER'S AND SUPPLIER'S REQUIREMENTS
Manufacturers and supplier's requirements, instructions, specifications or details mean those issued by them for their particular material, product or component and are the latest edition.

1.14 MANUFACTURER'S AND SUPPLIER'S DOCUMENTS
Refer to individual sections for a detailed list of manufacturer's and supplier's documents relating to work on this project. Retain current copies of the documents listed, and all other relevant manufacturer's technical literature, on site. Make this information available to all personnel and ensure they are familiar with requirements for handling, storing, preparing for, fixing and finishing all products before commencing work. Provide a copy of all listed manufacturer's literature to the Contract administrator.

1.15 ONGOING MAINTENNACE REQUIREMENTS
Refer to individual sections for details of manufacturer's and supplier's requirements for ongoing maintenance necessary to ensure continuing compliance with the durability requirements of the NZBC. Provide a copy of literature detailing ongoing maintenance and inspection requirements to the Contract administrator.

Shop drawings

1.16 PROVIDE SHOP DRAWINGS FOR REVIEW
Unless addressed elsewhere in this specification provide shop drawings for review by the contract administrator. Do not proceed with manufacture of the items until the Contract administrator gives a direction to proceed.

As built drawings

1.17 PROVIDE AS BUILT DRAWINGS
Unless addressed elsewhere in this specification provide as built drawings required as built drawings including those required by the Building Consent Authority.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1237 WARRANTIES

1. GENERAL

This general section refers to the requirements for warranties as listed, either in this work section or in specific work sections. It includes: -

- Warranties required by the Principal in a required form
- Warranties offered by manufacturers/subcontractors for parts of the work in the manufacturers/subcontractors standard form
- Guaranties provided by contractors in the contractor's standard form
- Trade warranties included with products, appliances and the like in the suppliers standard form

Warranties

1.1 PROVIDE WARRANTIES

Provide executed warranties in favour of the principal in respect of, but not limited to, materials, components, service, application, installation and finishing called for in that specified section of work. The terms and conditions of the warranty in no case negate the minimum remedies available under common law as if no warranty had been offered. Failure to provide the warranty does not reduce liability under the terms of the warranty called for in that specified section of work.

Where installer/applicator warranties are included in a branded section of this specification they shall be provided in lieu of the warranties that are otherwise required.

Where installer/applicator warranties are available they may be provided in lieu of the warranties that are otherwise required provided these warranties are subject to similar conditions and periods as those listed in the SCHEDULE OF WARRANTIES.

- Conform to the warranty agreement form included in the specification/conditions of contract.
- Commence warranties from the date of practical completion of the contract works (unless otherwise stated).
- Maintain their effectiveness for the times stated.
- Provide executed warranties no later than the date of the Contractor's Completion Statement.

1.2 WEATHERTIGHTNESS AND WATERTIGHTNESS WARRANTY

A warranty is required from the contractor for a minimum period of 2 years, covering the weathertightness of the complete building envelope and the watertightness of all liquid supply and disposal systems and fittings. This general warranty is in addition to any specific warranties required.

1.3 SCHEDULE OF WARRANTIES

The following is a summary of the warranties and warranty periods called for in work sections.

2 years	Weathertightness and watertightness
20 years	Liquid applied tanking
20 years	Bitminous membrane roofing
50 years	Concrete tile roofing
5 years	Aluminium windows and doors
15 years	EIFS cladding
10 years	Metal gutters and downpipes
10 years	Sealants
2 years	Wall tiling
2 years	Floor tiling
2 years	Painting
2 years	Decorative coatings
5 years	Protective coatings, steelwork
2 years	Hot and cold water system
2 years	Solar water heating system

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

5 year	Underfloor heating
1 year	Electrical general
1 year	Access control
1 year	Intruder detection systems
15 years	Waste water treatment system

Refer also to:
- WARRANTIES – INSTALLER/APPLICATOR for other installer/applicator warranties.
- WARRANTIES – MATERIALS for other materials and product warranties.

1.4 WARRANTIES – INSTALLER/APPLICATOR

Where installer/applicator warranties are offered covering execution and materials of proprietary products or complete installations, provide such warranties to the contract administrator. These warranties may be provided in lieu of the warranties that are otherwise required provided that these warranties are subject to similar conditions and periods as list in the SCHEDULE OF WARRANTIES.

Where installer/applicator warranties are included in a branded section of this specification, they shall be provided in lieu of the warranties that are otherwise required.

Provide warranties in favour of the principal. The terms and conditions of such warranties in no case negate the minimum remedies available under common law as if no warranty had been offered. Failure to provide the warranty does not reduce liability for execution and materials for that part of the work.

- Conform to the installer/applicator standard form of warranty. Where the installer/applicator does not have a standard form of warranty, use the form included in the contract documents.
- Commence the warranties from the date normally applicable for the work.
- Maintain their effectiveness for the times stated.
- Provide warranties no later than the date of the Contractor's Completion Statement.

1.5 WARRANTIES – MATERIALS

Where warranties are offered covering materials, equipment, appliances or proprietary products, provide all such warranties to the contract administrator.

Provide warranties in favour of the principal. The terms and conditions of such warranties in no case negate the minimum remedies available under common law as if no warranty had been offered. Failure to provide the warranty does not reduce liability for execution and materials for that part of the work.

- Conform to the manufacturer's standard form of warranty.
- Commence the warranties from the date normally applicable.
- Maintain their effectiveness for the times stated.
- Provide warranties no later than the date of the Contractor's Completion Statement.

Guarantees - Contractor

1.6 MASTER BUILD SERVICES LTD GUARANTEE

Provide a Master Build New Homes or Alterations & Additions Guarantee including all costs in the contract price and covering loss of deposit, completion, inspection, execution and material defects under the terms of the guarantee offered by Master Build Services Ltd. Execute with all three signatories: owner, registered master builder and Master Build Services Ltd, before commencing the contract works.

1.7 CBANZ GUARANTEE

Provide a Certified Builders HomeFirst Builders Guarantee. Complete the guarantee application. Before commencing the contract works, execute with the signatures of the owner and the Certified Builder, and forward to CBA Guarantee Ltd along with a copy of the Building Consent, payment schedule and the fee payable.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

1237WA WARRANTY AGREEMENT

Contract for: NEW HOUSE

Contractor:

Principal: G AND K REID

Warrantor:
(name of contractor or subcontractor)

Warranted works:

Warranty period: ~ years from the date of practical completion of the contract works.

The principal has entered into a contract (the contract) with the contractor for carrying out the contract works. The warranted works are part of the contract works.

The contractor has agreed to arrange for the provision of a warranty in respect of the warranted works for the warranty period on the terms set out in this warranty.

The warrantor has agreed to provide a warranty in respect of the warranted works for the warranty period on the terms set out in this warranty.

1. IT IS HEREBY AGREED

The warrantor warrants to the principal that the warranted work performed shall be as required in the contract. If not specified the work shall be of good trade practice with materials and fittings of merchantable quality.

This warranty shall be in addition to and shall not derogate from any manufacturer's warranty or any warranty implied by law, attaching to any part of the warranted works.

1.1 WARRANTOR'S OBLIGATIONS
The warrantor agrees that if the warrantor is advised by the principal in writing of any defect in the warranted works within the warranty period for which the warrantor is liable under the terms of this warranty, the warrantor will promptly take steps to remedy the defect.

1.2 REMEDIAL WORK
Any remedial work which the warrantor is liable to undertake under this warranty shall be carried out:
- to the standard required by the contract; and
- in a prompt and timely manner; and
- without unnecessary inconvenience to any occupants; and
- at the warrantor's cost; and
- subject to reasonable access being provided to the warrantor for the purpose of carrying out the remedial work.

1.3 REPAIR AND/OR COMPENSATION
Where the cost of replacement of work and/or materials is out of all proportion to the consequences of the defect, or where the defect may not be reasonably capable of rectification without substantial expense which is out of all proportion to the cost of the contract works, the warrantor may:
- where the defect is reasonably rectified by repair rather than by replacement, the warrantor's obligation under this warranty shall be only to repair or otherwise make good the defect or
- propose reasonable monetary compensation in lieu of remedying the defect or
- propose a combination of both repair and compensation.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

The principal must consider the warrantor's reasonable proposals and the parties must endeavour in good faith to reach agreement. Where agreement cannot be reached the dispute shall be resolved in accordance with the disputes clause in this warranty.

1.4 FAILURE BY WARRANTOR TO PERFORM REMEDIAL WORK

If the warrantor fails to promptly, adequately and satisfactorily carry out the remedial work or to propose acceptable repair/compensation, the principal may then arrange for the remedial work to be carried out by others.

The principal must first give the warrantor 10 working days notice to carry out and complete the remedial work. If the warrantor does not this within the time, the principal must then advise the warrantor in writing that the work will be carried out by others.

In such event the warrantor is not released from obligations under this warranty, which continues in full force and effect, except in respect of the defect remedied by the principal or by another person contracted by the principal. The reasonable cost of the remedial work carried out by such other persons including all reasonable costs of the principal is to be paid to the principal by the warrantor on demand.

1.5 EXCLUSIONS

The principal agrees that the warrantor is not liable for any defect or damage caused by:

- wilful act or negligence of the principal or any person other than the warrantor; or
- fire, explosion, earthquake, war, subsidence, slips, faulty materials or workmanship other than caused by the defect in the warranted work; or
- any force of nature which the warrantor could not reasonably foresee; or
- any neglect or unnecessary delay by the principal in giving notice to the warrantor of a defect in the warranted works becoming apparent; or
- design faults, errors or discrepancies, unless the warrantor undertook the design of the part of the warranted works the subject of the defect; or
- unintended use of the warranted works by the principal or any occupant thereof; or
- failure by the principal or any occupant thereof to maintain the warranted works in accordance with good practice and any manufacturer's stated or recommended instructions or requirements.

1.6 ASSIGNMENT

The principal may assign the benefit of this warranty to any person.

1.7 DISPUTES

Any dispute between the principal and the warrantor arising out of this warranty is to be referred to arbitration before a sole arbitrator. If within 15 working days of notice of dispute, the principal and the warrantor cannot agree on a single arbitrator, either party may request the president of the Arbitrators & Mediators Institute of New Zealand to appoint an arbitrator.

1.8 NOTICES

Notices given to the warrantor are deemed to have been effectively served on the warrantor if given in accordance with the contract.

EXECUTED BY

Signed by the warrantor: .....

on this: .....day of .....200.....

(And where required to be executed as a deed) signed in the presence of:

Witness signature: .....

Name: .....
(print)

Address: .....
(print)

Occupation: .....

REID HOUSE
MANGAWHAI

(print)

Signed by the principal: .....

on this: .....day of .....200.....

(And where required to be executed as a deed) signed in the presence of:

Witness signature: .....

Name: .....
(print)

Address: .....
(print)

Occupation: .....
(print)

NOTE – Where the warrantor is not the contractor the warranty agreement must be executed by the warrantor and the principal in the manner required for execution of a deed.

Any of these parties which are a company must execute the warranty by having it signed, under the name of the company, by two or more directors. If there is only one director, it is sufficient if the warranty agreement is signed under the name of the company by that director, but the signature must be witnessed by another person.

The witness must not only sign but must also add his or her occupation and address. Alternatively, companies may execute under power of attorney. Any party which is a body corporate (other than a company) must execute by affixing its seal, which must be attested in the manner provided for in the rules of, or applicable to, the body corporate.

In the case of a party who is an individual, the party must sign and the signature must be witnessed by another person. The witness must not only sign but must also add his or her occupation and address.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1240 ESTABLISHMENT

1. GENERAL

This general section relates to site establishment including: -
- Notices and approvals
- Inspections
- Site preparation
- Temporary construction

Notices and approvals

1.1 STATUTORY OBLIGATIONS
Comply with all statutory obligations and regulations of regulatory bodies controlling the execution of the works.

1.2 BUILDING CONSENT AUTHORITY AND NETWORK UTILITY APPROVALS
Attend on Building Consent Authority officers, statutory and network utility inspectors, as necessary to obtain approvals (in addition to building consent approval) for and the satisfactory completion of, the works.

1.3 NOTIFY NETWORK UTILITY OPERATORS
Notify all network utility operators of proposed works before commencing site operations. Ascertain location of services or confirm that none exist in the vicinity of the works. Take all necessary precautions to avoid damage to existing services.

Site preparation

1.4 SITE AND SOIL SURVEYS
Carry out all investigations necessary and peruse all information available to determine ground conditions and likely ground performance both on the site and adjacent to it. Also refer to the territorial authority project information memorandum (PIM).

Temporary construction

1.5 TEMPORARY ROADS
Provide as necessary all temporary roads, tracks, crossings and hard standing required for the efficient execution of the works and maintain to approval.

1.6 TEMPORARY BUILDINGS
Provide as necessary temporary sheds, offices, lunch rooms, sanitary accommodation and other temporary buildings required for storage, management of the works, for the use of workers while on site and as required by Acts and Regulations.

1.7 FENCING
Provide temporary fencing as necessary to protect the public and others, for the proper execution of the works and to meet the requirements of territorial or other authority.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1250 TEMPORARY WORKS & SERVICES

1. GENERAL

This general section relates to temporary works and services required for the construction of the contract works. It includes:

- Temporary works and services
- Scaffolding
- General care and protection

Temporary works

1.1 COMPLY WITH NEW ZEALAND BUILDING CODE

Refer to New Zealand Building Code clauses and approved document paragraphs for the criteria and/or methods that must be used in this section to establish compliance with the code.

1.2 COSTS RELATING TO TEMPORARY WORKS

Pay all rates/fees in respect of temporary works.

1.3 MAINTENANCE OF TEMPORARY WORKS

Maintain alter, adapt and move temporary works and services as necessary. Clear away when no longer required and make good.

1.4 SAFEGUARD THE SITE, THE WORKS AND MATERIALS

Take all precautions to prevent unauthorised access, including access outside working hours, to the site, the works and adjoining property. Safeguard the site, the works, materials and plant from damage and theft.

1.5 PROVIDE SEDIMENT AND SILT RUN OFF PROTECTION

Provide appropriate measures to prevent or minimise sediment generation and silt run off. Comply with territorial and other authority requirements relating to carrying out earthworks.

Prevent silt run off by:

- exposing only as much ground as required at any time
- providing run off channels, contour drains or earth bunds to divert clean water away from the site on to stable sealed or grassed ground
- capture silt by the use of silt fences, vegetation buffer strips, sediment ponds or earth bunds.

Provide sediment control by:

- earth bunds constructed across the slope to control and detain run off
- silt fences constructed using filter fabric stretched between posts at a maximum of 1 metre spacing.

Pump water from trenches and other areas of the site using methods to prevent sediment entering any drain or watercourse. Filter dirty water before discharging into drainage system.

Temporary services

1.6 WATER

Provide clean, fresh water for the works and make arrangements for distributing about the site.

1.7 ELECTRICITY

Nominate the person to install and be responsible for the complete temporary electrical installation. The name and designation of the person responsible is to be displayed prominently and close to the main switch or circuit breaker.

Inspect and overhaul the installation at such intervals as are prescribed by the network utility operator but not exceeding three monthly intervals.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.8 TELEPHONE
Provide on site temporary telephone facilities.

1.9 FACSIMILE
Provide on site temporary facsimile facilities.

1.10 COMPUTER
Provide on-site temporary computer facilities complete with an email and internet connection capable of sending, receiving and printing site communications.

Scaffolding and shoring

1.11 GENERAL SCAFFOLDING
Provide as necessary general scaffolding for the efficient execution of the works. Placement, erection and structure to be by certified suppliers/erectors and approved by the Labour Department OSH inspectors before being used. Comply with the OSH publication: "Approved code of practice for the safe erection and use of scaffolding."

Care and protection

1.12 PROTECT EXISTING TREES
Protect existing trees, fences, gates, and other designated site features which are to remain in position during the execution of the works.

1.13 EXISTING SITE SERVICES
Make good all damage to existing roads, or other services, caused in carrying out the contract works.

1.14 CONSTRUCTION KEYING AND SECURITY
Provide locksets with temporary keying, or install with the cylinders removed.

1.15 TEMPORARY STORAGE
Provide temporary storage areas and protective covers and screens. Fillet stack and protect all framing and structural members from moisture and contamination. Completely protect finishing materials from the weather and damage and store in accordance with the manufacturer's requirements. Protect fabricated elements from the weather and damage, and store in accordance with suppliers' requirements.

1.16 SPECIAL PROTECTION
Protect membrane roofing to flat roof areas from damage by other trades.

1.17 PERIODIC SITE CLEANING
Carry out periodic site cleaning during the contract period. Place waste material in appropriate storage pending removal from the site.

1.18 PERIODIC RUBBISH REMOVAL
Maintain on site appropriate means for the storage and removal of construction waste material. Where required or appropriate provide for the separate storage of recyclable waste and other materials requiring special disposal. Keep food waste separate from construction waste.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1260 PROJECT MANAGEMENT

1. **GENERAL**

This general section relates to project management requirements including:
- Meetings
- Cost control
- Communicating and recording
- Programming
- Health and safety

Meetings

1.1 SITE MEETINGS

Meetings to normally be held: Fortnightly

The following persons to attend:
- Principal
- Contractor
- Architect
- Engineer
- Services consultants when needed
- Subcontractors when needed (contractor to inform them).

Meeting place: ~
Time: ~
Day: ~

1.2 MINUTES

The contract administrator is to keep full minutes of all site meetings and arrange distribution to all those involved within 3 working days.

Cost control

1.3 MEASUREMENT

Give reasonable notice to the contract administrator before covering up work which requires to be measured.

1.4 DAYWORK VOUCHERS

To be signed by the contractor's representative as confirming the labour, times and materials used, before being supplied to the contract administrator.

Communicating and recording

1.5 MEANS OF COMMUNICATION

Communications between the parties on shall be as follows

Directions:	In writing delivered by email with a copy by post or hand
Meeting minutes:	In writing by email
RFI's:	(Requests for information) by email or in writing to the contract administrator

1.6 RECORDS

Ensure all records specified are kept, held and collated on site in a form that makes the information easily accessible when it is needed. Distribute copies as and when necessary to those persons entitled under the contract to that information.

1.7 PROGRESS PHOTOGRAPHS

Take digital photographs from positions agreed with the contract administrator at specified frequency and provide copies to the contract administrator.

Frequency:	Monthly
Copies required:	1 set colour prints not less than postcard size

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1 electronic copy delivered on disk or by email

Programming

1.8 CONTRACT PROGRAMME

Include the proposed sequence of all significant on-site and off-site activities, including any intermediate key dates mentioned in the contract. Identify the critical path. Provide a tabulated schedule of information for each activity in order of:

- brief description
- duration in suitable time unit
- earliest start and latest finish time
- total float
- key dates for the supply of information or materials by others.

Identify the dates by which particular information, material or plant need to be supplied or arranged by the contract administrator. Also identify any constraints which may have been imposed by the programme.

Supply copies of the programme to the following:

- Contract administrator	1
- Architect	1
- Owner	1
- Site supervisor	1

Monitor the contract programme by:
- recording progress regularly on the site chart
- informing the contract administrator promptly of any circumstances affecting any part of the programme structure and timing
- reviewing the programme once a month making alterations as needed and agreed to and re-issuing the required copies.

1.9 WORKING HOURS

Work on site is not restricted. Comply with territorial authority consent conditions and noise and nuisance controls.

Health and safety

1.10 HEALTH AND SAFETY

Refer to the requirements of the Health and Safety in Employment Act 1992. Comply with all relevant New Zealand safety legislation.

Take all practical steps to make the site and the contract works safe and to provide and maintain a safe working environment. Ensure that all those working on or visiting the site are aware of the rules governing site safety, are properly supervised and are not unnecessarily exposed to hazards.

Identify any significant hazards.

Maintain proper procedures for dealing with any emergencies that may arise. Immediately investigate accidents, identify their cause and maintain a register of accidents and serious harm. Provide a copy of any report which the contractor is required to make to a public authority on any accident which is associated with carrying out the contract works and results in serious harm to any person.

Refer to individual work sections for detailed requirements on this project.

1.11 SUSPENSION OF HAZARDOUS WORK

On the request of the contract administrator, acting on reasonable grounds, suspend any identified hazardous activities and proceed to eliminate, isolate or minimise them in order to comply with the Act, without prejudice to any other rights of the principal under the contract.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.12 SITE SAFETY PERSON

Appoint a suitably qualified site safety person to co-ordinate site safety and to attend all site meetings.

1.13 HEALTH AND SAFETY PLAN

Prepare and submit to the contract administrator before commencing work on site a health and safety plan. Include in that plan all people on site and the general public, as well as the following items and any other necessary item:

- identification of existing and potential construction hazards and risks
- safety procedures to eliminate, isolate or minimise construction hazards
- the equipment to be used to minimise the hazards
- the maintenance of a register of hazards for the site
- the name and qualifications of the site safety person
- emergency procedures
- first aid facilities and safety equipment
- the methodology for notifying, recording and investigating accidents and injuries.

Keep a copy of the plan in the site office

1.14 COMPLY WITH SITE SAFETY PLAN

Carry out all construction operations in accordance with the submitted health and safety plan.

1.15 INFORM EMPLOYEES OF HAZARDS

Inform employees and others on the site of:

- hazards they may be exposed to while working
- hazards they may create while working which could harm others
- how these hazards may be minimised
- emergency procedures
- the location of first aid facilities and safety equipment.

1.16 HEALTH AND SAFETY REGULATIONS, CODES AND GUIDES

Comply with:

- Relevant New Zealand safety legislation including "Health and Safety in Employment Regulations 1995".
- OSH publications including "Guidelines for the provision of facilities for general safety in the construction industry".
- Relevant codes of practice, guides, guidelines and standards.

Until further regulations are made under the Health and Safety in Employment Act 1992 to cover them, the enactments repealed by the Act continue in force until revoked.

1.17 EXPLOSIVES

Do not use explosives except with the written approval of the territorial authority/office of OSH. Comply with their safety requirements and use construction blasters holding a current certificate of competence issued under the Health and Safety in Employment Regulations 1995.

1.18 POWDER-ACTUATED FASTENING TOOLS

Powder-actuated fastening tools to be used only by workers holding current certificates of competence in their name, issued under the requirements of the Health and Safety in Employment Regulations 1995.

1.19 SMOKE FREE REQUIREMENTS

Do not smoke on site except in a designated location, in accordance with the Smoke Free Environments Act 1990. This location to be determined by the contractor with the agreement of the contract administrator.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

1.20 RESTRICTIONS

Do not:
- light rubbish fires on the site
- bring dogs on to or near the site
- bring radios/audio players on to the site.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1270 CONSTRUCTION

1. GENERAL

This GENERAL section relates to common requirements for construction issues including: -
- Quality assurance
- Noise and nuisance
- Set out
- Common execution requirements
- Common materials requirements
- Supply of spare materials
- Common requirements for samples and tests
- Final presentation and cleaning
- Commissioning

Quality control and assurance

1.1 QUALITY ASSURANCE

Carry out and record regular checks of material quality and accuracy, including:
- Concrete quality and finish.
- Dimensional accuracy of structural column locations (following completion of foundations).
- All perimeter columns and frames for plumb.
- Levels of all floors relative to the site datum.
- Framing timber moisture content.

Where any material, quality or dimension falls outside specified or required tolerances, obtain written direction from the contract administrator. Where building consent approval is affected, confirm remedial action with the Building Consent Authority.

Provide all materials, plant, attendances, supervision, inspections and programming to ensure the required quality standards are met by all project personnel.

Noise and nuisance

1.2 LIMIT CONSTRUCTION NOISE

Minimise the effects of noise generation by including in the planning of the work such factors as placing of plant, programming the sequence of operations and other management functions. Limit construction noise to comply with the requirements of NZS 6803, the requirements of the Resource Management Act sections 326, 327 and 328 and the Health and Safety in Employment Regulations clause 11.

1.3 ACCEPTABLE NOISE LEVELS

Refer to NZS 6803 Tables 2 and 3 for the upper limits of construction work noise in residential and industrial areas over the various time periods, particularly 0730 to 1800 hours. Note also the allowed adjustments and exemptions in Section 6. Do not exceed these limits.

1.4 PROVIDE INFORMATION TO NEIGHBOURS

Provide information to neighbours of any noise generation from the site liable to constitute a problem. Explain to them the means being used to minimise excessive noise and establish with them the timings most suitable for the noise generating work to be carried on.

Discuss with any complainant the measures being used to minimise noise. Where possible modify these measures to accommodate particular circumstances. Finally, determine the sound level at the location under discussion using methods and observation reporting as laid down in NZS 6803. If the noise level is above the upper limits of tables 2 and 3, cease the noise generating operation and remedy the problem.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.5 INCONVENIENCE TO OTHERS
When the works are to be carried out in or around occupied premises, ascertain the nature and times of occupation and use. Carry out the works in a manner to minimise inconvenience, nuisance and danger to occupants and users.

1.6 DIRT AND DROPPINGS
Remove dirt and droppings deposited on public or private thoroughfares from vehicles servicing the site to the satisfaction of the appropriate authorities and the contract administrator.

1.7 DAMAGE AND NUISANCE
Take all precautions to prevent damage and nuisance from water, fire, smoke, dust, rubbish and all other causes resulting from the construction works.

Set-out and tolerances

1.8 SET-OUT AND DATUM
Set out the work to conform with the drawings. Establish a permanent site datum to confirm the proposed building ground floor level and its relationship to all other existing site levels.

1.9 SET-OUT BY LICENSED CADASTRAL SURVEYOR
Before commencing construction provide the contract administrator with a certificate prepared by a licensed cadastral surveyor that the set-out is complete and that the building is accurately placed on the site.

During construction provide the contract administrator with a certificate, prepared by the same licensed cadastral surveyor confirming the set-out of the foundations and grid lines. Necessary adjustments are to be determined and agreed to by the contract administrator before proceeding further.

1.10 USE OF SET-OUT INSTRUMENTS
Permit without charge, the use of instruments already on site for checking, setting out and levels.

1.11 CHECK DIMENSIONS
Check all dimensions both on drawings and site, particularly the correlation between components and work in place. Take all dimensions on drawings to be between structural elements before linings or finishes, unless clearly stated otherwise.

1.12 TOLERANCES
All work to be level, plumb, and true to line and face. Unless otherwise specified in specific work sections of this specification, tolerances for structural work shall comply with the following:

Concrete construction:	To NZS 3109 Concrete construction Clause 3.9 Tolerances for reinforcement Table 5.1 Tolerance for precast components Table 5.2 Tolerance for in situ construction To NZS 3114 Concrete surface finishes
Masonry construction:	To NZS 4210 Masonry construction: Materials and workmanship Clause 2.6.5 Tolerances Table 2.2 Maximum tolerances
Structural steelwork:	To NZS 3404 Part 1 Steel structures standard Section 14.4 Tolerances (after fabrication) Section 15.3 Tolerances (erection)
Timber framing:	To NZS 3604 Timber framed buildings Clause 2.2 Tolerances Table 2.1 Timber framing tolerances

Refer to work sections for tolerance requirements for finishes

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Execution

1.13 WORKER QUALIFICATIONS
All work to be level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.

1.14 MINIMISE DELAYS DUE TO WEATHER
Use appropriate techniques and methods to prevent damage and minimise delays due to weather.

Materials

1.15 NEW PRODUCTS AND MATERIALS
Materials and products to be new unless stated otherwise, of the specified, and complying with all cited documents.

1.16 COMPATIBILITY OF MATERIALS AND FINISHES
Ensure all parts of a construction or finish are compatible and their individual use approved by the manufacturers and suppliers of other parts of the system. Source all parts of a system from a single manufacturer or supplier.

1.17 STORING PRODUCTS AND MATERIALS
Take delivery of and store products, materials and components in accordance with codes of practice and the product manufacturer's or supplier's stated requirements. Maintain the proper condition of any protective packaging, wrappings or supports during delivery, unloading and storage.

1.18 HANDLING PRODUCTS AND MATERIALS
Handle products, materials and components in accordance with codes of practice and the manufacturer's or supplier's stated guidelines. Avoid distortion and any contact with potentially damaging surfaces or conditions.

1.19 SUBSTRATE CONDITIONS
Ensure substrate conditions are within the manufacturer's or supplier's stated guidelines both before and during the installation of any material, product or system. Obtain written instructions on the necessary action to rectify unsatisfactory conditions.

1.20 INSTALLING PRODUCTS AND MATERIALS
Install in accordance with the manufacturer's or supplier's technical literature. Ensure that all installers are familiar with the required substrate conditions and the manufacturer's or supplier's specified preparation, fixing and finishing techniques.

1.21 COMPLY WITH STANDARDS
Comply with the relevant and/or cited Standard for any material or component. Obtain certificates of compliance when requested by the contract administrator.

1.22 CONDITION OF MATERIALS AND COMPONENTS
To be in perfect condition when incorporated into the work.

1.23 INCOMPATIBLE MATERIALS AND METALS
Separate incompatible materials and metals with separation layers, sleeves or gaskets of plastic film, bituminous felt or mastic or paint coatings, installed so that none are visible on exposed surfaces.

Samples and tests

1.24 SAMPLES AND PROTOTYPES
Where specified in the work sections, submit samples, prepare sample panels, and construct prototypes for review as to appearance, form and conformance with the drawings and specifications. Submit all information required to assist the review process, including technical data, manufacturer's literature, independent appraisals and producer statements.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Timing for the provision and review of samples, sample panels and prototypes to be included in the contract programme. Allow a minimum of 10 working days for each review. Proceed only after instructions to proceed have been issued in writing by the contract administrator.

In situ work may be incorporated in the finished work if so confirmed, otherwise allow to remove completely and replace.

1.25 CONTROL STANDARD
Obtain the contract administrator's confirmation of material, component and work samples which then become the quality control standard. Remove from the site any rejected samples. Retain confirmed samples with care on site for comparison throughout the contract. Remove from the site when no longer required.

Spares

1.26 SPARES
Collect, protect and store safely all spare materials required under the contract. Give the contract administrator an inventory of all spares.

Final presentation and cleaning

1.27 REMOVE TEMPORARY PROTECTION
Remove all temporary markings, coverings, labels and protective wrappings unless instructed otherwise.

1.28 REPLACE DAMAGED MATERIALS
Replace all materials or component damaged during the works to the standard of and integral with the original.

1.29 COMPLETE ALL SERVICES
Ensure all services are complete and operational, with all temporary labelling removed, required labelling fixed and service instructions provided.

1.30 CLEANING BY CONTRACTOR
Clear the contract works of all construction materials, waste, dirt and debris. Clean the contract works including:

- Wipe all surfaces to remove construction dust
- Clean out service ducts and accessible concealed spaces
- Clean out all gutters and rainwater heads
- Wipe dust from both sides of glass. Take particular care when removing paint or cementitious materials to not damage the glass.
- Remove adhesive residue left by labels and other temporary protection/markings
- Clean out the interior of all cabinetry
- Wash down external concrete including driveways and concrete masonry. Take care when waterblasting to not cause damage to the surface or allow water to enter the building.
- Remove rubbish and building material from the area immediately adjacent to the contract works

1.31 CLEANING BY COMMERCIAL CLEANER
Use a commercial cleaning firm to clean the whole of the interior of the building, including all appliances, equipment, fittings, surfaces and finishes to leave it without any blemish. Cleaning to include:

- Clean and wash down all external surfaces to remove dirt, debris and marking.
- Clean all interior surfaces including cabinetwork, joinery, sanitary and hardware items.
- Vacuum or polish all floor finishes.
- Clean and polish all glass, both sides.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Commissioning

1.32 MOVING PARTS
Adjust, ease and lubricate all doors, windows, drawers, hardware, appliances, controls and all moving parts to give easy and efficient operation.

1.34 SECURITY AT COMPLETION
Remove any temporary lock cylinders and complete final keying prior to handing over keys to the principal on completion of the works. Leave the works secure with all accesses locked. Account for all keys/cards/codes and hand to the principal along with an itemised schedule, retaining a duplicate schedule signed by the principal as a receipt.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2201 PREPARATION AND GROUNDWORK

1. GENERAL

This section relates to the clearance, excavation and backfilling of the site area in preparation for:
- piles, footings and floor slabs

1.1 DOCUMENTS

Documents referred to in this section are:

NZS 3604	Timber framed buildings
OSH	Approved code of practice for safety in excavation and shafts for foundations

1.2 SITE SAFETY

Provide adequate support for all excavations. Cover holes and fence off open trenches and banks.

1.3 ANTIQUITIES AND ITEMS OF VALUE

Report the finding of any fossils, antiquities and other items of value. All to remain undisturbed until approval is given for removal, and all remain the property of the owner.

2. PRODUCTS

2.1 EXCAVATED FILL

Material from other formations in the excavation which may be selected and approved as suitable for filling by having grading and moisture content properties that will allow recompaction to 95% of maximum density.

2.2 VOLCANIC TUFF FILL

Scoriaceous tuff of variable grading excluding excessive silt or clay material, capable of being placed and compacted as specified.

2.3 ROCK FILL

Hard material comprising rock, broken stone, hard brick, concrete, run of pit scoria, or other comparable inert material capable of being placed and compacted as specified.

2.4 SAND FILL

Clean sand of such grading in particle size to achieve mechanical compaction to 90% maximum density.

2.5 HARD FILL

Scoria or crushed rock to GAP (General All Passing) 40 grading.

2.6 GRANULAR FILL

Approved screened crushed gravel or scoria, graded in size from 20 mm to 7 mm, clean. When tested with a standard sieve of 4.75 opening no material is to pass.

2.7 DRESSING COURSE

Scoria to GAP 20 grading, or "dirty footpath scoria", or equivalent "all in" graded crushed metal aggregate.

2.8 FREE-DRAINING AGGREGATE

Scoria or crushed gravel graded 50 to 14 clean.

3. EXECUTION

3.1 EXCAVATION GENERALLY

Carry out excavation to the guidelines set by the OSH publication: Approved code of practice for safety in excavation and shafts for foundations.

3.2 BURNING OF MATERIALS

Burning of materials is not permitted on site.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.3 PROTECT EXISTING WORK
Protect from damage existing, roads, paving and services nominated on the drawings as being retained.

3.4 PROTECT TREES
Protect from damage trees, shrubs, natural site features and existing landscaped areas nominated on the drawings as being retained.

3.5 SURFACE PREPARATION
Comply with NZS 3604, section 3.5, Site preparation. Remove all turf, vegetation, topsoil, stumps and rubbish from the area to be built on.

3.6 UNDERGROUND ELEMENTS AND SERVICES
Report for instructions when any unexpected voids, made-up ground or services are encountered

3.7 STOCKPILE TOPSOIL
Stockpile excavated topsoil on site where directed. Keep separate from other excavated materials. Spread and level where directed before completion of the works.

3.8 GENERAL EXCAVATION
Trim ground to required profiles, batters, falls and levels. Remove loose material. Protect cut faces from collapse. Keep excavations free from water.

3.9 ROCK EXCAVATION
If rock is found at any level above the underside of the structural foundations, or above required base levels for site service trenches, immediately notify the owner. Obtain written instructions from the owner on the proposed approach to rock excavation, or consequent alterations to subgrade construction. Confirm any changes with the territorial authority.

3.10 FOUNDATION EXCAVATION
Take foundation excavations to depths shown. Keep trenches plumb and straight, bottoms level and solid, stepped as detailed and clean and free of water.

3.11 INADEQUATE BEARING
If bearing is inadequate then excavate further and backfill with material as follows. Confirm any changes with the territorial authority.

Below slabs on grade:	Hardfill compacted in 150 mm layers
Below footings:	10 MPa concrete
Service trenches:	Hardfill compacted in 150 mm layers

If excavation exceeds the required depths, backfill and compact to the correct level with material as listed.

3.12 GRANULAR BASE FOR SLABS
To conform with NZS 3604, section 7.5.3, Granular base. Consolidate with a vibrating roller. Where the slab is suspended the existing surface can be cut or filled (unconsolidated soil is acceptable) to 25mm below grade. Place 25mm sand blinding before laying DPC and polystyrene.

3.13 GENERAL BACKFILLING
Obtain written confirmation from the owner before using any excavated material. Compact approved backfilling in 150 mm layers with the last 200 mm in clean topsoil, lightly compacted and neatly finished off.

3.14 SURPLUS MATERIAL
Deposit surplus and excavated material on site where directed by the Principal.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2301 FOUNDATIONS

1. GENERAL

This section relates to all foundation and piling work, with the exception of in situ concrete work and concrete masonry.

1.1 RELATED SECTIONS

Refer to CONCRETE for poured concrete footings, foundations, foundation walls and floor slabs.
Refer to CONCRETE MASONRY for concrete block foundation walls.

1.2 DOCUMENTS

Documents referred to in this section are:

NZS 3104	Specification for concrete production
NZS 3109	Concrete construction
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber framed buildings
NZS 3631	New Zealand national timber grading rules

2. PRODUCTS

2.1 CONCRETE PILES IN SITU

To NZS 3604 for concrete, reinforcement, footing and type.

2.2 NAILS

Steel and galvanized steel of pattern to NZS 3604, table 6.8 and section 4 Durability.

2.3 BOLTS AND SCREWS

Steel and galvanized steel to NZS 3604.

2.4 NAIL PLATES

Galvanized steel toothed or nailed steel plates to the plate manufacturer's design for the particular locations shown on the drawings.

2.5 CONCRETE

For piles and footings, 17.5 MPa prescribed mix concrete to NZS 3104, section 3, Provisions for prescribed mix concrete, and NZS 3604, section 6.4.5, Pile footings.

3. EXECUTION

3.1 FOUNDATIONS GENERALLY

Comply with NZS 3109, 3602 and NZS 3604 except as varied by this specification.
Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.2 EXCAVATIONS

Refer to 2201 PREPARATION AND GROUNDWORK.

3.3 INSTALL CONCRETE PILES IN SITU

Box for, reinforce and pour in 17.5 MPa concrete the footings and piles in the various types to NZS 3604.

4. SELECTIONS

4.1 PILES

Brand/type: concrete insitu

4.2 NAILS

Material: galvanized steel

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

4.3 BOLTS AND SCREWS
Material: galvanized steel

4.4 NAIL PLATES
Material: galvanized steel

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3101 CONCRETE

1. GENERAL

This section relates to formwork, reinforcement, concrete mixes and the placing of concrete.

1.1 DOCUMENTS

Documents referred to in this section are:

AS 1366.3	Rigid cellular plastics for thermal insulation - Rigid cellular polystyrene – Moulded (RC/PS – M)
NZS 3101.1	Concrete structures standard
NZS 3104	Specification for concrete production
NZS 3109	Concrete construction
NZS 3114	Specification for concrete surface finishes
NZS 3604	Timber framed buildings
AS/NZS 4671	Steel reinforcing materials

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

2. PRODUCTS

2.1 NORMAL CONCRETE

Normal concrete 20 MPa grade, maximum aggregate size 19 mm ready-mixed to NZS 3104. Provide delivery dockets listing mix and despatch details.

2.2 SITE CONCRETE

Special concrete 10 MPa with minimum water for workability, all materials and batching to NZS 3104: table 3.1, Prescribed mixes (P).

2.3 REINFORCEMENT

Bars to AS/NZS 4671. Grade 300E deformed, other than for ties, stirrups and spirals, unless shown otherwise on the drawings. Welded reinforcing mesh to AS/NZS 4671.

2.4 TYING WIRE

Mild drawn steel wire not less than 1.2 mm diameter.

2.5 SPACERS AND CHAIRS

Precast concrete or purpose made moulded PVC to approval. Where concrete spacer blocks are used in exposed concrete work use blocks matching surrounding concrete.

2.6 DAMP-PROOF MEMBRANE

0.25 mm minimum polyethylene to NZS 3604, clause 7.5.4, Damp-proof membrane.

2.7 CELLULAR POLYSTYRENE INSULATION

Proprietary expanded polystyrene (EPS) foam board to AS 1366.3.

3. EXECUTION

3.1 HANDLE AND STORE

Handle and store reinforcing steel and accessories without damage or contamination. Store on timber fillets on hard ground in a secure area clear of any building operation. Lay steel fabric flat.

Ensure reinforcement is clean and remains clean so that at the time of placing concrete it is free of all loose mill scale, loose rust and any other contamination that may reduce bonding capacity.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.2 FALSEWORK AND FORMWORK

Use falsework and formwork of sufficient strength to retain and support the wet concrete to the required profiles and tolerances. Select formwork finish to produce the specified finished quality. Ensure timber or plywood used for formwork is non-staining to the set concrete.

Securely fix and brace formwork sufficiently to support loads and with joints and linings tight enough to prevent water loss. Do not use tie wires or rods unless approved in writing by the owner. Unless detailed otherwise, provide a 19 mm chamfer or fillet strip at all interior and exterior angles of beam and column forms. Mitre at intersections.

Water blast to clean formwork. Keep formwork wet before concrete is placed.

Unless detailed otherwise, set up soffit boxing for beams and slabs to provide a camber when forms are stripped, of 3 mm rise for every 3 metres of total clear span.

3.3 INSTALL DAMP-PROOF MEMBRANE

Apply polythene membrane to prepared basecourse with 150 mm laps between sheets. Tape seal laps and penetrations with 50 mm wide pressure sensitive plastic tape. Refer to drawings for perimeter details.

3.4 INSTALL CELLULAR POLYSTYRENE INSULATION

Install EPS insulation system to manufacturer's requirements. Insulation under suspended slabs shall be supported from reinforcing steel in slab by hangers and washers as ground under this insulation may settle in time.

3.5 CUT AND BEND REINFORCEMENT

Cut and bend bars using proper bending tools to avoid notching and to the requirements of NZS 3109: 3.3 Hooks and bends. Minimum radii of reinforcement bends to NZS 3109: table 3.1, Minimum radii of reinforcement bends. Do not rebend bars. Where rebending is necessary, use a purpose built tool, proper preparation and preheating.

3.6 ADJUSTMENTS

Use a purpose built tool for on site bending and to deal with minor adjustments to steel reinforcement.

3.7 TOLERANCES, BENDING

To NZS 3109: clause 3.9, Tolerances for reinforcement.

3.8 SECURE REINFORCEMENT

Secure reinforcement adequately with tying wire and place, support and secure against displacement when concreting. Bend tying wire back well clear of the formwork. Spacing as dimensioned, or if not shown, to the clear distance minimums laid down in NZS 3109: clause 3.6, Spacing of reinforcement.

3.9 LAPPED SPLICES

Length of laps where not dimensioned on the drawings in accordance with the SELECTIONS. Increase laps of plain round steel by 100%. Provide laps only where indicated on the drawings. Tie all lapping bars to each other.

3.10 REINFORCEMENT COVER

Minimum cover to all reinforcing bars, stirrups, ties and spirals, as shown on the drawings. Where cover is not shown on drawings provide minimum cover to NZS 3101 part 1, table 3.6, Minimum required cover for a specified intended life of 50 years. Fix chairs for top reinforcement in slabs at 1.0 metre centres or to ensure adequate support. Cover tolerances to NZS 3109: clause 3.9, Tolerances for reinforcement.

3.11 CASTING IN

Build in all grounds, bolts and fixings for wall plates and bracing elements, holding down bolts, pipes, sleeves and fixings as required by all trades and as shown on the drawings, prior to pouring the concrete.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Do not use grounds exceeding 100 mm in length. Location and form of conduits to be approved in writing by the owner. Minimum cover 40 mm. Do not encase aluminium items in concrete. Do not paint steel embedded items more than 25 mm into the concrete encasement. Cut back form ties to specified cover and fill the cavities with mortar.

Form all pockets, chases and flashing grooves as required by all trades and as shown on the drawings.

Wrap all pipes embedded in concrete with tape to break the bond and to accommodate expansion. Do not embed pipes for conveying liquids exceeding a temperature of 50°C in concrete.

3.12 CONSTRUCTION JOINTS
Locate and construct as shown on the drawings or in accordance with NZS 3109: clause 5.6, 5.6.3 Type B.

3.13 PRE-PLACEMENT INSPECTION
Do not place concrete until all excavations, boxing and reinforcing have been inspected and passed by the Building Consent Authority.

3.14 SURFACE FINISHES
To NZS 3114: clause 105, Specification of finishes, as scheduled or as denoted on the drawings.

3.15 EXPOSED CONCRETE
Formwork linings and surface finishes as nominated for both fair face and concealed or exposed surfaces. Unless detailed, obtain written confirmation of the type and pattern of all joints.

3.16 CONCRETE SURFACE TOLERANCES
To NZS 3114: clause 104, Surface tolerances and clause 105, Specification of finishes, with the suggested tolerances becoming the required tolerances.

3.17 PUMPING CONCRETE
Set up and supervise pump operation, placing and compaction of the mix to NZS 3109: clause 7.4, Handling and placing and clause 7.6, Compaction Advise the ready-mix supplier of the type of pump and the slump required, in addition to the concrete grade, strength and quantity.

3.18 COMPACTION
Use power operated vibrators on foundations, vertical constructions and beams.

3.19 RESIDENTIAL FLOOR SLABS
Construct to NZS 3604: clauses 4.8 Concrete and 7.5, Concrete slab-on-ground floors in timber buildings. Lay to true and straight surfaces, screeded, floated and steel (manual or power) trowelled finish. Tolerance on flatness: maximum 3 mm gradual deviation over a 3 metre straight-edge, to NZS 3109: clause 104, Surface tolerances.

3.20 SAW CUTS
Cut slabs where indicated on the drawings. Carry out cutting as soon as possible, without causing tear-out of aggregate and before shrinkage cracking has occurred, generally within 24 hours of pouring. Where saw cuts are made, cut out 100 mm of every second wire of the mesh for a length of 50 mm each side of the saw cut position. Saw cuts: $^1/_3$ slab depth or 30 mm minimum.

3.21 SURFACE DEFECTS
Make good surface defects immediately after forms are stripped. Make good hollows or bony areas with 1:2 mortar or plaster, finished to the same tolerances as the parent concrete. Fill any tie rod holes with 1:2 mortar.

3.22 CURING OF CONCRETE
Keep damp for not less than seven days. Ensure curing of slabs commences as soon as possible after final finishing, by the use of continuous water sprays, or ponding.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Alternately, apply a curing membrane. Ensure any membrane used will not affect subsequent applied finishes.

3.23 STRIKE FORMWORK

Strike formwork without damaging or overloading structure. Do not remove formwork before the following minimum periods:

12 hours:	Sides of beams, walls and columns
4 days:	Slabs in beam and slab construction (leave props under slab spans over 2 metres)
10 days:	Props from under slab spans over 2 metres
18 days:	Beams, soffits and slab spans over 5 metres

3.24 CLEAN OUT

Clean out saw cuts. Fill with cement grout where the floor will be covered with carpet or vinyl.

3.25 REMOVE

Remove all unused materials and all concrete and reinforcing debris from the site.

4. SELECTIONS

4.1 DAMP-PROOF MEMBRANE

Brand/type: Tasman Moistop 748 Concrete Underlay

4.2 CELLULAR POLYSTYRENE INSULATION

Brand:	Expol
Grade:	S grade
Thickness:	50mm

4.3 REINFORCEMENT LAPS

Where reinforcement laps are not shown on the drawings, lap as follows:

Bar diameter	Grade 300E deformed
10 mm	400 mm
12 mm	500 mm
16 mm	650 mm

4.4 CONCRETE

Normal concrete:
20 MPa:

Prescribed concrete:
10 MPa: Site concrete, bedding concrete and for setting posts

4.5 SURFACE FINISHES FLOOR SLABS

Surface finish class to NZS 3114: table 2, Classes of floor, exterior pavement and invert finishes.

Finish class	Location
U3	all areas

4.6 ACCESSORIES

Insulation washers and hangers

Location:	Under suspended insulated slabs
Brand:	Forman Insulation
Type:	for supporting insulation if there is settlement on the site

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3301 CONCRETE MASONRY

1. GENERAL

This section relates to the supply and laying of concrete masonry, the supply and laying of associated reinforcing steel and the grouting of walls, all to NZS 4229. Modify this section when specific design, Grade C, to NZS 4230 is proposed.

1.1 DOCUMENTS

Documents referred to in this section are:

NZBC B1/AS1	Structure general, 2.0 Masonry
NZS 3103	Sands for mortars and plasters
NZS 3109	Concrete construction
NZS 4210	Masonry construction: Materials and workmanship
NZS 4229	Concrete masonry buildings not requiring specific engineering design
NZS 4230	Design of reinforced concrete masonry structures
AS/NZS 4455	Masonry units and segmented pavers
AS/NZS 4671	Steel reinforcing materials

1.2 QUALIFICATIONS

Carry out all masonry work with people competent and experienced in this type of work, under the supervision of a registered mason or a suitably qualified tradesperson as required in NZS 4229 and NZS 4210. Blocklayers are to hold a current NZ Masonry Trades Association Certificate.

The registered mason is to certify in writing to the owner that the observation and work has been carried out in accordance with the relevant NZ Standards. Note that some Building Consent Authorities may require a Producer Statement Construction.

1.3 CONSTRUCTION CONTROL

Supervise masonry construction to the requirements of NZS 4230: table 3.1,Type C Observation.

1.4 CONSTRUCTION OBSERVATION BY ENGINEER

Inspections shall confirm compliance with the design and the required standards of construction.

Obtain from the engineer Producer Statements required relating to the masonry construction.

Where required as a condition of the building consent, advise the engineer when inspections are required.

1.5 TESTS

Carry out all required tests in accordance with NZS 4210: appendix 2A, Compressive strength tests for mortar and grout.

1.6 QUALITY RECORDS

Keep accurate records relating to strength and quality of materials used in the construction, and make the information available to the Building Consent Authority inspector on request.

2. PRODUCTS

2.1 MASONRY UNITS

To AS/NZS 4455.

2.2 REINFORCEMENT

To AS/NZS 4671 and as detailed.

2.3 MORTAR

Sand to NZS 3103. Chloride levels to not exceed 0.04% by dry weight of sand. Mortar to NZS 4210: section 2.2, Mortar. Compressive strength of not less than 12.5 MPa.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.4 GROUT
To NZS 4210: section 2.3, Grout. Spread value 450 – 530 mm.

2.5 WATER
Clean, fresh and free from excess alkali, salt, silt and organic materials. Water from a local authority water supply is acceptable.

3. EXECUTION

3.1 MASONRY CONSTRUCTION GENERALLY
To NZS 4210, NZS 4229 and to NZBC B1/AS1 Structure general, 2.0 Masonry.

3.2 STORAGE
Store masonry units clear of the ground, under cover and well ventilated until placed in the work.

3.3 MOISTURE CONTENT
Ensure masonry units are air dry prior to laying.

3.4 CHECK BASE CONCRETE
Ensure the base concrete is true to line and level, requiring a base mortar bed of 10 mm (minimum) to 20 mm (maximum). Ensure that all laitance, loose aggregate, or anything preventing bond is removed prior to laying masonry units.

3.5 STARTER POSITIONS
Before commencing laying masonry units, check the location of starter reinforcement by measure or by a dry trial lay up of the first course. Do not correct misplacement by cranking bars. Where misplacement exceeds the location tolerance, obtain written direction before proceeding.

3.6 REINFORCEMENT AND GROUTING
Reinforcement detailed, bent and placed to NZS 4210: section 2.6, Reinforcing details. Refer to drawings for details of reinforcement and extent of grout filling.

3.7 COVER
Cover to NZS 3109: 3.8 Cover and 3.9 Tolerances for reinforcement. Minimum cover as required for reinforced concrete, with grout and masonry treated as a homogeneous material. Maintain reinforcing bars for retaining walls and bond beams, a minimum of 15 mm and for other masonry a minimum of 9 mm from the masonry work face, with the space filled with grout.

3.8 TOLERANCES
Construct within the tolerances set out in NZS 4210: clause 2.6.5, Tolerances, and clause 2.7.1, General. Lay masonry units with bedding of consistent thickness throughout.

3.9 PROTECTION
Protect fair-faced masonry walls, keeping them clear of mortar droppings, grout splashes, or stains of any kind.

3.10 LAY MASONRY UNITS
Ensure consistent, fully filled and tooled joints. Where walls are reinforced, prevent mortar droppings from entering the cells to be grouted. Provide clean out holes at base of wall, unless "low lift" (NZS 4210) grouting is used. Ensure reinforcement is accurately placed and tied. Lay in regular running bond with all necessary special units and sill units. Cut masonry, if necessary, true and square without chipping.

3.11 MASONRY UNITS JOINTS
Not exceeding 10 mm thick, or less than 8 mm when the units are bedded in. Joints tooled concave, unless detailed otherwise.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.12 CONTROL JOINTS
Locate at major changes of wall height or thickness, at openings, and at not more than 8 metre centres, or, as shown on the drawings. Where reinforcement passes through a control joint, provide for breaking bond using methods detailed on NZS 4210: figure 2, Control joint, unless specifically detailed otherwise.

3.13 BRACING
Provide sufficient temporary lateral bracing to ensure stability until the final supporting construction is in place.

3.14 PRE-GROUTING INSPECTION
Inspect walls prior to grouting. Ensure cells are clean and reinforcement is correctly placed. Where "high lift" (to NZS 4210) grouting is used, seal the clean out holes and brace to prevent blow outs.

3.15 GROUT CELLS
Grout all masonry unit cells.

3.16 GROUTING PROCEDURE
Use procedures set out in NZS 4210. Methods acceptable on this project are:
- high lift grouting with expansive admixture
- high lift grouting with reduced compaction
- low lift grouting.

3.17 CONSTRUCTION JOINTS
Form and treat construction joints between grout pours and between masonry walls and hardened concrete work to ensure bonding occurs. Comply with NZS 4210: section 2.16, Horizontal control joints.

3.18 MORTAR IN COMPONENTS
Mortar in components such as sills, copings, lintels, and steps, as work proceeds.

3.19 BUILD IN
Build in plugs, bolts, ties, metal flashings, dowels, fastenings and fixings as required by all trades and as shown on the drawings. Note in particular twin cast in bars at top of masonry piers. Accurate positioning is essential.

3.20 PROGRESSIVE CLEANING
Clean off mortar splashes and grout spills as they occur, making good any damage at the same time.

3.21 FINAL CLEANING
Clean down masonry work and remove waste material from adjoining surfaces and floors at completion.

3.22 REMOVE
Remove from the site materials not used.

4. SELECTIONS

4.1 MASONRY UNITS

Width:	200mm series
Bond:	stretcher

4.2 GROUT

Design strength:	20MPa at 28 days
Aggregate size:	9mm maximum

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

3401 STRUCTURAL STEELWORK

1. GENERAL

This section relates to the fabrication, erection and specialist coating of structural steelwork of a general nature.

Related sections

1.1 RELATED SECTIONS

Refer RESENE PAINTING for painting of Structural steel.

1.1 DOCUMENTS

Documents referred to in this section are:

NZBC F5/AS1	Construction and demolition hazards
AS/NZS 1111	ISO metric hexagon commercial bolts and screws
AS/NZS 1252	High-strength steel bolts with associated nuts and washers for structural engineering
AS/NZS 1554.1	Structural steel welding - Welding of steel structures
AS/NZS 2312	Guide to the protection of iron and steel against atmospheric corrosion
NZS 3404.1	Steel structures Standard - Steel structures Standard
AS 3828	Guidelines for the erection of building steelwork
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
HERA	Report R4-99 "HERA specification for the fabrication, erection and surface treatment of structural steelwork".

1.3 QUALIFICATIONS

Welders to be qualified, experienced competent workers, familiar with the materials and the techniques specified.

1.4 SHOP DRAWINGS

Supply 1 set of shop and erection drawings to the owner for review prior to fabrication.

1.5 SHOP DRAWINGS REVIEW

Shop drawings review indicates the design concept has been reviewed without the need for further modification. This does not relieve the contractor of any responsibility for the correctness of the shop drawings, site dimensions, or for ensuring the work is performed in compliance with the drawings and specifications.

1.6 VERIFY DETAILS AND DIMENSIONS

Refer to drawings to ensure all required details and fixings are provided for in the structural steelwork. Verify dimensions against site measurements prior to fabrication.

1.7 TEST WELDING

Non-destructive weld examination with method, extent and standards of acceptance to AS/NZS 1554.1, Section 7 and Table D1of NZS 3404 part 1.

2. PRODUCTS

2.1 STRUCTURAL STEEL

All steel Grade 300, except RHS sections Grade 350, unless noted otherwise on the drawings. Test and stress relieve for brittle fracture when required by NZS 3404.1, section 17, Testing of structures or elements.

2.2 WELDING

Electrodes to comply with and be selected for the grade of steel being welded as required by AS/NZS 1554.1. Welding wire as required by the wire manufacturer for the materials to be joined and the welding position. Welding flux: dry and used from sealed containers. Material for arc stud welding to comply with AS/NZS 1554.1.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.3 BOLTS, NUTS AND WASHERS
To AS/NZS 1111 and AS/NZS 1252. Hot dip galvanize all bolts, nuts and washers forming a permanent part of any structure subject to a protective coating, to AS/NZS 4680.

3. EXECUTION

3.1 SURFACE FINISH
Grind off all burrs and sharp arrises.

3.2 TOLERANCES
Discard material showing visual defects affecting its structural integrity. Structural elements to comply with NZS 3404.1, section 14.4, Tolerances (straightness, full contact splices, length and struts not prepared for full contact). Comply with the required tolerances laid down for holding down bolts, columns, beams and other members in HERA Report R4-99, sections 2.5, 4.5 and 5.6.

3.3 CUTTING
To NZS 3404.1, clause 14.3.3, Cutting and HERA Report R4-99, sections 1.5 and 4.6. Hand cut only where machine cutting is not possible.

3.4 CONSTRUCT
Construct the steel structure as detailed and to NZS 34041.1, section14, Fabrication and section 15, Erection.

3.5 WELDING
To NZS 3404.1, clause 14.3.4 Welding and AS/NZS 1554.1. Comply with AS/NZS 1554.1 for guidance on welding inspection and quality control.

3.6 WELDING NEAR TOUCHING STEELWORK
Shop weld together touching or near-touching steelwork all round with 5 mm (one pass) continuous fillet welds unless denoted otherwise on the drawings.

3.7 HOLING
To NZS 3404.1, clause 14.3.5 Holing, for sizes, alignment, finishing and punching of holes.

3.8 BOLTING
Bolting to comply with NZS 3404, clause 14.3.6, Bolting.

3.9 THREADS EXCLUDED FROM SHEAR PLANE
Select length of bolts such that the threaded portion does not occur within the shear plane between joined parts.

3.10 START ERECTION
Start erection only when the holding down bolts and anchorages have achieved sufficient strength. Carry out the erection of the structural steel to the requirements of AS 3828. Comply with NZBC F5 and NZS 3404.1, section 15, Erection. Provide temporary bracing as required to achieve stability during erection.

3.11 BASE PLATES
Enlargement or site cutting of holes not permitted. Bending or displacement of holding down bolts not permitted.

3.12 COLUMNS
Plumb columns using sawn steel packs and wedges not larger than necessary for the purpose. The column base must not be raised by more than 25 mm. Fill space beneath the base plate with cement-sand grout, containing a non-shrink additive, the grout having a minimum compressive strength of 30MPa at 28 days. Alternately use a dry pack of 1:2 cement with the sand mortar hammered in tight to ensure complete filling of space.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.13 INSPECTION
Inspect all stages of fabrication and construction of the structure to NZS 3404.1, sections 14, Fabrication and 15 Erection.

3.14 ENCASED STEELWORK
Clean the steelwork to be encased in concrete to remove all loose mill scale, rust, dirt and other matter affecting bond with concrete. Achieve this by wire brushing and the use of suitable solvents.

3.15 BRUSHING AND POWER TOOL CLEANING
Remove oil and grease by the use of solvents. Scrape and power wire brush to a minimum class 2 finish to AS 1627.2. Clean to bright metal, but avoid producing a polished surface. Check that no burrs or sharp arrises remain which may prevent the full coating thickness being attained.

3.16 PRIMING GENERALLY
Coat steelwork, unless specifically noted otherwise, with the specified priming paint, including patch priming on site after erection.
Apply Resene Armourcote 220 to achieve a dry film thickness of 75 microns. Refer data sheet RA34. Refer RESENE PAINTING section

3.17 STEELWORK BEING GALVANIZED
Clean sections thoroughly and apply zinc coating by the hot-dip process to the requirements of AS/NZS 4680. Average zinc coating to be not less than the following:

Structural steelwork	Average coating	Minimum coating
≤ 1.5 mm	45 microns	35 microns
> 1.5 mm – ≤ 3 mm	55 microns	45 microns
> 3 mm – ≤ 6 mm	70 microns	55 microns
> 6 mm	85 microns	70 microns

3.18 STEELWORK BEING ZINC OR ALUMINIUM SPRAYED
To AS/NZS 2312 with clear seal finish
- Abrasive blast clean to AS 1627.4, class $2^1/_2$, minimum profile 10 microns
- Apply spray coating before discoloration and within 4 hours
- Steel temperature 3°C minimum above dew point and less than 150°C.

Finished dry film thickness to NZS 2312, table 6.1 for the specified classification with a minimum adhesion of 10 MPa. Sealed coating to have a uniform appearance with coating defects not exceeding 1 mm diameter and not exceeding 0.5 mm height.

3.19 UNPAINTED SURFACES
Do not paint:
- faying face of high strength friction grip bolted joints
- areas for site welding, keeping 75 mm clear all round
- surfaces being embedded in concrete.

Where steel is only partly encased then extend priming 25 mm maximum into the concrete encasement area.

3.20 PATCH PRIMING
Clean areas of damaged priming and areas left clear for site jointing to a standard comparable with that specified for shop cleaning. Wash off chemical deposits from welding fumes. Apply priming coats to the same standard as shop primers, ensuring thorough coating of bolts, nuts and connection areas. Reprime if more than 4 weeks elapse before the final coating system is applied.

3.21 COATING SYSTEMS
Apply all coatings in accordance with the coating manufacturer's requirements. Apply coatings to steel within 4 hours of cleaning and before condensation or light rusting can occur. Ensure steel is dry and atmospheric conditions warm and dry, with an air temperature of greater than 12°C and relative humidity less than 85%.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

3801 CARPENTRY

1. GENERAL

This section relates to the supply and erection of light timber framing.

Related work

1.1 RELATED SECTIONS
Refer to ALUMINIUM WINDOWS AND DOORS for exterior joinery
Refer to THERMAL INSULATION for insulation products.
Refer to WRAPS, UNDERLAYS & DPC for wall wraps, underlays and DPC
Refer to LINING for interior timber items associated with linings

Documents

1.2 DOCUMENTS
Documents referred to in this section are:

NZBC B1/AS1	Structure – general, 4.0 Timber
NZBC E2/AS1	External moisture, 2.0 Walls, 4.0 Floors, 6.0 Construction moisture
NZBC E3/AS1	Internal moisture, 1.1 Thermal resistance
NZBC F5/AS1	Construction and demolition hazards, 1.0 Work-site barriers
AS/NZS 1748	Mechanically stress-graded timber
AS/NZS 2269	Plywood - Structural
AS/NZS 2904	Damp-proof courses and flashings
NZS 3602	Timber and wood-based products for use in building
NZS 3603	Timber structures standard
NZS 3604	Timber framed buildings
NZS 3631	New Zealand national timber grading rules
NZS 3640	Chemical preservation of round and sawn timber
AS/NZS 4347	Damp-proof courses and flashings – Methods of test

BRANZ Bulletin 368: Preventing moisture problems in timber framed skillion roofs
BRANZ Bulletin 453: Fasteners selection

1.2 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section are:
~

Copies of the above literature are available from ~
Web: ~
Email: ~
Telephone: ~
Facsimile: ~

1.3 DIMENSIONS
All timber sizes except for battens are actual minimum dried sizes.

2. PRODUCTS

2.1 TIMBER FRAMING, TREATED
Species, grade and in service moisture content to NZS 3602 and treatment to NZS 3640. Either mechanically stress graded to AS/NZS 1748, or visual grading to NZS 3631.

2.2 TIMBER FRAMING, CHEMICAL FREE, MECHANICALLY STRESS GRADED
Species, grade and moisture content in service as set out in NZS 3602. Machine stress graded to AS/NZS 1748, with an average moisture content at supply of 16% or less.

2.3 TIMBER TRUSSES
Moisture content: 16% at supply

2.4 TIMBER TRUSSES, CHEMICAL FREE
Moisture content: 16% at supply

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.5 PLYWOOD
Structural plywood to AS/NZS 2269 for roof sarking and bracing,

2.6 NAILS
Steel, stainless steel and galvanized steel of pattern to suit the location and to BRANZ Bulletin 453 Fasteners selection.

2.7 BOLTS AND SCREWS
Steel, stainless steel and galvanized steel of pattern to suit the location and to BRANZ Bulletin 453 Fasteners selection.

2.8 NAIL PLATES
Stainless steel and/or galvanized steel toothed or nailed plates to the plate manufacturer's design for the particular locations as shown on the drawings.

2.9 CONNECTORS
Galvanized steel connectors and structural brackets to the connector manufacturer's design for particular locations shown on drawings.

2.10 POLYETHYLENE DPC
Polyethylene film to AS/NZS2904 and embossed on both sides. Thickness 500 microns minimum, manufactured for use as a damp-proof course and concealed flashings to doors and windows.

2.11 BITUMINOUS IMPREGNATED DPC
Heavy Kraft impregnated with high grade bitumen and coated with higher heat resistant bitumen to AS/NZS 2904 and AS/NZS 4347.

3. EXECUTION

3.1 EXECUTION GENERALLY
To NZS 3603 and NZS 3604 except as varied in this specification. Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.2 SEPARATION
Separate all timber framing timbers from concrete, masonry and brick by: -
- a full length bituminous damp-proof membrane overlapping timber by at least 6 mm; or
- a 12 mm minimum free draining air space

3.3 ATTENDANCE
Provide and fix blocks, nogs, openings and other items as required by other trades.

3.4 MOISTURE CONTENT
Maximum allowable equilibrium moisture content (EMC) for non air-conditioned or centrally heated buildings for framing to which linings are attached.

Framing at erection:	24% maximum
Framing at enclosure:	20% maximum
Framing at lining:	16% maximum

3.5 SET-OUT
Set out framing in accordance with the requirements of NZS 3604 and as required to support sheet linings and claddings.

3.6 FRAMING WALLS
Frame to required loading and bracing complete with lintels, sills and nogs, all fabricated and fastened to NZS 3604, section 8, Walls.

3.7 FRAMING ROOFS
Frame to required loading and bracing complete with valley boards, ridge boards and purlins. Design and fit roof trusses complete with anchorage. All fabricated and fastened to NZS 3604, section 9, Posts and 10, Roof framing.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.8 FRAMING CEILINGS AND SOFFITS
Frame to required loading and bracing complete with runners and battens set out to support ceiling lining. All fabricated and fastened to NZS 3604, section 13, Ceilings.
Trim for openings in ceilings and hatches to NZS 3604 section 13.3, Openings in ceilings.

3.9 INSTALLING WALL WRAPS, UNDERLAYS AND DPC
Refer to WALL WRAPS, UNDERLAYS AND DPC for the installation of wall wraps, underlays and DPC.

3.10 INSTALLING THERMAL INSULATION
Refer to THERMAL INSULATION for the installation of insulation

3.11 LAYING PLYWOOD SARKING
Lay and countersink screw fix to the plywood manufacturer's requirements and to NZS 3604, section 7.2.3, Wood-based sheet flooring.
Lay and secure in accordance with BRANZ Bulletin 368 "Preventing moisture in timber framed skillion roofs".

3.12 DPC TO LOSP TREATED TIMBER
Lay polyethylene DPC under LOSP treated bottom plate of all timber framed walls on concrete, in a single layer with 50 mm overlaps at joints to provide a waterproof barrier.

3.13 DPC TO TIMBER
Lay bituminous DPC under the bottom plate of all timber framed walls on concrete, in a single layer with 50 mm overlaps at joints to provide a waterproof barrier.

3.14 INSTALL PROPRIETARY FIREPLACES
Prepare for the installation as detailed and as required by the manufacturer. Install strictly in accordance with AS/NZS 2918 and the manufacturer's stated and detailed requirements.
Refer METALWORKER for supply of fireplaces
Refer JAMES HARDIE FIBRE CEMENT SHEET LININGS for lining over
Refer PLUMBER for flashings
Refer GAS SYSTEM for gas supply
Refer ELECTRICAL for electrical connection

4. SELECTIONS

4.1 EXTERIOR WALL FRAMING

Member	Species	Grade	Treatment
Exterior walls:	Radiata pine	MSG 8	H1.2 H3.1

4.2 ROOF FRAMING

Member	Species	Grade	Treatment
Rafters (flat roof):	Radiata pine	MSG 8	H3.1
Trusses:	Radiata pine	MSG 8	H1.1
Purlins:	Radiata pine	MSG 8	H1.1
Ceiling joists:	Radiata pine	MSG 8	H1.1
Valley boards:	Radiata pine	MSG 8	H3.1
Graduated packers (flat roof):	Radiata pine	MSG 8	H3.1
Soffit framing	Radiata pine	MSG 8	H1.1

4.3 SPECIAL FRAMING ELEMENTS

Member	Species	Grade	Treatment
Chimney:	Radiata pine		H3.1

4.4 EXTERIOR FINISHING TIMBERS

Member	Species	Grade	Treatment
Fascia:	Radiata pine	Dressing	H3.1

4.5 ENGINEERED WOOD PRODUCTS (EWP)

Member	Brand	Type
Lintel:	Gangnail	Flitchbeam H3.1

© CIL Masterspec Basic 2008

REID HOUSE
MANGAWHAI

Trimmer:	Gangnail		Flitchbeam H3.1

4.6 INTERIOR FRAMING

Member	Species	Grade	Treatment
Non structural walls:	Radiata pine	MSG 6	H1.1
Structural and braced walls:	Radiata pine	MSG 8	H1.1

4.7 PLYWOOD

Member	Brand/type	Treatment
Plywood sarking:	Exterior grade face grade C	H3 CCA

4.8 INTERIOR FINISHING TIMBERS

Member	
Architraves:	Nil
Skirtings:	Nil
Cornices:	Nil

4.9 DPC

Brand/Type: Polyethylene DPC

4.10 NAILS

Type
Galvanized steel

4.11 BOLTS AND SCREWS

Type
Galvanized steel

4.12 NAIL PLATES

Type
Galvanized steel

4.13 CONNECTORS

Type
Galvanized steel

4.14 PROPRIETARY INSTALLATIONS

Type:	Fireplaces
Brand:	Living Flame
Model:	Eastside Nova 2000 plasma Eastside Euro 2000

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4101 TANKING

1. GENERAL

This section relates to the application of selected tanking:
- waterproof coating to concrete base walls

Documents

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:
Health and Safety in Employment Act 1992
Hazardous Substances Regulations 2001
MGNZ Code of practice for torch-on membranes

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Shell New Zealand Limited Bitumen Division

Copies of the above literature are available from:
Telephone: 04 472 0080
Facsimile: 04 498 0168

1.3 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:
MGNZ Membrane Group New Zealand Inc.

1.4 QUALIFICATIONS

Carry out all work with applicators experienced in tanking and damp-proofing work.

1.5 WARRANTY

Warrant this work under normal environmental and use conditions against failure of materials, waterproofing and execution.
Warranty period: 20 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

2. PRODUCTS

Liquid applied materials

2.1 WATERPROOFING EMULSION

Water based stable bitumen emulsion.

Accessories

3. EXECUTION

Conditions

3.1 COMPLY

Comply with the requirements and instructions of the manufacturer of the tanking.

3.2 HANDLING, SOLVENT BASED PRODUCTS

Handle and apply to the tanking manufacturer's recommended safety precautions and to the requirements of the Health and Safety in Employment Act and Hazardous Substances Regulations 2001

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.3 WEATHER CONDITIONS
Apply tanking only in fair weather with temperature above 5°C.

3.4 CHECK SUBSTRATE
Check that the substrate will allow work of the required standard. Any remedial work identified to be completed before any work is commenced.

3.5 CURING OF NEW CONCRETE
Allow concrete and masonry to dry to the tanking manufacturer's requirements before applying tanking. Minimum curing of new concrete to be 28 days.

3.6 BEFORE APPLYING
Before applying ensure that the substrate is dry enough to avoid blowing and delaying of curing.

3.7 APPLY TANKING
Apply tanking only to the face and/or side of the structure in contact with incoming moisture.

3.8 ENSURE SUBSTRATE
Ensure all surfaces are free from voids, spalled areas, loose particles, and sharp protrusions. Ensure no projections of sharp materials exist that will cause damage to tanking. Check that masonry joints are struck off flush.

Ensure form oils or release agents and curing compounds are completely removed.

Application – liquid tanking

3.9 PRIMING
Apply a full coat of 50/50 waterproofing emulsion/water to the entire surface being sealed including patched area

3.10 COATING
Apply one coat of waterproofing emulsion in one direction. Allow to cure - in average conditions 10 to 12 hours. Apply a second coat of waterproofing emulsion in the other direction. Allow to cure - average conditions 10 to 12 hours. Brush apply at the rate of 0.75 litre/m^2 per coat.

3.11 LIGHT PROTECTIVE COATING
Apply 2 undiluted coats of light protective coating.

3.11 MOVEMENT
Over expansion joints and where excessive movement is anticipated lay a fibreglass membrane into the first coat of waterproofing emulsion, extending 75 mm outwards from the affected area.

3.12 PENETRATIONS
Seal around pipes and penetrations, using a fibreglass membrane extending 75 mm outwards from the penetration.

Application - Protection

3.13 PROTECTIVE PAINT COATING
Bitumen based, 100% acrylic, fortified with synthetic fibre, as a protective coating on above ground surfaces, to suit the expected exposure to sunlight and UV.

Completion

3.14 CLEAN UP
Clean up as the work proceeds.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.15 LEAVE
Leave this work in a sound, coherent, void less and impermeable smooth condition, completely waterproof, free of any defect and with protection sheets firmly in place.

3.16 REMOVE
Remove all debris, unused materials and elements from the site.

4. SELECTIONS

Liquid tanking

4.1 WATERPROOFING EMULSION SEALER
Manufacturer: Shell New Zealand Limited
Brand name: Flintkote Waterproofing Sealer

4.2 LIGHT REFLECTIVE COATING
Manufacturer: Shell New Zealand Limited
Brand name: Colourcote
Colour: To be selected

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4102T THERMAKRAFT WRAPS, UNDERLAYS AND DPC

1. GENERAL

This section relates to the application of Thermakraft Industries (NZ) Ltd DPC, wall wraps and roofing underlays.

Documents

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC	E2/AS1 External moisture
AS 1530	Methods for fire tests on building materials, components and structures
NZS 2295	Pliable, permeable building underlays
AS/NZS 2904	Damp-proof courses and flashings
NZS 3604	Timber framed buildings
NZS 4200	Pliable building membranes and underlays
AS/NZS 4347	Damp-proof courses and flashings – Methods of test
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire
BRANZ	Appraisal Certificate No. 356 **Thermakraft Cover-up** breather-type building membrane
BRANZ	Appraisal Certificate No. 329 **Thermakraft Supercourse 500** damp-proof course and concealed Flashing
BRANZ proof	Appraisal Certificate No. 560 Thermakraft MirraBlack damp course
BRANZ Wrap	Appraisal Certificate No. 549 **Thermakraft Diflex 130** Building
BEAL	Appraisal C403 **Thermakraft Aluband** window sealing tape and **Aluband** corner moulded piece system
NZMRM	NZ Metal Roof and Wall Cladding – Code of Practice

Documents listed above and cited in the clauses that follow are part of this specification. However this specification takes precedence in the event of it being at variance with the cited document.

RELATED DOCUMENTS

Refer to the following related documents when preparing this section:

NZBC H1/AS1	Energy efficiency, 2.0 Building thermal envelope
NZS 3602	Timber and wood based products for use in building
NZS 4218	Energy efficient – Small building envelope
NZS 4859	Materials for the thermal insulation of buildings – General criteria and technical provisions

1.2 MANUFACTURER'S DOCUMENTS

Thermakraft documents relating to work in this section are:
Thermakraft product manual and technical data sheets.

Copies of the above literature are available from:

Web:	www.thermakraft.co.nz
Telephone:	0800 806 595

1.3 MANUFACTURERS WARRANTY

Warrant this work under normal environmental and use conditions against failure of materials and execution. Thermakraft Industries Ltd warrant their wall wraps and roofing underlays to meet the durability of the cladding up to 50 years.

1.4 ABBREVIATIONS

The following abbreviations are used in this specification.

BEAL	Building Elements Assessment Laboratory.
NZMRM	New Zealand Metal Roofing Manufacturers Inc.
NASH	National Association of Steel Framed Buildings

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.5 INTERPRETATION
Wall underlay used in this specification has the same meaning as building wraps in NZS 3604 and NZBC E2/AS1.

Requirements

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any specified materials, or associated products, components or accessories.

1.7 INSTALLATION SKILL LEVELS
Installers to be experienced in the installation of **Thermakraft** products and familiar with **Thermakraft** Industries technical literature and the NZMRM NZ Metal Roof and Wall Cladding – Code of Practice.

2. PRODUCTS

Materials

DPC

2.1 EMBOSSED POLYETHYLENE
Supercourse 500 hi-impact polyethylene film to AS/NZS2904 and embossed on both sides. Thickness 500 microns minimum, manufactured for use as a damp-proof course and concealed flashings to doors and windows and complying with BRANZ Appraisal Certificate No. 329.

Wall wraps / underlay

2.2 POLYETHYLENE BREATHER TYPE MEMBRANE
Thermakraft Cover-Up high tensile coated polyolefin woven into sheet form with micro sized pores that allow the membrane to breathe with a fire retardant flammability index of 1, tested to AS 1530. To comply with BRANZ appraisal certificate No. 356.

Roofing underlay

2.3 BITUMINOUS SELF-SUPPORTING ROOFING UNDERLAY
Thermakraft 215 bituminous self-supporting roofing underlay tested to NZS 2295.

Accessories

2.4 WINDOW DOOR SEALING SYSTEM
Thermakraft Aluband system consists of aluminium faced bituminous window sealing tape, **Thermakraft Aluband** corner moulded polyethylene (PE) piece, used in conjunction with the **Thermakraft Aluband** hand tool to ensure proper adhesion and a tight fit into corners. See **Thermakraft** Data Sheet 312 for installation details and BEAL Appraisal C403.

2.5 STUD STRAPS
Thermastrap 201 & 203 19 mm wide polyethylene straps or **Thermakraft** Stud Strap in hand held dispenser with 25 mm wide polyethylene strap.

2.6 GUTTER AND UNDER FLASHINGS
Thermakraft 215 bituminous breather type building paper cut to width by manufacturer for use under valley, apron flashing and internal gutters.

Soffit liner cut to width from **Thermakraft 210** bituminous breather type building paper. Refer to SELECTIONS.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.7 TAPE
Thermakraft tapes to compliment the underlay. Pressure sensitive aluminium foil tapes for joining foil insulation and vapour barriers. **Thermakraft Aluband** tape can be use to repair damaged bituminous building papers.

3. EXECUTION

Conditions

3.1 GENERAL REQUIREMENTS
To NZS 3604 Section 11 Table 11.1 Underlays; and NZBC E2/AS1 Table 23 Properties of Roof Underlays and Building Wraps; and **Thermakraft** Industries technical literature.

3.2 STORAGE
Store building underlays and accessory materials, under conditions that ensure no deterioration or damage. Store rolls in an upright position on a smooth floor and protected from sunlight, UV radiation and moisture.

3.3 INSPECTION
Before starting work, check that the framing will allow work of the required standard. Carry out remedial work identified before laying underlay.

Application DPC

3.4 DPC TO TREATED TIMBER
Lay Supercourse 500 DPC under LOSP treated bottom plate of all timber framed walls on concrete, in a single layer with 50 mm overlaps at joints to provide a waterproof barrier.

3.6 DPC TO MASONRY AND BRICK VENEER
Lay DPC along based of cavity and fix top edge to studs with galvanized clouts. Turn DPC out over concrete rebate under bottom course of veneer.

Application – Wraps / wall underlay

3.7 WALL UNDERLAY
Fix horizontally to outside face of framing in true alignment, with succeeding sheets overlapping 150 mm. Fix to **Thermakraft** Industries requirements. Scribe neatly around penetrations and openings to leave no gaps. Tape all penetrations. Keep clean, undamaged and without visible weather deterioration until closed in.

Application - Roofing underlay

3.8 BUILDING PAPER ROOF UNDERLAY
Lay vertically over purlins on wire netting with a 150 mm side lap. Fix securely to purlins with galvanized fixing clips. Lay underlay to avoid excessive dishing between purlins. When used vertically limit individual runs to 10 metres for bituminous based papers and 7 metres for fire retardant underlays.

Lay horizontally across the rafter/trusses starting at the gutter line with succeeding sheets in true alignment and lapping 150 mm. Scribe around and fit neatly to all penetrations. Avoid prolong exposure by installing the roof immediately. Installation to comply with NZBC E2/AS1 clause 8.1.5.1.

3.9 GUTTER AND UNDER FLASHINGS
Lay **Thermakraft 215** bituminous breather type building paper cut to width by manufacturer for use as an underlay to valley and apron flashings, and internal gutters. Lap under flashings with adjoining underlays. Fix **Thermakraft 210** bituminous breather type building paper soffit liner from top plate down 150 mm past ribbon plate.

Completion

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.10 CLEAN UP
Clean up as the work proceeds.

3.11 LEAVE
Leave work to the standard required by following procedures.

3.12 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 DPC
Type: **Thermakraft Supercourse 500**

4.2 WALL WRAPS / UNDERLAYS – ABSORBENT CLADDING
Type: **Thermakraft Cover-Up** polyethylene fire retardant breather type membrane

4.3 ROOFING UNDERLAYS
Type: **Thermakraft 215** bituminous self-supporting breather type building paper

Accessories

4.4 WINDOW/DOOR SEALING SYSTEM
Type: **Thermakraft Aluband** Window Sealing System (comprising of Aluband Corner Moulded Piece and Aluband Window Sealing Tape).

4.5 WINDOW / DOOR CORNER MOULDED PIECE
Type: **Thermakraft Corner Moulded Piece**

4.6 BRICK VENEER CAVITY CLOSURE AT SIDES AND BELOW WINDOWS
Type: **Thermakraft Supercourse** 500 DPC

4.5 STUD STRAPS
Type: **Thermastrap** 19 mm blue polypropylene tape

4.6 GUTTER AND UNDER FLASHINGS
Type: Valley guard 625 mm wide.
Apron flashing underlay 415 mm wide.
Gutter flashing underlay 300 mm wide.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4203 BRICK VENEER CLADDING

1. GENERAL

This section relates to clay and concrete brickwork used in veneer.

1.1 DOCUMENTS

Documents referred to in this section are:

NZBC B1/AS1	Structure general, 2.0 Masonry
AS/NZS 2699.1	Built in components for masonry construction - Wall ties
AS/NZS 2699.3	Built in components for masonry construction - Lintels and shelf angles (durability requirements)
NZS 3103	Sands for mortars and plasters
NZS 3604	Timber framed buildings
NZS 4210	Masonry construction: Materials and workmanship
AS/NZS 4455	Masonry units and segmental pavers

RELATED DOCUMENTS

Refer to the following related documents when preparing this section:

NZBC E2/AS1	External moisture, 9.0 Wall claddings

1.2 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Monier Bricks

Copies of the above literature are available from:
Website:www.monierbrick.co.nz
Telephone: 0800 007 000

1.1 QUALIFICATIONS

Bricklayers to be experienced, competent and familiar with the materials and the techniques specified.

2. PRODUCTS

2.1 BRICKS

To AS/NZS 4455.

2.2 SILL TILES

Unglazed terracotta.

2.3 LINTELS

To AS/NZS 2699.3, and as detailed.

2.4 VERMIN STOP

Galvanized steel wire netting strip with reinforced edges and galvanized staples for fixing.

2.5 DAMP-PROOF MEMBRANE

Heavy kraft strip laminates saturated and coated with bitumen, or bituminous brush-applied liquid membrane to suit location and detail.

2.6 VENEER TIES

To AS/NZS 2699.1, as modified by NZBC B1/AS1.

2.7 SAND FOR MORTAR

Sand to comply with NZS 3103. Chloride levels to not exceed 0.04% by dry weight of sand.

2.8 MORTAR

Composed of Portland cement, sand and water with an admixture to the provisions of NZS 4210, clause 2.2. Obtain written approval of admixture to be used. Also

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

obtain written approval if intending to use cement mortar as a damp-proof course and where, or if intending to use hydrated lime in the mortar.

2.9 MORTAR COLOUR
Add mineral oxide pigment conforming to requirements of NZS 4210, clause 2.2.2.2(f).

2.10 WATER
Clean, fresh and free from excess alkali, salt, silt and organic materials. Water from a local authority water supply is acceptable.

3. EXECUTION

3.1 VENEER WORK
To NZS 3604, section 11.7, NZS 4210, section 2.9 and BRANZ Bulletin 436.

3.2 DETAILING
Where not otherwise detailed on the drawings or covered in the documents listed, carry out veneer construction to the details required by BRANZ Bulletin 436.

3.3 STORAGE
Store bricks and other materials clear of the ground, under cover and well ventilated until placed in the work.

3.4 LAY BRICKS
To NZS 4210. Ensure bricks are dry when laid. Use bricks equally off all pallets as work proceeds. Distribute facing bricks of varying colour randomly throughout so no patches or striping appears.

3.5 BOND
Stretcher bond, single width unless detailed or stated otherwise.

3.6 INSTALLING VENEER WALL TIES
Fix to face of studs without otherwise piercing or damaging the building paper. Ties placed and spaced to NZS 4210, section 2.9.7, as modified by NZBC B1/AS1. Install to NZS 3604, clause 11.7.5.3.

3.7 MORTAR
To maximum practical density. Mortar fully laid, firmly placed, correctly cured and not re-tempered. Discard any mortar not used within $1^{1}/_{2}$ hours of mixing.
Joint thickness: 10 mm ± 1 mm.

3.8 RAKE OUT
Rake out joints as work proceeds, for pointing as detailed. Maximum depth of rake.

3.9 POINTING
Joints tooled concave after initial stiffening.

3.10 WEEPHOLES
Weep holes to NZS 3604, clause 11.7.4.3 and to BRANZ Bulletin 436.

3.11 CO-ORDINATE
Co-ordinate the building-in of all exterior joinery and items required to be fitted as the work proceeds. Rake out for or build in flashings as required.

3.12 KEEP CAVITY AND TIES CLEAR
Keep cavity and ties clear of mortar droppings and clean the brickwork face of any marking as the work proceeds. Repair damage to building paper immediately it occurs.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.13 LIQUID DAMP-PROOFING
Apply bituminous brush-on liquid applied membrane as a primer and 2 coats, to drain water effectively out of the cavity.

3.14 CLEAN DOWN
Clean down brickwork to remove stains. Remove efflorescence with a stiff bristle broom, blot with a damp sponge and wash walls with a plentiful supply of clean water during fine weather.

3.15 TAKE AWAY
Remove from the site materials not used.

4. SELECTIONS

4.1 BRICKS

Brand:	Monier Bricks
Type:	To be selected
Size:	230mm x 162mm x 70mm
Laying pattern:	Stretcher bond
Pointing:	To be selected

4.2 SILL TILES

Brand/type/colour:	Unglazed terracotta

4.3 MORTAR COLOUR

Colour:	To be selected

4.4 LINTELS

Material:	Galvanized steel

4.5 VENEER TIES

Brand/material:	Galvanized steel

4.6 DAMP-PROOFING

Location	Joinery jambs and cills, bottom of brick veneer
Brand	Thermakraft
Material	Supercourse 500 DPC

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4208 EIFS CLADDING

1. GENERAL

This section relates to the supply and fixing of an exterior insulated wall cladding system based on polystyrene boards fixed to timber framing on a drained cavity to chimneys.

Related work

1.1 RELATED SECTIONS
Refer to CARPENTRY for timber framing.

Building code compliance

1.2 DURABILITY
The work covered by this part of the specification has been designed and constructed to achieve a durability of 15 years.

1.3 ON GOING MAINTENANCE INSTRUCTIONS
Provide ongoing maintenance instructions required to meet the performance requirements of the NZBC.

Documents

1.4 DOCUMENTS REFERRED TO
Documents referred to in this section are:

AS/NZS 1170	Structural design actions, Part 2: Wind actions
AS 1366.3	Rigid cellular polystyrene - Moulded (RC/PS - M)
As 1366.4	Rigid cellular polystyrene - Extruded (RC/PS - E)
AS 3566	Self-drilling screws for the building and construction industries
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber framed buildings
NZS 4203	General structural design and design loadings for buildings
NZBC E2/AS1	External moisture

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.5 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section are:
Plaster Systems Ltd

Materials and execution to Manufacturer's specification except where varied by this specification and supported by architectural detailing.

Copies of the above literature are available from:

Web:	www.plastersystems.co.nz
Telephone:	0800 11 44 00
Fax:	09 444 9561

1.6 ABBREVIATIONS
The following abbreviations are used in this specification

EIFS	Exterior insulation and finish systems
EPS	Expanded polystyrene

1.7 NO SUBSTITUTIONS
Substitutions are not permitted to any specified plaster render system.

1.8 QUALIFICATIONS
Use only applicators licensed by the selected systems manufacturer to apply the exterior wall cladding system.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Documentation

1.9 FINISH SAMPLE
Submit one 300 mm x 300 mm sample of the selected system of each finish texture and colour for review.

1.10 MAINTENANCE INSTRUCTIONS
Provide plaster manufacturer maintenance instructions before practical completion of the contract for issuing to the building owner.

1.11 HEALTH AND SAFETY
Refer to the requirements of the Health and Safety in Employment Act and OSH: Guidelines for the provision of facilities and general safety in the construction industry. If the elimination or isolation of potential hazards is not possible then minimise hazards in this work on site by using the proper equipment and techniques as required in the MPNZA Painters hazard handbook. Supply protective clothing and equipment. Inform employees and others on site of the hazards and put into place procedures for dealing with emergencies. Obtain from plaster manufacturer the material safety data sheets for each product. Keep sheets on site and comply with the required safety procedures.

Warranties

1.12 WARRANTY
Warrant this system under normal environmental and use conditions against failure of materials and execution. The plaster system is warranted as follows:

Materials:	15 years from date of practical completion issued by the manufacturer.
Execution:	5 years from the date of practical completion issued by the licensed applicator.

Performance

1.13 PERFORMANCE
Accept responsibility for the structural and weather-tight performance of the exterior render application.

1.14 PROTECTION OF NEW PLASTER
Confirm the protection systems to be applied to fresh plaster coats. Plastering not to begin until systems are confirmed.

1.15 INSPECTIONS
Allow to inspect the whole of the work at each stage. Determine a programme for inspections including notification when each part and stage of the work is ready for inspection prior to the work commencing. Permit representatives from the manufacturers to inspect the work in progress and to take samples of their products from site.

1.16 PRODUCER STATEMENT
Provide the manufacturers producer statement compiled by the licensed applicator in the form as required by the Building Consent Authority.

1.17 FIXINGS, WIND
Design and use the fixings appropriate for the wind zone (R) and topographical classification (T) of this site and building height; as required by NZS 3604 and the wind loads on various wall areas as given by NZS 4203 or AS/NZS 1170.

2. PRODUCTS

Materials

2.1 BASE COAT PLASTER
Factory-mixed plaster coating containing Portland cement, sand, lime and other admixtures.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.2 FINISHING PLASTER, POLYMER MODIFIED
Factory-mixed polymer modified cement based plaster.

2.3 FINISHING PLASTER, ACRYLIC COATING
Factory-mixed 100% acrylic plaster.

2.4 FINISHING PLASTER CEMENT BASED
Site mixed plaster finishes containing Portland cement, sand, lime, aggregates and other admixtures.

2.5 PAINT
100% acrylic latex compatible with cement based plaster and suitable for textured surfaces.

Components

2.6 FIXINGS, TIMBER FRAME
40 mm system: 90 mm x 4 mm hot dipped galvanized flat head nails with either a 22 mm or 40 mm diameter plastic washers.

2.7 EXTERIOR CAVITY POLY BATTENS
50 x 20 mm Self adhesive polystyrene battens.

2.8 POLYSTYRENE SHEET FOR EIFS CLADDING
40 mm Thick polystyrene sheet: either expanded polystyrene (EPS) to AS1366.3 class H or class S or extruded polystyrene (XPS) to AS1366.4.

2.9 REINFORCING MESH
Akali-resistant fibreglass woven reinforcing mesh.

Accessories

2.10 FLASHINGS AND ACCESSORIES
Proprietary profiles made from rigid uPVC for head, sill, and jamb flashings, corner beads, Z flashings and horizontal and vertical control joint flashings for exterior applications.

2.11 EXTERIOR CAVITY BASE CLOSURE MOULDING
Cavity base closure moulding made from rigid uPVC, aluminium or stainless steel. Base closure to have 3.0 to 5.0 mm holes or slots to provide 1000 mm^2 ventilation per linear metre. Upstand to wall 75 mm minimum. Length and width to suit cavity and cladding.

2.12 SEALANTS
Paintable neutral cure silicone in accordance with the systems manufacturer's guide and set against backer rods where necessary.

2.13 ADHESIVE
Low solvent construction adhesive in accordance with the system manufacturer's requirements.

3. EXECUTION

Conditions

3.1 DELIVERY
Keep plaster products dry in transit. Take delivery of plaster products dry and undamaged. Reject all damaged materials.

3.2 STORAGE
Deliver all materials in original unopened packaging with labels intact. Provide dry storage on site, stack carefully, protect from mechanical damage. Keep bagged render off concrete surfaces.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.3 PLASTERING CONDITIONS
Carry out plastering to manufacturer's specification under conditions which will not adversely affect the finished work.

3.4 PROTECT
Before application of plaster, apply masking film and tape to all joinery, pipes, roofs and all areas likely to be marked by the plaster. Use drop cloths and ground covers to keep the working areas clean. Clean off droppings onto finished work immediately.

3.5 SUBSTRATE
Do not commence work until openings and apertures have been cut, pipes, fixtures, fixing pads and plugs have been fixed and flashings and other preparations are complete. All defects in substrate must be rectified prior to application of plaster coatings. Ensure that backgrounds and adjoining surfaces are, after the preparation called for in this section, is of the required standard by the manufacturer.

3.6 FLASHING AND DETAILING
Comply with the manufacturer's penetration flashing guidelines. Carry out to the required standard of execution to ensure water does not penetrate.

3.7 CONFIRM LAYOUT
Before commencing work confirm the layout of expansion joints and other visual detailing of the finished work.

Application

3.8 PENETRATIONS
Confirm that exterior walls have been prepared ready for the installation of the cladding. Required preparatory work includes the following:
- wall cladding underlay/building wrap finished and dressed off with flexible flashing tape
- installation of flashings (those required to be installed prior to installation of penetrating elements).

3.9 FLASHING AND ACCESSORIES
Fit flashings using the manufacturer's proprietary flashings. Reinforce external corners and bottom edges of polystyrene sheets with uPVC angles and channel extrusions. Fit a head flashing.

3.10 CAVITY BASE CLOSURE MOULDING
Fix to the bottom wall plate uPVC cavity base closure moulding.

3.11 POLYSTYRENE CAVITY BATTENS
Fix self adhesive vented poly battens full length to studs to achieve a 20 mm minimum thickness drained cavity to NZBC E2/AS1: 9.0 Wall claddings. The battens are fixed by the cladding fixings which will penetrate the wall framing studs over the building wrap. Seal the top of the cavity. Horizontal cavity battens must be no longer than 100 mm and fixed at a 5° slope. Use cavity spacers where fixing is required between cavity battens. Fix additional battens to internal and external corners and around openings to the manufacturer's standard details.

3.12 POLYSTYRENE SHEETS FIXED TO CAVITY BATTENS
Butt-joint the polystyrene sheets over solid continuously timber support to all edges. Nail fix through the cavity battens into the wall framing to manufacturers details.

3.13 MOVEMENT CONTROL JOINTS
Incorporate in accordance with the design information supplied by the manufacturer. Control joints to be positioned over solid timber backing and shall be provided on all walls over 20 metres in length or over 6 metres high, at abutments to different cladding types, where cladding covers structural materials, and over a movement joint in the underlying framing. Confirm locations in writing to the owner before work commences.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Finishing

3.14 BASE PLASTER AND MESH COAT
Apply base plaster coat 2 mm minimum. Embed fibreglass mesh into the wet plaster. Overlap each successive length by 30 mm minimum. Apply diagonal reinforcement strips at all corners of windows, doors and other exterior openings.

3.15 POLYMER MODIFIED FINISH
Apply the coating of the selected texture, to the systems manufacturer's recommended techniques and thicknesses.

3.16 ACRYLIC COATING FINISHES
Apply the coating of the selected texture, to the systems manufacturer's recommended techniques and thicknesses.

3.17 CURE FINISHES
Cure and protect from rapid drying in accordance with the system manufacturers requirements.

3.18 PAINT FINISH
As soon as the cement plaster finish is dry enough to accept it apply the paint system to the paint manufacturer's requirements.

Completion

3.19 CLEANING
Remove debris, unused materials and elements from the site relating to the plaster system application. Replace damaged, cracked or marked elements. Leave the whole of this work to the required standard.

3.20 FINAL INSPECTION
A final inspection by the systems manufacturer or the authorised applicator of the entire finished cladding to take place immediately after completion of the insulating wall cladding work and any defects or subsequent damage made good immediately.

4. SELECTIONS

4.1 EIFS CLADDING

Brand:	Insulclad
Thickness/grade:	40mm

4.2 CAVITY BATTENS

Polystyrene self adhesive:	50 x 20 mm

4.3 ADHESIVE

Brand:	Fosroc
Type:	Panelboard adhesive

4.4 REINFORCING MESH

Grade/weight:	Not less than 150g/m^2 with a 4mm x 4mm aperture

4.5 BASE COAT PLASTER

Brand:	Insulclad

4.6 PLASTER FINISHES

Brand:	Insulclad
Type:	Polymer cement
Finish texture:	Sponge

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4.7 PAINT SYSTEM

Brand:	Insulclad
Type:	Plastercote
Coats:	3 coats

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4209 SOLID PLASTER

1. GENERAL

This section relates to coatings of cement and gypsum plasters, applied by hand or pump to external and internal backgrounds, over:
concrete block masonry
concrete basewalls
Related work

1.1 RELATED SECTIONS
Refer to PAINTING for painting

Documents

1.2 DOCUMENTS REFERRED TO
Documents referred to in this section are:

NZBC E2/AS1	External moisture
AS 2592	Gypsum plaster for building purposes
AS 1397	Steel sheet and strip - hot-dipped, zinc-coated, or aluminium/zinc-coated
NZS 3101	Concrete structures standard
NZS 3103	Sands for mortars and plasters
NZS 3113	Chemical admixtures for concrete
NZS 3121	Water and aggregate for concrete
NZS 3122	Portland and blended cements (General and special purpose)
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber framed buildings
NZS 4251.1	Solid plastering: Cement plasters for walls, ceilings and soffits
BS 890	Building limes

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Requirements

1.3 FINISH PANEL
Provide in agreed locations sample panels of each mix and finish specified. Include example of specified trim and junction details. Obtain approval of colour and texture before starting work. An approved panel if suitably located and adequately cured may be incorporated into the works. Otherwise remove on completion.
Sample panel size: 1 metre x 1 metre

1.4 MATERIALS AND EXECUTION
Plastering work to NZS 4251.1 Solid plastering.

2. PRODUCTS

Materials

2.1 BONDING AGENT
Use to form gauging liquid with water:
Bond coat: 1:1
Flanking and finish coats: 1:2
Use in accordance with the bonding agent manufacturer's requirements, maintaining the approved dosage throughout the work.

2.2 ADMIXTURES
To NZS 3113. Use in accordance with the admixture manufacturer's requirements, maintaining the approved dosage throughout the work.

2.3 GYPSUM PLASTER
To AS 2592.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.4 SAND
To NZS 3103, the grading limits of NZS 4251.1 clause 2.2.2.4 Sand, and suitable for the nominated plaster mix. Obtain from a single source, uniform in composition and colour. Chloride levels to not exceed 0.04% by dry weight of sand.

Submit service records of sands proposed in accordance with NZS 3103, clause 8.1 and confirm that they comply. Prevent contamination or segregation of sand in storage. Do not allow it to become more than slightly damp.

2.5 CEMENT
Portland Cement to NZS 4251.1 clause 2.2.2.3 Cement.

2.6 WATER
To NZS 3121, or local town supply.

2.7 LIME PUTTY
To BS 890.

Accessories

.2.17 PAINT FINISH
An alkali resistant water based dispersion coating system having a dry film thickness of between 80 and 150 micro metres.

Finishes - plaster systems

2.8 PLASTER MIXES
To NZS 4251.1 table 3 Mixes for plaster (by volume).

3. EXECUTION

Conditions

3.1 STORE MATERIALS
Store materials in conditions ensuring adequate protection from contamination or deterioration.

3.2 PLASTERING CONDITIONS
To NZS 4251.1 clause 2.1.7 Air temperature. Carry out plastering under conditions (not too sunny, windy or freezing) which will not adversely affect the finished work. Complete in sufficient time to enable subsequent finishes to be applied under the proper conditions.

3.3 DO NOT BEGIN
Do not begin laying up until:
- Linings have been fitted and fixed
- Required openings, chases or other apertures have been cut
- Drained cavities have been constructed
- Pipes, fixtures, fixing pads and plugs have been fixed
- Other preparation is complete
- Work that could damage the plaster is complete.

3.4 SOURCE OF MATERIALS
Supply materials from the same source.

3.5 PROTECT
Protect existing and adjoining work and surrounds, with boards and dust sheets. Clean off immediately droppings and mortar splashes on finished work.

3.6 PROTECT CONCRETE
Protect concrete surfaces from contamination by gypsum plaster.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.7 PLANT AND TOOLS
Clean plant and tools to ensure they are free of previous mixes (especially gypsum).

3.8 PROPRIETARY PLASTERS
Conform with the various manufacturer's requirements for proprietary and special purpose plasters.

3.9 WORKING TIME
Do not use mixes after initial set has occurred. Do not retemper mixes.

3.10 JOINING UP
If joining up is unavoidable in large areas of work, make junctions so that they are concealed in the finished work.

3.11 SURFACE TOLERANCES
Gradual undulations over the surface and measured between rise and hollow as follows:
Trowelled wall surfaces: Not exceeding 3 mm over a 1200 mm straight edge
Textured wall surfaces: Not exceeding 3 mm over a 900 mm straight edge
No abrupt deviations permitted.
Take particular care where the surface has light hitting it at an acute angle.

3.12 THICKNESS OF PLASTER
Use the plaster coat thicknesses for the different backgrounds to NZS 4251.1, unless dimensioned otherwise on the drawings.

3.13 ALIGNMENT
Finish surfaces evenly to line or level, with angles and corners correct and walls and reveals plumb and square.

Conditions - background

3.14 CHECK BACKGROUND
Ensure that backgrounds and adjoining surfaces are, after the preparation called for in this section, of the required standard.

3.15 PREPARE SURFACE
Before plastering is commenced, eliminate surface contaminants, remove dust and debris and make good any defects in the background which may adversely affect the quality of the plaster coating.

3.16 IRREGULARITIES
Hack off excessive projections. Fill voids, hollows and honeycomb with a mix not stronger than the background or weaker than the first coat.

3.17 ACCEPTANCE OF BACKGROUNDS
Do not commence work until the background is of the required standard.

Application - preparing the surface

3.18 CLEAN SURFACE
Remove oils, greases, retarders and loose material and leave the surface dust free and clean. Remove paint from already painted surfaces.

3.19 COVER CHASES
Cover chases and conduits in the background with 100 mm wide lath bedded in the base coat, pressed down flat and trowelled in.

3.20 EMBEDDED ITEMS
Sheath or wrap water pipes and wastes passing through walls, with strip material, to permit thermal movement.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.21 BONDING AND KEY FOR DENSE CONCRETE
Roughen dense concrete to provide a mechanical key by removing 3 mm of the surface to expose the aggregate. Apply the bond coat containing the specified bonding agent thrown onto the concrete face.

3.22 BONDING AND KEY FOR CONCRETE MASONRY
Walls flush jointed. Apply the bond coat containing the specified bonding agent thrown onto the face.

3.23 CONTROL SUCTION
Control suction by dampening if necessary but without over-wetting. Allow the surface to dry back to a surface-dry condition before plastering.

Application - joints and junctions

3.24 DISSIMILAR BACKGROUNDS
At junctions between dissimilar solid backgrounds in the same plane and with the same coating, fix lath extending 300 mm beyond each side of the junction.
- Fix with 38 mm clout nails or staples driven into drilled and plugged holes at 100 mm centres each edge, or non-corrosive masonry anchors or masonry/concrete nails.
- At columns, fix lath to extend across the face of columns and extended a minimum of 150 mm beyond each junction.

Application - trim

3.25 FORM ARRISES
Where sections or beads are not specified:
- form arrises with 6 mm pencil rounds
- form arrises in gypsum work with Keenes cement 50 mm each side of the angle before applying the gypsum finish coat
- soften down severe arrises by rubbing with a wet trowel when finishing.

3.26 CHECK FLASHINGS
Ensure that flashings, including flashings to recessed sills are in place before, or are fitted as the coating proceeds so the completed work is completely watertight.

3.27 KEYING
Press plaster through the apertures of metal lath, wings of casing beads and corner sections.

Application - plaster systems

3.28 PROPORTION AND MIXES
Refer to SELECTIONS for plaster thickness and finish.

3.29 WATERPROOF RENDERING
Include waterproofing admixture as specified and as required by the manufacturer. Do not plug or puncture the waterproof render.

3.30 TYROLEAN RENDER
Add the mortar plasticiser admixture specified in accordance with the admixture manufacturer's requirements to both the 1:3 flanking and 1:5 finishing coat. For the finishing coat, mix cement, sand and graded crushed rock screenings as necessary to achieve the required texture. Apply the finishing coat with a Tyrolean hand texturing machine while the flanking coat is still "green".

Application - curing

3.35 CURING
Confirm the curing and protection systems to be applied to fresh plaster coats. Plastering not to begin until systems are confirmed.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.36 PROTECT ADJOINING WORK
Protect existing and adjoining work from damage during plastering. Mask adjacent windows and provide temporary covering if necessary. Remove droppings and mortar splashes as the work proceeds.

3.37 MOIST CURING, CEMENT BASED WORK
Cure by preventing rapid or uneven drying out for a suitable period to NZS 4251.1 clause 2.5 Application and curing of plaster coats, and appendix D Plaster on curing.

Bond Coat:	Minimum 48 hours moist curing and 24 hours drying
Flanking Coat:	Minimum 48 hours moist curing and 72 hours drying
Finish Coat:	Minimum 72 hours moist curing depending on ambient temperatures

Do not alter the above curing times.

Completion

3.40 PROTECT FINISHED WORK
Protect finished work from sun, wind, frost, rain and hail and from damage by building operations or other causes. Provide temporary coverings if necessary.

3.41 REINSTATE
Reinstate damaged or marked areas.

3.42 LEAVE
Leave adjacent materials, fittings and finishes clean and to the standard required by following procedures.

3.43 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 PLASTERING SYSTEM

Background:	Concrete block
Finish:	Textured finish / Tyrolean render
Location:	Exterior piers and columns
Bond coat:	~
Flanking coat:	~
Finish coat:	~

4.2 PLASTERING SYSTEM

Background:	Concrete
Finish:	Splatter coat
Location:	Base walls
Paint finish:	2 coats latex paint

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4302 TILE ROOFING

1. GENERAL

This section relates to the supply and installation of tile roof, complete with all roof underlays, flashings and accessories to create a watertight roof.

Related work

1.1 RELATED SECTIONS
Refer to CARPENTRY for plywood sarking
Refer to THERMAKRAFT WRAPS, UNDERLAYS AND DPC for underlays
Refer to DIMOND RAINWATER SYSTEMS for fascia gutters and downpipes

1.1 **Documents**

1.2 DOCUMENTS
Documents referred to in this section are:

NZBC E2/AS1	External moisture 4.0 Flashings 5.0 Roof/wall junctions 6.0 Parapets 8.0 Roof claddings 8.1 General 8.2 Masonry tiles
AS 1397	Steel sheet and strip - hot-dipped, zinc-coated, or aluminium/zinc-coated
NZS 3403	Specification for hot-dipped galvanized corrugated steel sheet for building purposes
NZS 3602	Timber and wood-base products for use in building
NZS 3604	Timber framed buildings
NZS 4206	Concrete interlocking roofing tiles
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire

1.3 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section are:
CSR Roofing

Copies of the above literature are available from CSR Roofing:

Web:	www.csroofing.com.au
Email:	mwalters@csr.co.nz
Telephone:	09 579 9059
Facsimile:	09 579 3040

1.4 QUALIFICATIONS
Carry out roofing work using experienced, competent roofers familiar with the materials and techniques specified.

1.5 WIND AND EARTHQUAKE LOADINGS
Use fixings and methods capable of sustaining the loads appropriate to the area as set out in NZS 3604, section 5.

1.6 CO-ORDINATE
Co-ordinate to ensure substrate and preparatory work is complete and other work programmed in the order required for access and completion of the roof.

1.7 PERFORMANCE
Accept responsibility for the weather-tight performance of the completed roofing system, including all penetrations through the roof and junctions with walls and parapets.

1.8 WARRANTY
Warrant this work under normal environmental and use conditions against failure.
Warranty period - materials: 5 years
Warranty period - execution: 5 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

2. PRODUCTS

2.1 TILE BATTENS
Douglas fir, or No 1 framing radiata pine to NZS 3602, table 1E, Requirements for wood-based building components to achieve a 50-year durability performance. Size to NZS 3604, section 10: Roof framing.

2.2 UNDERLAY
Refer THERMAKRAFT WRAPS, UNDERLAYS & DPC.

2.3 CONCRETE ROOFING TILES
To NZS 4206. Finish as specified. Accessories, capping, flashings, fixings and mortar pointing to match and to the roofing manufacturer's requirements.

2.4 NAILS, SCREWS AND FASTENINGS
Metal, size and pattern, to roofing manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4: Durability.

3. EXECUTION

3.1 STORAGE
Stack roofing and accessories on clean, level areas of the site and protect from damage and from weather until ready to fix in place. Avoid overloading roof structure when roofing materials are placed on the roof area prior to installation.

3.2 SET-OUT
Set out the planned layout before fixing commences, to ensure true lines and the correct relationship to module, grid and roof features.

3.3 LAY ROOF UNDERLAY
Lay and fix to NZBC E2/AS1: 8.1.5 Underlays, NZS 3604, section 11.2.2, Roof cladding underlays and the roofing manufacturer's requirements.

3.4 LAY ROOFING, GENERALLY
To NZBC AS/1: 8.0 Roof claddings. Take care to avoid damaging pre-finished roofing both during and after fixing. Wear only soft-soled shoes on the finished surface.

3.5 INSTALL TILE BATTENS
Install the tile battens to the roofing manufacturer's requirements and with all joints fully supported and staggered.

3.6 INSTALL CONCRETE TILES
Install concrete tiles and fix with nails to every second tile and to perimeter / boundary tiles. Incorporate matching accessories, flash to roof features and penetrations, with anti-ponding boards and under-cloaks where required, to the roofing manufacturer's requirements and NZS 4206 and to NZBC AS/1: 8.2 Masonry tiles.

3.7 FIXINGS
Refer to the roofing manufacturer's literature for fixing details and to NZS 3604 for fixings durability requirements.

3.8 INSTALL COVERS AND FLASHINGS
Install and fix as detailed and to the roofing manufacturer's details and to comply with NZBC E2/AS1: 4.0 Flashings, 5.0 Roof/wall junctions and 6.0 Parapets.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.9 PENETRATIONS
Flash and over flash all penetrations through the roof.

3.10 PENETRATIONS AND JUNCTIONS
Check that fascias and anti ponding boards and are prepared ready for the installation of the roofing. Confirm that openings have been prepared ready for the installation of penetrations through the roof. Required work includes the following:
- underlay turned down into gutters
- underlay finished and dressed off to all openings, ready for the installation of penetrations
- roofing installation neatly finished to all sides of
- installation of flashings (those required to be installed prior to installation of penetrating elements and/or wall linings).
- anti ponding boards at fascia and at junction with low pitch roof and main roof

3.11 USE OF SEALANTS
Select and use sealants only as recommended by the roofing manufacturer.

3.12 COMPLETE
Ensure the work is complete with all flashings, undercloaks, valleys, ridges and hips properly installed so the finished roof is completely weathertight.

3.13 CLEAR
Clear trade rubbish and unused materials from the roof and surrounds regularly during the work and at completion. Sweep down the completed roof and flush out spoutings, gutters and rainwater pipes, ensuring that metal filings, metal scraps and loose fixings are removed.

3.14 REPLACE
Replace damaged or marked elements. Remove unused materials from the site.

4. SELECTIONS

Materials

4.1 ROOFING UNDERLAYS
Underlay: Thermakraft 215 self supporting underlay
Refer to THERMAKRAFT WRAPS, UNDERLAYS & DPC.

4.2 CONCRETE ROOFING TILES
Brand: Monier Concrete roof tiles
Type: Artisan
Colour: To be selected
Pointing material: Flexipoint

4.3 METAL FLASHINGS

Location	Material/thickness	Base metal thickness	Finish
Roof penetrations	Steel G300	0.55 BMT	NZ Steel Endura

4.4 BUTYNOL UNDER FLASHINGS

Location	Material
Ridge and hips	Butynol

Components

4.5 NAILS, SCREWS AND FASTENINGS
Fixings for high wind zone

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4305D DIMOND RAINWATER SYSTEMS

1. GENERAL

This section relates to Dimond rainwater disposal systems including spouting and downpipes, in metal.

1.1 RELATED SECTIONS

Refer to TILE ROOFING for concrete tiles.

1.2 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E1/AS1	Surface Water
	4.0 Downpipes
	5.0 Roof gutters
AS/NZS 2179	Rainwater goods, accessories and fasteners
NZMRM	NZ Metal roof and wall cladding - Code of practice

Documents listed above and cited in the clauses that follow are part of this specification. However this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Dimond, Roofing and Cladding Systems Design Manual, September 2001

Copies of the above literature are available from **Dimond**

Web:	www.dimond.co.nz – Architects and specifiers section
Telephone:	0800 DIMOND (0800 346 663).

1.4 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

BMT	Base metal thickness
NZMRM	New Zealand Metal Roofing Manufacturers Inc

1.5 NO SUBSTITUTIONS

Substitutions are not permitted to any specified system, or associated components and products.

1.6 QUALIFICATIONS

Installers to be experienced competent gutter installers, familiar with the **Dimond** materials and the techniques specified.

1.7 MAINTENANCE INSTRUCTIONS

Provide one bound copy of all relevant **Dimond** maintenance information on completion of the roofing work.

1.8 MANUFACTURER'S WARRANTY

Warrant this work under normal environmental and use conditions against:

Failure of coating adhesion:	10 year manufacturer's standard warranty
Weatherproofing by material penetration:	10 year manufacturer's standard warranty
Weatherproofing by substandard workmanship:	3 years
From:	Date of completion of installation

Refer to the general section WARRANTIES for details of when completed warranty must be submitted.

1.9 TEST

Test the completed rainwater disposal system with water to ensure spoutings are laid to correct falls, that both spouting and downpipes are unobstructed and that no ponding occurs in spoutings.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2. PRODUCTS

Materials

2.1 SPOUTING
Complete with matching brackets to suit the spouting and screws. Refer to SELECTIONS for type.

2.2 DOWNPIPES
Complete with stand-off brackets, galvanized screw fixed. Refer to SELECTIONS for type.

Components

2.3 DROPPERS
Steel or plastic droppers, sized to fit inside the downpipe.

2.4 DOMES
Wire mesh in round form with legs to clip inside the outlet opening to the downpipe.

2.5 SPOUTING MESH
Flexible plastic mesh fitted into the spouting to the spouting mesh manufacturer's requirements.

3. EXECUTION

Conditions

3.1 HANDLE AND STORE
Handle and store downpipes, spouting and accessories to avoid damage. Store on site under cover, on a clean level area, stacked to eliminate movement and away from work in progress. Avoid exposure to sunlight if strippable film is still on the product.

3.2 SUBSTRATE
Check that fascia is level and true to line and face and will allow work of the required standard without distortion to the product alignment. Do not proceed until they are up to standard.

3.3 THERMAL MOVEMENT
Make adequate provision in the fixing and jointing of the spouting for thermal movement in the length of the spouting. Provide an expansion joint in spouting over 12 metres in length for steel gutter.

3.4 CORROSION
Separate metals subject to electrolytic action from each other and from treated timber, concrete and other lime substances by space, painting of surfaces, taping, or separator strips.

Check compatibility of metals used for rainwater goods, against the materials being used for roofing and flashings.

Application - metal

3.5 INSTALL METAL SPOUTING
Establish minimum falls necessary (minimum 1:500) to outlets to prevent ponding and screw fix brackets true-to-line at 900 mm centres. Maximum. In high wind areas, the centres should be reduced to 600 mm. Lap spouting joints in direction of flow, a minimum of 40 mm to seal between and over the top of joint and seal with silicone sealant and fix with rivets. Ensure the joint is fixed over its full girth. Cut out neatly for and fit the pre-formed downpipe dropper and rivet and seal around the joint. All installation to **Dimond** details and NZMRM NZ Metal roof and wall cladding - Code of practice recommendations.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.6 INSTALL METAL DOWNPIPES
Form downpipes complete with cast zinc 115 degree angle bends as needed with all joints lapped and silicone sealed and fixed with 2-4 mm diameter aluminium blind rivets. Galvanize screw fix with galvanized steel pipe clips to rigidly stand 40 mm off the wall plumb and discharging into stormwater gully or inlet pipe. All installation to **Dimond** details and NZMRM NZ Metal roof and wall cladding - Code of practice recommendations.

3.7 INSTALL OVERFLOWS
Install as close as practical to downpipe locations, at a height allowing water to discharge to the outside and not into the building.

3.8 INSTALL PROTECTION
Fit wire mesh domes to downpipe outlets and plastic mesh to spouting to the spouting manufacturer's requirements.

Completion

3.9 REPLACE
Replace damaged or marked elements.

3.10 LEAVE
Leave the whole of this work discharging completely and freely into the stormwater system and free of all debris. Leave work to the standard required by following procedures.

3.11 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 DIMOND SPOUTING

Profile:	Box 175
Size:	175 X 175 x 125
Base material:	Steel G300
BMT:	0.55 mm
Coating system:	NZ Steel Endura
Dimond colour:	To be selected

4.2 DOWNPIPES

Profile:	Round
Size:	100mm dia.
Base material:	Steel
BMT:	0.55 mm
Coating system:	NZ Steel Endura
Dimond colour:	To be selected

4.3 DOMES

4.4 SPOUTING MESH

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4402N NURALITE ROOFING

1. GENERAL

This section relates to the application of NURAPLY roofing systems as external waterproof coverings, adhesive bonded to:
- construction plywood
- accessories

to produce a fully adhered bituminous membrane system.

1.1 DOCUMENTS

Documents referred to in this section are:

NZBC E1/AS1	Surface Water, 5.0 Roof gutters
NZBC E2/AS1	External moisture, 8.0 Roof claddings
BRANZ Bulletin 345	Flat membrane roofs - design and installation
BRANZ Bulletin 346	Flat membrane roofs - materials
BRANZ Good practice guide	Membrane roofing

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 SUPPLIER'S DOCUMENTS

Supplier's documents from Nuralite Waterproofing Ltd relating to work in this section are:
BRANZ Appraisal Certificate No. 547 (2007) Nuraply Roof Membrane
NURAPLY 3P brochure May 2000
NURAPLY Systems design and specification manual
NURALITE Waterproofing Limited: CAD drawings 1 – 20

Copies of the above literature are available from NURALITE Waterproofing Limited.

Web:	www.nuralite.co.nz
Telephone:	0-9-579 2046 Auckland
	0-4-385 9326 Wellington
Facsimile:	0-9-579 5136 Auckland
	0-4-385 9351 Wellington

Requirements

1.3 NO SUBSTITUTIONS

Substitutions are not permitted to any specified system, or associated components and products.

1.4 QUALIFICATIONS

Roofing to be carried out by competent workers licensed by NURALITE Waterproofing Limited and experienced with NURALITE materials systems and specialist techniques. Provide on request evidence of experience prior to commencing work.

Warranties

1.5 WARRANTY - INSTALLERS

The Nuraply applicator warrants this work under normal environmental and use conditions against failure of materials, waterproofing and execution.

Warranty period:	5 years by the NURAPLY Applicator
From:	Date of completion of the application

Provide this warranty on the installer's standard form.

1.6 WARRANTY - MANUFACTURER

The NURAPLY applicator to provide warranty for the system under normal environmental and use conditions against failure.

Warranty period:	20 years (single layer systems)
From:	Date of completion of the application

REID HOUSE
MANGAWHAI

Provide this warranty on the NURALITE Waterproofing Limited Materials Performance Warranty form.

Performance

1.7 TEST
Flood test horizontal applications with a minimum 50 mm depth of water for 24 hours. Make good any lack of watertightness when the surface is completely dry.

1.8 PERFORMANCE
Accept responsibility for the weather-tight performance of the completed NURAPLY roofing system, including all penetrations through the roof and junctions with walls and parapets. In the event that there are issues relating to any aspect of this work, arrange for a meeting to resolve these issues. The following should attend:
- NURAPLY roofing applicator
- NURALITE Waterproofing Limited representative
- Contractor
- Principal
- Principal's consultant(s)

1.9 AS APPROVED
"As approved" means that the materials are compatible with NURAPLY 3P roofing and are part of the system required by the roofing supplier for each specific location.

2. PRODUCTS

2.1 NURALITE WATERPROOFING MEMBRANE
NURAPLY 3P single layer, 3 mm thick reinforced fibre asphalt waterproofing membrane. Sand surface for smooth NURACOLOUR dressing.

2.2 METAL EDGE ANGLE
As detailed and rebated into surfaces as required by NURALITE Waterproofing Limited.

2.3 VENTILATORS
NURAVENTS in plywood roofs to NURALITE Waterproofing Limited specification. Round or square NURAVENTS as described in SELECTIONS.

2.4 ACCESSORIES
Accessories as required including:

Adhesives:	NURABOND No. 10
Primer:	NURAFLUX
Sealants:	Seal'n'Flex

2.5 COATING
Surface dressing: NURACOLOUR

3. EXECUTION

Conditions

3.1 GENERALLY
Work and materials to BRANZ Bulletins 345 and 346, BRANZ Good practice guide - Membrane roofing, and to NURALITE Waterproofing Limited installation instructions.

3.2 STORAGE
Take delivery of rolls undamaged and include for site handling facilities where required. Stack on end, off the ground on a level surface and with accessories. Store in shade or cover in hot sun. Protect liquid components from freezing.

3.3 LAYOUT
If not detailed on the drawings, confirm the layout to suit site conditions and for the performance of the NURAPLY 3P system. Stagger junctions of NURAPLY 3P rolls to

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

avoid 4 layer membrane build-up at corner lap joints. Confirm the location and type of NURAVENTS.

Application - preparation

3.4 PRELIMINARY WORK
Ensure that preliminary work, including formation of falls, flashing rebates, grooves, ducts, provision fillets and location of NURAVENTS and metal edge angles rebated to levels, is complete and properly constructed to enable the system to work as intended. This work and the substrate to be smooth, clean and dry.

3.5 ACCEPTANCE OF SUBSTRATE
Confirm that the substrate, including fillets, rebated metal angles and anti ponding boards, will ensure NURAPLY work of the required standard. Ensure the substrate is smooth, clean and dry and falls on roofs are 1 in 40 minimum and gutters 1 in 100 minimum.

3.6 PLYWOOD SUBSTRATE
Ensure that sheets have been stretcher bond laid to falls, are rigid, with joints flush, edges arrised, upstands filleted, no lumps or hollows, smooth, clean, dry and free of debris. Plywood grain across the line of supports below.

Application - NURAPLY 3P single layer system

3.7 LAYING AND JOINTING
Lay NURAPLY 3P using NURABOND No.10 cold applied under surface bedding adhesive. Lay Nuraply rolls in order from sumps, through gutters, valleys, eaves, verges, main roof and upstands to cover flashings. Lap joints minimum 80 mm down edge of roll and 100 mm across the end of the roll, to NURALITE Waterproofing Limited requirements. Ensure unobstructed drainage flow at gutters.

3.8 WELD JOINTS
Heat fuse joints minimum width 80 mm side and 100 mm end laps, using NURALITE Waterproofing Limited self checking lap welding techniques.

3.9 PENETRATIONS
Form mould, weld and flash all upstands, downturns and penetrations to NURALITE Waterproofing Limited details, including raised, anti-ponding water deflectors on the upside of penetrations.

3.10 MOVEMENT JOINTS
Form and weatherproof movement joints as designed to NURALITE Waterproofing Limited details.

3.11 JUNCTIONS
Check that adjoining fascias and roofs are prepared ready for the installation of NURAPLY roofing. Confirm that openings have been prepared ready for the installation of any penetrations through the roof.

Required work includes the following:
- Roofing installation neatly finished to adjacent roofing junctions and upstands.
- Installation of flashings (those required to be installed prior to installation of penetrating elements)

3.12 TOPPINGS/OVERLAYS
Ensure the specified NURACOLOUR coating system is placed within 5 days of completing laying. Clean NURAPLY 3P surface before application of NURACOLOUR, Refer to SELECTIONS for selection of toppings and overlays.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Finishing

3.13 APPLY SURFACE DRESSING
Apply NURASTONE SEALER and NURACOLOUR to NURALITE Waterproofing LIMITED details.

3.14 ACCESS BOARDS
Provide access boards for later operations and remove when no longer needed.

3.15 FOOT TRAFFIC
Do not allow construction foot traffic on the NURAPLY 3P installation after laying to avoid dirt and damage to the surface.

3.16 ACCEPTANCE
Arrange for an inspection of the completed work. Protect and maintain roofing until completion of the contract works.

3.17 SUBSEQUENT WORK
Make good any covering cut or deformed by later work. Making good to take the form of inserting a new whole or part infill sheet to maintain the appearance of the covering as originally laid.

Completion

3.18 CLEAN UP
Clean up as the work proceeds.

3.19 LEAVE
Leave work to the standard required by following procedures as specified and to NURALITE Waterproofing LIMITED details.

3.20 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 SINGLE LAYER NURAPLY 3P SYSTEM ON PLYWOOD

Location:	Garage low pitched roof
Brand:	NURALITE Waterproofing Limited
Type:	3P
Colour:	To be selected
Substrate adhesion:	NURABOND 10
Ventilators:	Square low profile NURAVENTS
Number:	One NURAVENT per 20 m^2

Finishes

4.2 COATING

Brand:	NURALITE Waterproofing LIMITED
Primer:	NURASTONE SEALER,
Type:	NURACOLOUR
Colour:	To be selected
Number of coats:	2

4.3 ACCESSORIES

Location:	Edge of roof at junction with fascia gutter
Type:	Metal angle edge

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4501 TIMBER DOOR

1. GENERAL

This section deals with the supply and installation of exterior entrance door and associated hardware.

1.1 RELATED SECTIONS
Refer CONCRETE for set out of cill angle
Refer METRO THERMAL HEART WINDOWS & DOORS for door frame

1.2 DOCUMENTS
Documents referred to in this section are:

NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber framed buildings

1.3 INSTALLATION
Liaise with concretor and aluminium joinery subcontractor for set out detail at edge of concrete slab to suit stainless cill angle, door pivot plate and door location to form drip edge beyond slab.

Aluminium joinery subcontractor to fix door stops in location to suit.

Subcontractor shall allow for fitting pivots into door frame, fixing bottom cill and pivot, hanging door, removing door for painting, rehanging door and fixing hardware.

Subcontractor will supply builder a steel bracket to be bolted to the side of a ceiling rafter just inside the door centered 700mm approx from the door frame for lifting door up and down.
Main Contractor shall provide assistance installing and removing front door for painting and shall install temporary panel in opening while door is away being finished with final Coat, and assist in installing finished door.

Completion

3.4 CHECK
Check and adjust operation of all door, hardware and furniture.

3.5 TEMPORARY PROTECTION
On completion Main Contractor shall protect door from any possible damage.

4. SELECTIONS

4.1 WIND ZONE
Building wind zone: ~ (as determined from table 5.1 of NZS 3604) H (High wind speed of 44 m/s) 1.20 kPa ULS

4.2 EXTERIOR ENTRANCE DOOR
Manufacture and installation of exterior entrance door complete with all associated hardware by nominated subcontractor.

Materials: 70mm thick timber frame
Ex 75 x 12mm T&G cedar both sides
Radius door styles to suit 100 x 50mm box section jambs and head
Angle stops and draught seals located to suit door
Pivot 200mm from edge of door
Lock rail 1.000 from floor to centreline
Groove to underside of door for draught seal

Finish: Stain or paint to be confirmed

REID HOUSE
MANGAWHAI

Hardware:

Bottom pivot: Drake & Wrigley RTS 8550 chrome finish
Top pivot: Drake & Wrigley 1572 chrome finish
Draught seal: Raven RP2 25mm x full width
Door cill: 50mm high x 6mm x full width stainless steel with fixing lugs at 300mm crs and solid stainless steel packer under pivot plate
Front door lock: Lockwood 4571 89 backset, cylinder on outside, turn on inside, No. 22 cylinder escutcheon; No 23 thumb turn; extended cylinder
Door handles / door knobs: special selected fixed both sides of door

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4502MT METRO THERMAL HEART WINDOWS & DOORS

1. GENERAL

This section relates to the manufacture, supply, and installation of Metro Thermal Heart aluminium windows, doors and frames, complete with door and window hardware and furniture, by Altherm.

Related work

1.1 RELATED SECTIONS

Refer to GLAZING for glazing.
Refer to TIMBER DOORS for entrance door.

Documents

1.2 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E2/AS1	External moisture
NZBC F2/AS1	Hazardous building materials, 1.0 Glazing
AS 1449	Wrought alloy steels - stainless and heat resisting steel plate, sheet and strip
AS 1734	Aluminium and aluminium alloys - Flat sheet, coiled sheet and plate
AS/NZS 1866	Aluminium and aluminium alloys - Extruded rod, bar, solid and hollow shapes
NZS 3504	Specification for aluminium windows
AS 3715	Metal finishing - Thermoset powder coatings for architectural applications
NZS 4211	Performance of windows
NZS 4218	Energy Efficiency - Small Building Envelope
NZS 4223.3	Glazing in buildings – Human impact safety requirements
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
AAMA 2603	Performance requirements and test procedures for organic coatings on aluminium extrusions and panels
AAMA 2604	Performance requirements and test procedures for high performance organic coatings on aluminium extrusions and panels
US Federal Specification	
BRANZ	Bulletin 337 Protecting window glass from surface damage
TT-S-001543A	Sealing compound, silicone rubber base (for caulking, sealing and glazing in buildings and other structures)
TT-S-00230C	Sealing compound, elastomeric type, single component (for caulking, sealing and glazing in buildings and other structures)
WANZ	Specification - Endurocolour for powder coatings on architectural aluminium products
WANZ	Specification SFA 3503-3 for anodic oxide coatings on wrought aluminium for external architectural applications
WANZ	Window installation system - An Alternative Solution for the installation of windows and doors
WANZ	Aluminium window handbook

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's information relating to this work section, refer:
www.thermalheart.co.nz

Alternatively contact:

Email:	marketing@aplnz.co.nz
Telephone:	0-7-849 2113.

REID HOUSE
MANGAWHAI

1.4 ABBREVIATIONS
The following abbreviations are used throughout this part of the specification:
WANZ Windows Association of New Zealand

Requirements

1.5 NO SUBSTITUTIONS
Substitutions are not permitted to any specified Architectural Profiles Ltd system, or associated components and products.

1.6 QUALIFICATIONS
Carry out fixing by the manufacturer or by a firm nominated and approved by the window manufacturer in writing.

1.7 REQUIREMENTS
Where listed in SELECTIONS provide the following samples, shop drawings and documentation.

1.8 SECTION SAMPLES
Submit for assessment before preparing shop drawings samples of full size sections.

1.9 ASSEMBLY SAMPLES
Submit for assessment before fabrication a complete assembly of members and components of windows, doors and frames.

1.10 HARDWARE SAMPLES
Submit for assessment catalogue cuts and data sheets of all hardware, operating systems and security mechanisms before assembly commences. If requested provide hardware samples and examples of the proposed or specified hardware surface finish.

1.11 FINISH SAMPLES
Submit for assessment before fabrication a sample of the specified finish to all exposed window and door sections, in the selected colour, including a statement of the minimum film thickness. On acceptance these will be used as quality control samples.

1.12 SHOP DRAWINGS AND INSTALLATION DETAILS
Provide drawn profiles and preliminary installation details for evaluation.

Shop drawings to show, but not be limited to:
Design calculations
Construction details (minimum scale 1:10) showing the interface between joinery elements and the building structure including: -
- Interaction between claddings and linings
- Flashing details
- Sealants and air seals
- Rebate sizes
- Non standard fixing details including bracketing

Dimensions of all typical elements and of any special sizes and shapes
Provision for the exclusion and/or drainage of moisture
Jointing details and method of fixing between individual elements and between this installation and adjacent work
Provision for adjustment of fixings to ensure true alignment of windows and doors
Sealant types and full size sections of all sealants and backing rods
Provision for thermal movement
Provision for seismic movement and movement under wind loads
Sequence of installation
Full details of typical glazing gaskets and glazing wedges

Refer to the general section DOCUMENTATION for the requirements for submission and review and the provision of final shop drawings.

Complete shop drawing review at least 4 weeks before commencing fabrication.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Warranties

1.13 WARRANTY
Warrant this work under normal environmental and use conditions against failure of materials and execution
Warranty period: 5 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

Performance

1.14 STANDARD OF PERFORMANCE
The windows, doors, their installation and all fixings to NZS 3504 and NZS 4211. Refer to SELECTIONS for performance requirements.

1.15 RESPONSIBILITY FOR PERFORMANCE
Accept responsibility for the structural and weather-tight performance of the completed window and door installation, the glazing work and all spandrel and infill panel work.

1.16 THERMAL PERFORMANCE
Thermal design requirements of window and doors to NZS 4218.

1.17 IN SITU TOUCH-UP
In situ touch-up of polyester or fluoropolymer coated aluminium is only permitted after receiving written authority. Replace all damaged material.

2. PRODUCTS

Materials

2.1 WINDOWS
Refer to SELECTIONS for type and finish.

2.2 DOORS
Refer to SELECTIONS for type and finish.

2.3 ALUMINIUM EXTRUSIONS
Alloy designation to comply with AS/NZS 1866. Branded and extruded for anodising or powder coating.

2.4 THERMAL INSULATOR
Polyamide strip inlaid between aluminium window sections to provide thermal break as developed by the manufacturer.

2.5 ALUMINIUM SHEET AND STRIP
Complying with AS 1734 of suitable thickness. Rolled for anodising or powder coating.
Alloy designation: 5251 – H16 or 5005 – H16

2.6 STAINLESS STEEL SHEET AND STRIP
Type 316 austenitic steel, complying with AS 1449 of suitable thickness.
Finish grade: 2B (satin lustre)

2.7 HEAD FLASHING
Material, grade and colour of head flashings to match the window frames. Ensure that materials used for head, and sill flashings are compatible with the window frame materials and fixings and cladding materials.

2.8 GLASS
Refer to GLAZING for type and thickness.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Components – for cavity systems

2.10 HEAD FLASHING
Flashing device to close the cavity above the window or door unit to direct water that occasionally penetrates the wall cladding into the cavity spaces adjacent to the window.

2.11 WANZ SUPPORT BAR
Extruded aluminium support bar with built in drainage and ventilation to NZBC E2, to provide continuous support to the window unit.

Components

2.12 GLAZING GASKETS
Thermoplastic rubber. Do not stretch glazing gaskets during installation. Measure and cut gaskets 1% over length before installation to avoid stretching.

2.13 HARDWARE AND FURNITURE
Hinges, stays, catches, fasteners, latches, locks and furniture as offered by the window and door manufacturer. Refer to SELECTIONS for type and finish. Key alike all lockable hardware able to be keyed alike.

2.14 SAFETY STAYS
Stainless steel non releasable restrictors to limit window opening to NZBC F4/AS1, Table 2, Acceptable opening sizes for barriers.

Finishes

2.15 EXTERNAL COATED ALUMINIUM
Polyester Duralloy powder coating in accordance with WANZ Specification - Endurocolour, to AS 3715 and AAMA 2603.

2.16 EXTERNAL COATED ALUMINIUM
Fluoropolymer wet coating to AAMA 2604.

3. EXECUTION

Conditions – generally

3.1 DELIVERY
Do not deliver to site any elements which cannot be unloaded immediately into suitable conditions of storage.

3.2 UNLOADING
Unload, handle and store elements in accordance with the window manufacturer's requirements.

3.3 AVOID DISTORTION
Avoid distortion of elements during transit, storage and handling.

3.4 PREVENT DAMAGE
Prevent prefinished surfaces rubbing together, and contact with mud, plaster and cement. Keep paper and cardboard wrappings dry.

3.5 PROPRIETARY ELEMENTS
Fix in accordance with the window manufacturer's requirements.

3.6 PROTECTIVE COATINGS
Retain protective coverings and coatings in place during and after installation.

3.7 PROTECTIVE COVERINGS
Retain protective coverings and coatings to BRANZ Bulletin 337 and keep in place during the fixing process. Provide protective coverings and coatings where required to prevent

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

marking of surfaces visible in the completed work and to protect aluminium joinery from following trades. Remove protection on completion.

Conditions – fixings and fastenings

3.8 SUPPLY OF FIXINGS
Use only fixings and fastenings recommended by the manufacturer of the component being fixed and to comply with the design wind pressure stated in the STANDARD OF PERFORMANCE clause.

3.9 EXPOSED FIXINGS AND FASTENINGS
Ensure fixings and fastenings exposed to the weather are of aluminium, or Type 316 stainless steel.

3.10 PROTECTED FIXINGS AND FASTENINGS
Fixings and fastenings not exposed to the weather may be hot dipped galvanized steel with a coating weight of 610 g/m^2 to AS/NZS 4680.

Assembly

3.11 FABRICATION
Fabricate frames as detailed on shop drawings. Install glazing, hinges, stays and running gear as scheduled. Provide temporary bracing and protection. Temporarily secure all opening elements for transportation.

3.12 HARDWARE GENERALLY
Factory fit all required and scheduled hardware. Account for all keys and deliver separately to the site manager.

3.13 SAFETY STAYS
Factory fit safety stays to all windows scheduled for safety stays and to all windows where safety stays are required to comply with NZBC F4/AS1 4.0, Opening windows.

Application

3.14 CORROSION PROTECTION
Before fixing, apply suitable barriers of bituminous coatings, stops or underlays between dissimilar metals in contact, or between aluminium in contact with concrete.

3.15 CONFIRM PREPARATION OF WALL OPENINGS
Confirm that wall openings have been prepared ready for the installation of all window and door frames. Do not proceed with the window and door installation until required preparatory work has been completed.

Required preparatory work includes the following:
- wall cladding underlay/building wrap to openings finished and dressed off ready for the installation of window and door frames
- claddings neatly finished off to all sides of openings
- interior linings neatly trimmed ready for installation of gib board wall linings and completion of air seals to all sides of openings
- installation of flashings (those which are required to be installed prior to frames).

3.16 INSTALL TO WANZ ALTERNATIVE SOLUTION
Fix to comply with the installation requirements and details in the WANZ Alternative Solution, including preparation of openings, support for the units, fixings, air seals and flashings.

3.17 INSTALL TO REVIEWED SHOP DRAWINGS
Fix to comply with the reviewed shop drawings and installation details including flashings and bedding compounds, pointing sealants and weathering sealants.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.18 INSTALL FLASHINGS
Liaise with and agree flashing detail requirements with the cladding manufacturer/installer. Install flashings to heads, jambs and sills of frames as supplied and required by the cladding manufacturer and as detailed on the drawings. Finish head flashings to match window finish.

Place all flashings so that the head flashing weathers the jamb flashings, which in turn weathers over the upstand of the sill flashing. Ensure that sill flashings drain to the outside air.

Except where window/door frames are recessed, ensure that head flashings over-sail jamb facings by 15 mm at each end.

3.19 COMPLETE AIR SEAL
Form an air-tight seal by means of proprietary expanding foam, compressible foam strips, or sealants used with backing rods, applied deep within the reveal to completely fill the gap between joinery and structural framing. Ensure that in combination with the internal linings a complete air seal is created.

3.20 FIX HARDWARE
Fix all sash and door hardware and furniture as scheduled.

3.21 SAFETY
Indicate the presence of transparent glasses for the remainder of the contract period, with whiting, tape or signs compatible with the glass type. Indicators other than whiting must not be applied to the glass surface. Masking tape must not be used for this purpose.

Application – jointing and sealing

3.22 SEAL FRAMES ON SITE
Seal frames to each other and to adjoining structure and finishes, all as required by the window manufacturer and to make the installation weathertight. Do not seal the junction between the sill member and the cladding or sill flashing which must remain open.

3.23 PREPARE
Ensure joints are dry. Remove loose material, dust and grease.

3.24 PREPARE JOINTS
Prepare joints in accordance with the sealant manufacturer's requirements, using required solvents and primers where necessary.

3.25 PREPARATION
Mask adjoining surfaces which would be difficult to clean if smeared with sealant.

3.26 BACKING
Insert polyethylene rod or tape back-up behind joints being pointed with sealant.

3.27 BACK UP
When using back-up material do not reduce depth of joint for sealant to less than the minimum required by the manufacturer of the sealant.

3.28 POINTING, BEAD
Tool sealant to form a smooth, flat bead.

3.29 POINTING, FILLET
Tool sealant to form a smooth fillet with a profile and dimensions required by the sealant manufacturer.

3.30 FINISHING
Remove excess sealant from adjoining surfaces, using the cleaning materials nominated by the sealant manufacturer and leave clean.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Completion

3.31 TRADE CLEAN
Clean off or remove protective coverings and safety indicators at completion of the building. Clean with soft, clean cloths and clean water.

3.32 REPLACE
Replace damaged, cracked or marked elements.

3.33 LEAVE
Leave work to the standard required for following procedures.

3.34 REMOVE
Remove safety indicators and protective coverings, and wipe down all joinery thoroughly to leave it perfectly clean. Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 REQUIREMENTS

Samples
Full size sections: Not required
Assembly sample: Required
Finish sample: Required
Hardware sample: Required
Hardware finish: Required

Drawings
Shop drawings: Required

Documents
Hardware: Catalogue cuts required

Performance

4.2 ACCEPTABLE SUPPLIERS AND INSTALLERS
Fabrication, supply and installation of the specified **Thermal Heart** aluminium joinery by one of the following.

Fabricator/installer	Contact details
Altherm Aluminium (Northland) Ltd	09 438 3279

4.3 WIND ZONE
Building wind zone: ~ (as determined from table 5.1 of NZS 3604)
H (High wind speed of 44 m/s) 1.20 kPa ULS

4.4 THERMAL PERFORMANCE
Thermal performance: R-value ~ (as determined from NZBC H1/VM1 or H1/AS1)

Window and door system

4.5 WINDOWS
Brand/type: **Thermal Heart**
Finish: Powder coated
External Colour: To be selected
Glass: Refer to GLAZING for type and thickness.

4.6 DOORS – SLIDING,
Brand/type: **Thermal Heart**
Finish: Powder coated
External Colour: To be selected
Glass: Refer to GLAZING for type and thickness.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Components

4.7 ALUMINIUM CORNER COVERS

Type:	To match joinery
Finish:	Powder coated

Finishes

4.8 FINISH, POWDER COATING

Brand:	Duralloy (P)
Film integrity:	10 years
Colour integrity:	7 years
Colour:	To be selected
Thickness:	50 to 90 microns with a minimum of 50 microns

Hardware

4.9 WINDOW HARDWARE

Window fastener:	Miro	Location	Item
All sashes	Safety stays – non releasable		
All sashes	Sash locks		

4.10 WINDOW HARDWARE

Awning stay:	Interlock A series friction stay, Heavy Duty
Window fastener:	Miro wedgeless window fastener

4.11 DOOR HARDWARE

Door lever lock:	Miro
Sliding door lock	

Location	Item
Hinged doors	Door lever lock
Sliding doors	Sliding door lock and handle

4.14 MISCELLANEOUS ITEMS

Location	Item
~	Hold back devices
~	Patio bolts
~	Door restrictors

4.12 HARDWARE FINISH

Finish:	To match joinery
Colour:	To match joinery

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4505 GARAGE DOORS

1. GENERAL

This section relates to the manufacture, supply and installation of garage door systems including required opening/operating systems.

Related work

1.1 RELATED SECTIONS

Refer to ELECTRICAL for power supply to opening system
Refer to PAINTING for painting of cladding

1.2 DOCUMENTS REFERRED TO

Documents referred to in this section are:

AS/NZS 1170	Structural design actions
NZS 1170.5	Structural design actions - Earthquake actions - New Zealand
NZS 3604	Timber framed buildings
AS/NZS 4505	Domestic garage doors

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
ASHTON ARCHITECTURAL DOORS

Copies of the above literature are available from:

Web:	
Email:	edwin.richards@bnd.co.nz
Telephone:	09 443 3053
Facsimile:	09 443 3053

Performance

1.4 LOADS

Garage doors complete with hinges, roller assemblies and fasteners to comply with wind and seismic load performance requirements to NZS 3604, table 5.1, Determination of building wind zone, AS/NZS 1170 and NZS 1170.5.

1.5 RESPONSIBILITY FOR PERFORMANCE

Accept responsibility for the structural and weather-tight performance of the completed garage door installation.

2. PRODUCTS

2.1 GARAGE DOORS

Manufactured to AS/NZS 4505 complete with a compliance label stating manufacturer, serial number, wind and seismic classification and testing/certification details

2.2 MOTORISED DOOR OPENERS

Motorised door opener to each garage door with separate remotes, push buttons and key pad controls.

3. EXECUTION

3.1 PREPARATION FOR INSTALLATION

Check that the trimmed and lined openings are formed and constructed to suit the required door units. Do not proceed until openings are properly formed.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.2 MANUFACTURERS REQUIREMENT FOR INSTALLATION
Install door, track and operating equipment complete with all specified and necessary accessories and hardware to the manufacturer's requirements.

3.3 START UP
Carry out start up procedures and verify proper performance of the doors.

3.4 ADJUSTMENT
Lubricate bearings and sliding parts and adjust doors to operate easily, free of warp, twist or distortion with a weather tight fit round the entire perimeter.

3.5 DEMONSTRATION
Carry out start up procedures and verify proper performance of the door. Demonstrate the operation of the door to the principal/principal's representative. Set security features to principal's requirements. Reset security features at practical completion of the contract works.

3.6 OPERATING INSTRUCTIONS AND MAINTENANCE PROCEDURES
Provide operating instructions for the garage doors and associated opening equipment. Provide a list of all components requiring regular maintenance.

Completion

3.7 ENSURE
Ensure all elements are free of marks or blemishes, with all moving parts working fully and freely.

3.8 REPLACE
Replace damaged, cracked or marked elements.

3.9 LEAVE
Leave work to the standard required by following procedures.

3.10 REMOVE
Remove all debris, unused materials and elements from the site.

4. SELECTIONS

4.1 WIND ZONE
Building wind zone: ~ (as determined from table 5.1 of NZS 3604)
H (High wind speed of 44 m/s) 1.20 kPa ULS

4.2 SECTIONAL OVERHEAD DOORS

Location:	Garage 1 Garage 2 Garage 3
Brand:	Ashton Architectural Garage Doors
Type:	Residential Sectional Garage Door
Face panels:	ex 75 x 12 T& G cedar
Finish:	Painted
Subframe,tracks and hinges:	galvanised steel
Finish:	Powder coated
Motor:	To suit weight and width of doors

4.3 GARAGE DOOR FITTINGS AND HARDWARE

Lock and handle:	Locking mechanism for additional security to all doors

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

4.4 GARAGE DOOR CONTROLLERS

Digital keypads:	3
Location:	Outside garage doors
Number of remotes:	3
Type of remote:	Battery operated
Location of internal control buttons:	Inside garage adjacent to door into corridor 1
Number of internal control buttons:	3

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4601 GLAZING

1. GENERAL

This section relates to the supply and glazing of :
- exterior joinery
- back painted glass
- shower screens
- mirrors

1.1 DOCUMENTS

Documents referred to in this section are:

NZBC B1/AS1	Structure, 7.0 Glazing
NZBC F2/AS1	Hazardous building materials, 1.0 Glazing
NZBC F4/AS1	Safety from falling, 1.0 Barriers in buildings
NZS 3604	Timber framed buildings
NZS 4223.1	Glazing in buildings - The selection and installation of glass in buildings
NZS 4223.3	Glazing in buildings - Human impact safety requirements
NZS 4223.4	Glazing in buildings - Dead, wind and snow loading
AS/NZS 2208	Safety glazing materials in building
AS/NZS 4666	Insulating glass units
AS/NZS 4667	Quality requirements for cut-to-size and processed glass

RELATED DOCUMENTS

Refer to the following related documents when preparing this section:

AS/NZS 4668	Glossary of terms used in the glass and glazing industry

2. PRODUCTS

2.1 GLASS

Processed glass to AS/NZS 4667, thickness to NZS 4223 parts 1; 3 and 4 unless otherwise specified:

Clear float glass:	Clear annealed transparent float glass
Laminated glass:	Grade A safety glazing material to AS/NZS 2208 with PVB or CIP resin interlayer.
Toughened glass:	Grade A safety glazing material to AS/NZS 2208.
Tinted float glass:	Body tinted float glass
Insulating glass units (IGU's):	To AS/NZS 4666 and IGU Manufacturer's Association (IGUMA) requirements.

2.2 TEMPORARY PROTECTION FILM

Factory applied UV resistant film to protect the glass from construction damage.

2.3 BACK PAINTED GLASS

Back painted glass

2.3 MIRROR GLASS

Float mirror glass to NZS 4223.1, clause 101.2.2.2: (b) Silvering quality (selection S), with silver and copper plating and 2 coats of protective paint.

2.4 GLASS SCREENS

Proprietary shower screens, formed to shape before toughening, complete with matching hardware.

Components, aluminium glazing

2.5 GLAZING TAPE AND GASKETS

Single/double sided pressure sensitive self-adhesive low/medium/high density foam tapes/butyl tapes selected to suit the glazing detail to window manufacturers' requirements.

REID HOUSE
MANGAWHAI

2.6 SETTING BLOCKS
Santoprene/Neoprene, 80-90 Shore A hardness, set at quarter points or to detail, to support the weight of glass panes.

Components, mirrors

2.7 MIRROR ADHESIVE
Adhesive mirror-mastic and double-sided adhesive tape.

3. EXECUTION

3.1 GLAZING GENERALLY
To NZS 4223.1 and for human impact safety glazing to NZS 4223.3.
To AS/NZS 4666 for IGU's.

Application aluminium

3.2 INSTALL GLASS TO ALUMINIUM FRAMES
Install glass to NZS 4223.1.
- Bead glaze to 105.9 Glazing with beads.
- Channel glaze to105.10 Glazing in grooves

3.3 INSTALL SAFETY GLASS
To NZS 4223.3, as modified by NZBC F2/AS1.

Application back painted glass

3.4 BACK PAINTED GLASS ADHESIVE FIXED
Fix with adhesive mirror-mastic and double-sided adhesive

Application mirrors

3.5 MIRRORS, ADHESIVE FIXED
Fix with adhesive mirror-mastic and double-sided adhesive tape.

Application miscellaneous

3.6 INSTALL GLASS SCREENS
Install shower screens and doors to manufacturer's requirements. Fix wall channel with silicone sealant.

Finishing

3.7 SAFETY
After glazing indicate the presence of transparent glasses, with whiting, tape or signs compatible with the glass type.

3.8 TRADE CLEAN
Clean off or remove safety indicators and any temporary protection film at completion of the building.

4. SELECTIONS

4.1 WIND ZONE
Building wind zone: ~ (as determined from table 5.1 of NZS 3604)- H (High wind speed of 44 m/s) 1.20 kPa ULS

Glass by type

4.2 CLEAR FLOAT GLASS
Location: Garage

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

4.3 INSULATING GLASS UNITS (HEAT AND SOUND) to be confirmed

Location:	House
Brand/type:	Metro Glass Tech
Inner glass:	6.38mm clear laminate
Air gap:	10mm
Interlayer:	
Outer glass:	6.00mm grey body tint toughened

Back painted glass

4.5 BACK PAINTED GLASS

Location:	Above kitchen bench top Bathroom 1 shower cubicle
Fixing method:	Adhesive fixed

Mirrors

4.4 MIRROR, SELECTIONS

Location:	Guest WC, Bathrooms 1 & 2, Dressing room
Fixing method:	Adhesive fixed

Glass shower screens

4.5 FRAMELESS SHOWER SCREENS AND DOORS

Location:	Guest WC, Bathroom 1 & 2
Brand/type:	Euroglass
Glass:	Toughened
Hardware:	To be selected
Accessories:	Corner shower shelves

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4701 THERMAL INSULATION

1. GENERAL

This section relates to materials fitted as thermal insulation between strapping to inside face of concrete block piers.

1.1 RELATED SECTIONS

Refer to CONCRETE for insulation under concrete slabs.
Refer to THERMAKRAFT WRAPS, UNDERLAYS AND DPC for building wraps and roofing underlays.
Refer to AUTEX GREENSTUF AND QUIETSTUF INSULATION for wall and ceiling insulation.

1.2 DOCUMENTS

Documents referred to in this section are:

NZBC H1/AS1	Energy efficiency, 2.0 Building thermal envelope
NZS 4218	Energy efficiency – Small building envelope
NZS 4246	Energy efficiency – Installing insulation in residential buildings
HSE Act	Health and Safety in Employment Act

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Expol Ltd

Copies of the above literature are available from ~

Web:	www.expol.co.nz
Email:	sales@expol.co.nz
Telephone:	09 634 3449
Facsimile:	09 634 0756

1.4 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

BIB	Building Insulation Blanket
NZECP	New Zealand Electrical Code of Practice
EPS	Expanded polystyrene sheets

Requirements

1.5 QUALIFICATIONS

Work to be carried out by tradesmen experienced, competent and familiar with the specified insulation materials and techniques specified.

2. PRODUCTS

Materials

2.1 CELLULAR PLASTIC RIGID BOARD (EPS)

Expanded polystyrene foam board manufactured from fire retardant grade resin.

Components

2.2 PROPRIETARY FIXING CLIPS

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3. EXECUTION

3.1 DELIVERY
Keep insulation dry in transit. Take delivery of insulation dry and undamaged and store in a location that protects them from the weather and damage. Reject all damaged materials.

3.2 STORAGE
Accept materials undamaged and dry and store in a location that protects them from the weather and damage. Avoid distortion, stretching, puncturing and damage to edges of sheet materials. Do not use damaged sheets.

3.3 HANDLING
Wear protective clothing as necessary and when handling, avoid delamination or distortion of the rectangular form. Maintain full thickness unless compression is an installation system requirement.

3.4 HAZARD MANAGEMENT
Comply with HSE Act and take all safety precautions necessary to reduce potential hazards.

3.5 INSPECTION
Before starting installation of blankets and pads, check that the location and framing are free from moisture, that the cavities are not interconnected and that mesh, building papers and vapour barriers are in place.

Application

3.6 INSTALL INSULATION – GENERAL
Install to NZBC H1/AS1: Energy efficiency, 2.0 Building thermal envelope, and to the insulation manufacturer's requirements. Install in housing to NZS 4218 and NZS 4246.

3.7 FIT CELLULAR PLASTIC RIGID BOARD (EPS)
Friction fit EPS board after strapping has been installed. Cut oversize lengthways for a tight compression fit between framing. Leave no gaps between, and maintain full thickness of the insulating segments over the whole of the installation. Fit EPS between timber strapping using proprietary fixing clips. Ensure separation from electric cabling.

3.8 ELECTRIC HOT WATER CYLINDER WRAP
Install to NZS 4246 and to the wrap manufacturer's instructions.

Completion

3.9 CLEAN UP
Clean up as the work proceeds, so no spare offcuts or any other matter or item remain behind claddings or linings.

3.10 LEAVE
Leave work to the standard required by following procedures.

3.11 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 CELLULAR PLASTIC RIGID BOARD (EPS)

Location:	Inside face of concrete block piers (except garage)
Brand:	Expol
R Value:	R1.1
Thickness:	40mm

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4701A AUTEXGREENSTUF® AND QUIETSTUF® INSULATION

1. GENERAL

This section relates to Autex GreenStuf® and QuietStuf® polyester fibre insulation installed, laid, hung or fitted as thermal and/or acoustic insulation.

1.1 DOCUMENTS

Documents referred to in this section are:

NZBC H1/AS1	Energy efficiency, 2.0 Building thermal envelope
NZS 4218	Energy efficiency – Small building envelope
NZS 4243.1	Energy efficiency – Large buildings – Building thermal envelope
NZS 4246	Energy Efficiency – Installing insulation in residential buildings

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 MANUFACTURER'S DOCUMENTS

Autex Insulation documents relating to work in this section are:

Autex Insulation Product Manual, including:

- Data sheet GreenStuf® Thermal insulation - Pad Form
- Data sheet GreenStuf® Thermal insulation - Roll Form
- Data sheet GreenStuf® Building Insulation Blanket
- Data sheet GreenStuf® Masonry Wall Blanket
- Data sheet QuietStuf® Sound Solution®
- Data sheet QuietStuf® ASB (Autex Sound Blanket

Installation Instructions - GreenStuf® Thermal Insulation

BRANZ Appraisal Certificate 380 Autex GreenStuf® polyester thermal insulation

Autex Insulation Acoustic Design Guide

Copies of the above literature are available from Autex Insulation

Web:	www.autex.co.nz
Telephone:	0800 428 839

Autex Insulation documents are also available on EBOSS

Web:	www.eboss.co.nz

1.3 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

NZBC	New Zealand Building Code
BIB	Building Insulation Blanket
STC	Sound Transmission Class
NRC	Noise Reduction Coefficient
IIC	Impact Insulation Class
Rw	Weighted sound reduction index
CAC	Ceiling Attenuation Class

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Autex Insulation **GreenStuf®** and/or **QuietStuf®** insulation, associated products, components or accessories.

1.5 QUALIFICATIONS

Work to be carried out by tradesmen experienced, competent and familiar with Autex Insulation materials and techniques specified.

1.6 COMPLIANCE SCHEDULES

Provide details of inspections, maintenance and reporting procedures required to demonstrate ongoing compliance with NZBC H1/AS1.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.7 WARRANTY - MANUFACTURERS
Manufacturer's warranty (durability) for Autex polyester thermal and acoustic insulation products under normal environmental and use conditions against failure.

Warranty (durability): 50 years

Provide this warranty on the manufacturer's standard form.

2. PRODUCTS

Materials - thermal

2.1 POLYESTER FIBRE THERMAL INSULATING PADS
Autex **GreenStuf® Pad Form** - 100% polyester fibres thermally bonded together to form a rectangular insulation pad. Refer SELECTIONS for details.

2.2 POLYESTER FIBRE THERMAL INSULATING ROLLS / BLANKET
Autex **GreenStuf® Roll Form** - 100% polyester fibres thermally bonded together to form a flexible insulation blanket / roll. Refer SELECTIONS for details.

2.3 POLYESTER FIBRE THERMAL INSULATING MASONRY WALL BLANKET
Autex **GreenStuf® Masonry Wall Blanket** - 100% polyester fibres thermally bonded to form a flexible insulation blanket/roll for insulating strapped and lined masonry walls. Refer SELECTIONS for details.

Materials – acoustic

2.4 POLYESTER FIBRE ACOUSTIC INSULATION
Autex **QuietStuf®** - 100% polyester fibres thermally bonded to form a rectangular pad, and/or flexible blanket / roll. Refer SELECTIONS for details.

Components

2.5 TAPES
Proprietary plastic tape, stapled across framing to retain insulation in unlined wall and ceiling locations.

2.6 STAPLES / GUN STAPLER
Gun stapler and staples (standard or stainless steel as appropriate) for fixing GreenStuf® Masonry Wall Blanket and GreenStuf® Underfloor in place.

2.7 ADHESIVE TAPE, MASS LOADED RESIN ACOUSTIC BARRIER
Pressure sensitive adhesive tape.

3. EXECUTION

3.1 STORAGE
Accept materials undamaged and dry and store in a location that protects them from the weather and damage. Avoid distortion, stretching, puncturing and damage to edges of sheet materials. Do not use damaged materials.

3.2 HANDLING
Avoid delamination or distortion of the rectangular form. Maintain full thickness unless compression is an installation system requirement.

3.3 INSPECTION
Before starting installation of Autex **GreenStuf®** and/or **QuietStuf®** blankets and pads, check that the location and framing are free from moisture, that the cavities are not interconnected and that mesh, building papers and vapour barriers are in place.

3.4 CHECK WALL WRAPS AND ROOF UNDERLAYS
Ensure wall wraps and roof underlays are dry, clean, undamaged and free of debris before installing insulation.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.5 CHECK VAPOUR BARRIERS
Ensure vapour barriers form a homogeneous sheet vapour barrier before installing insulation.

3.6 INSTALL INSULATION
Lay, install, fit and fix thermal insulation to NZBC H1/AS1: 2.0 and to the Autex requirements. Install in housing to NZS 4218 and in large buildings to NZS 4243.1. Install thermal and acoustic insulation as per detail, to NZS 4246 and to Autex Insulation requirements.

3.7 FIT POLYESTER FIBRE THERMAL INSULATION PADS
Friction fit Autex **GreenStuf®** insulation pads in place to completely fill the whole of the cavities. Slightly oversize length for friction fit and tear by hand across pad and fill cavity. Tear to smaller pieces for smaller spaces and around penetrations. Leave no gaps and maintain full thickness of the insulation over the whole of the installation. Do not cover vents. Leave a 150 mm clear gap around recessed light fittings and metal flue. Fix in place with plastic tape as necessary.

3.8 FIT POLYESTER FIBRE THERMAL INSULATION ROLLS
Friction fit Autex **GreenStuf®** insulation rolls between the studs/joists, or in place to completely fill the whole of the cavities. Slightly oversize length for friction fit and tear by hand across width to fit nogs and small spaces around penetrations. Leave no gaps and maintain full thickness of the insulation over the whole of the installation. Leave a 150 mm clear gap around recessed light fittings and metal flues. Fix in place with plastic tape as necessary.

3.9 FIT POLYESTER FIBRE ACOUSTIC PADS / BLANKET / ROLL – TIMBER STUD WALLS
After the wall lining is fixed to one side of the wall/partition, friction fit Autex **QuietStuf® Sound Solution** acoustic insulation segment / blanket in place to completely fill the whole of the cavities. Leave no gaps. Slightly oversize to retain friction fit, carefully tear by hand across blanket, fit to cavity. Maintain full thickness of acoustic insulation over whole installation. Fix in place with plastic tape as necessary.

3.10 CLEAN UP
Clean up as the work proceeds, so no spare offcuts or any other matter or item remain behind claddings or linings.

3.11 LEAVE
Leave work to the standard required by following procedures.

3.12 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 POLYESTER FIBRE THERMAL INSULATION - EXTERIOR WALLS

Location:	All exterior timber framed walls and wall between house and garage
Brand:	Autex **GreenStuf®**
R Value:	R2.2
Thickness:	95 mm

4.2 POLYESTER FIBRE THERMAL INSULATION - CEILING

Location:	Above all ceilings including garage
Brand:	Autex **GreenStuf®**
R Value:	R3.4
Thickness:	175 mm

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

4.3 POLYESTER FIBRE ACOUSTIC INSULATION, INTERNAL WALLS (TIMBER STUD)

Location:	Walls between:	Bathroom 1 and Study
		Study and Living
		Hanare and Bathroom 2
		Bedroom 3 and Bathroom 2
Brand:	Autex **QuietStuf® Sound Solution®**	
Thickness:	95 mm	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4801 FLASHINGS

1. GENERAL

This section relates to the fabrication and installation of flashing systems not forming part of a proprietary system.

Documents

1.1 DOCUMENTS

Documents referred to in this section are:

Code of practice	NZ metal roof and wall cladding
NZBC	B2/AS1 Durability
NZBC	E2/AS1 External moisture
AS/NZS 2728	Prefinished/prepainted sheet metal products for interior/exterior building applications – Performance requirements
AS 3566	Self-drilling screws for the building and construction industries - General requirements and mechanical properties
NZS 3604	Timber framed buildings

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Requirements

1.2 QUALIFICATIONS

Work to be carried out by tradesmen experienced, competent and familiar with the materials and techniques specified.

1.3 VERIFY DIMENSIONS

Verify dimensions against site measurements prior to fabrication.

Standards of performance

1.4 DURABILITY REQUIREMENTS

Design and install the flashings appropriate for the durability applications in accordance with NZBC B2/AS1. Clause.3.2 requires that all hidden elements have at least the same durability as that of the element that covers it. Refer to B2/AS1 Table 1: Durability Requirements of Nominated Building Elements and NZBC E2/AS1 Table 20 Material selection.

1.5 COMPATIBILITY REQUIREMENTS

Each flashing material shall be selected in accordance with NZBC E2/AS1 Table 20 to minimise corrosion. Refer to either NZS 3604 Clause 4.2 or AS/NZS 2728 for the relevant exposure conditions. For compatibility of materials in contact and subject to run-off, refer to NZBC E2/AS1 table 21 and 22.

1.6 DESIGN

For flashings where there are no specific details or drawings, provide a full size mock up of the flashing to integrate components into the weathertight system. Co-ordinate with the trades affected by the installation.

2. PRODUCTS

2.1 FLASHING MATERIALS

Acceptable materials for flashings are described in NZBC External Moisture E2/AS1 Clause 4.0. Material, grade and colour as detailed and scheduled. Ensure that materials used for flashings are compatible with the building and cladding materials and their fixings. Fabricate flashings from a ductile grade of metal designed for lateral strength by folding, stiffening or ribbing on external edges, having a maximum un-stiffened width of 300 mm.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.2 FIXINGS
Rivets, screws, nails and cleats to be compatible with the materials being fastened. Fasteners complying with the corrosion requirements of AS 3566 are suitable for use with ZINCALUME® steel products. Use only low carbon non-conductive sealing washers.

2.3 JOINTS - SEALANTS
Neutral curing silicone rubber sealant that is acetic acid free with low resistance to compression and be-able to withstand large temperature variations.

2.4 JOINTS - SOLDER
Eutectic solder of 60% tin/40% lead using a suitable proprietary flux.

3. EXECUTION

Conditions

3.1 DELIVERY
Keep flashings dry in transit. Take delivery of flashings in an undamaged condition. Reject all damaged materials.

3.2 STORAGE
Store materials and accessories on a level, firm base, in dry conditions, well ventilated, out of direct sunlight and completely protected from weather and damage. Ensure storage areas are away from current work areas. Cover to keep dry until fixed.

3.3 HANDLING
Avoid distortion and contact with potentially damaging surfaces/substances. Do not drag flashings across each other, or across other surfaces. Protect edges, corners and surfaces from damage.

3.4 SUBSTRATE
Do not commence work until the substrate is of the standard required by the installer for the specified flashings, level and in true alignment.

3.5 PROTECT
Protect surfaces, window and door joinery, and finishes already in place, from the possibility of damage during the installation process.

3.6 CONFIRM LAYOUT
Before commencing work confirm the proposed installation of the flashings and expansion joints and other visual considerations of the finished work.

3.7 CO-ORDINATE INSTALLATION
Co-ordinate installation of flashings with associated trades.

Application

3.8 INSTALLATION
Install flashings in accordance with NZ Metal Roof and Wall Cladding Code of Practice and in compliance with NZBC E2/AS1 4.0 Flashings. For very high wind zones and where the pitch of the roof is below 10° the flashing joint laps shall be sealed with sealant at each end of the lap to prevent the ingress of water.

Form hem on vertical upstands of hidden flashings to prevent capillary action. Refer to NZBC E2/AS1 Table 7 for general dimensions of flashings.

3.9 FIXINGS
Fix flashings with fasteners appropriate to the situation. For fixing flashings with proprietary brackets or clips ensure they are aligned to allow for movement and are compatible with the flashing material.

Fix screws with the shank perpendicular to the surface of the flashing with the washer fitted firmly against the flashing. Screws to be compatible with the flashing material.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Rivets 'blind' or 'pop' are to be sealed when used. Aluminium rivets are compatible with zinc or AZ coated steel. Monel and stainless steel rivets can be used to fix galvanized steel flashings. Minimum diameter of rivet to be used is 4.0 mm. Drill hole 1 mm larger than the rivet size. Seal head of rivet with neutral cured silicone.

3.10 JOINTING - SEALANTS
Clean surfaces to be lapped using a solvent ensuring all traces of the solvent are removed with a clean rag. Apply sealant by gun in a continuous bead of approximately 5 mm diameter. Width of sealant when compressed should not exceed 25 mm. Sealant joints shall be mechanically fixed for strength. Refer to NZ Metal Roof and Wall Cladding Code of Practice for details.

3.11 JOINTING - SOLDER
Solder joints in galvanized steel and non-ferrous metals when specified with lead/tin solder. Clean joint ensuring it is dry and free of grease immediately prior to applying a proprietary flux. Lap the flashing 25 mm in the direction of the water flow and fasten the lap with rivets or screws at 50 mm centres. Completely sweat the joint to avoid leaving any flux residue. Wash down the joint to remove any trace of flux.

3.12 FINAL INSPECTION
A final inspection by the installer to take place after completion of the flashing work. Any defects or subsequent damage to be made good.

Completion

3.13 PROTECT
Protect new work from damage.

3.14 REPLACE
Replace all damaged or marked elements.

3.15 LEAVE
Leave work to the standard required for following procedures.

3.16 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 FLASHINGS

Type/material/colour	
General flashings:	Steel 0.55BMT G300 NZ Steel Endura finish
Garage door:	Steel 0.55BMT G300 NZ Steel Endura finish
Meter box:	Steel 0.55BMT G300 NZ Steel Endura finish
Chimney flue:	Steel 0.55BMT G300 NZ Steel Endura finish
Change of pitch:	Steel 0.55BMT G300 NZ Steel Endura finish
Gutter apron:	Steel 0.55BMT G300 NZ Steel Endura finish Colour to be selected

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4901 METALWORK

1. GENERAL

This section relates to the fabrication, delivery, specialist coating and installation of metal elements, including:
- steel flat to garage door
- fireplaces, flues and cowls
- fireplace roof cowls

Related Sections
Refer to CARPENTRY for installation of fireplace
Refer to GAS SUPPLY for gas supply to fireplace

1.1 DOCUMENTS

Documents referred to in this section are:

NZS/BS 1387	Screwed and socketed steel tubes and tubulars and for plain end steel tubes suitable for welding or screwing to BS 21 pipe threads
AS/NZS 1554.1	Structural steel welding - Welding of steel structures
AS 1594	Hot-rolled steel flat products
AS 1627.4	Metal finishing - Preparation and pretreatment of surfaces - Abrasive blast cleaning
AS/NZS 3750.9	Paints for steel structures - Organic zinc-rich primer
AS/NZS 3750.15	Paints for steel structures - Inorganic zinc silicate paint
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
AS/NZS 4792	Hot-dip galvanized (zinc) coatings on ferrous hollow sections, applied by a continuous or a specialized process
NZS/BS 4848.2	Specification for hot-rolled structural steel sections - Hollow sections
NZS/BS 4848.2	Specification for hot-rolled structural steel sections - Equal and unequal angles
BS 6497	Powder organic coatings for application and stoving to hot-dip galvanized hot-rolled steel sections and pre-formed steel sheet

1.2 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Living Flame

Copies of the above literature are available from:

Web:	www.livingflame.co.n
Telephone:	09 622 1148
Facsimile:	09 622 1179

1.3 QUALIFICATIONS

Welders to be qualified and experienced in working with the various metals.

1.4 FINISHES SAMPLES

Prepare and submit samples of proposed finishes for review before fabrication.

2. PRODUCTS

2.1 STEEL SECTIONS

Hot-rolled steel to NZS/BS 4848.4.

2.2 HOLLOW STEEL SECTIONS

Hot steel rolled to NZS/BS 4848.2.

2.3 STEEL FLAT

Hot-rolled sheet/strip to AS 1594.

2.4 STEEL PRIMER

Inorganic zinc silicate primer to AS 3750.15. Zinc rich epoxy primer to AS 3750.9.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.5 EXTERNAL ORGANIC COATING
Polyester exterior grade coating to BS 6497.

3. EXECUTION

3.1 CORNERS
Unless specified or detailed otherwise, mitre junctions of identical sections.

3.2 HOLES
Form without distortion of surrounding metal.

3.3 PREPARATION FOR WELDING
Remove grease, dirt, moisture and oxide from edges to be welded. Remove scale and residue from arc and power cutting by machining or hand grinding. Ensure accurate fit using clamps and jigs where practical. Use tack welds for temporary attachment where jigging is not practical.

3.4 WELD QUALITY
Make joints with parent and weld metal fully fused throughout with no inclusions, holes, porosity or cracks. Prevent weld spatter falling on surfaces of materials which will be self finished and visible in completed work. Ensure complete removal of flux residues and slag. Butt welds which will be visible in completed work to be ground smooth and flush with adjacent surfaces.

3.5 WELDING STEEL
By one of the following methods:
- gas welding
- metal-arc welding to AS/NZS 1554.1 for mild steel
- seam welding
- other methods subject to approval.

3.6 PREPARATION FOR COATINGS
Before applying coatings remove welding slag, weld spatter, anti-splatter compounds, paints, grease, flux, rust, burrs and sharp arrises. Make good defects which would show after application of coating. Remove burrs and sharp arrises which would be visible after fixing, or which could be a hazard to the user. Finish surfaces smooth.

3.7 GALVANIZING
After fabrication, completely remove surface contaminants and hot-dip galvanize to AS/NZS 4680 (fabricated articles) and AS/NZS 4792 (hollow sections).

3.8 ZINC SPRAYING
Prepare steel by blast cleaning to Class 2-1/2 of AS 1627.4 and spray with zinc or 85/15 zinc/aluminium by the Arc Spray process. Seal surface with a vinyl etch primer prior to delivery.

3.9 STEEL PRIMING
After fabrication prepare steel by blast cleaning to Class 2-1/2 of AS 1627.4. Apply inorganic zinc silicate primer to AS 3750.15. Apply high-build epoxy tie-coat immediately after primer.

Alternatively prime the prepared steel with zinc rich epoxy primer to AS 3750.9.

3.10 HANDLING
Avoid distortion of elements during transit, storage and handling. Prevent pre-finished surfaces rubbing together, and any contact with mud, plaster or cement. Keep protective coverings dry.

3.11 SUBSTRATE
Ensure location and substrate is ready to receive the fabricated metalwork elements.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.12 INSTALLATION
Locate fixings accurately and use in accordance with the metalwork manufacturer's requirements. Fix to comply with the specified standards and installation details, including bedding compounds and sealants, and with work plumb, level and true to line.

3.13 MOVING PARTS
When assembled, moving parts to move freely and without binding.

3.14 LEAVE CLEAN
Ensure elements are free of marks or blemishes.

4. SELECTIONS

4.1 STEEL SECTIONS

4.2 HOLLOW STEEL SECTIONS

4.3 ZINC SPRAY

Thickness:	125 microns
Sealer:	Vinyl etch primer, clear or aluminium pigmented

4.4 EXTERNAL ORGANIC COATING

Brand:	Duralloy
Gloss level:	
Thickness:	80 microns

Fabricated Elements

4.5 GARAGE DOOR FLAT

Location:	Edge of garage concrete slab
Size:	76mm x 5mm flat with casting lugs welded to back
Finish:	Galvanized steel

4.6 FIREPLACES

Location:	Living room, Family room	
Brand:	Living flame	
Type:	Living room	Eastside Euro 2000
	Family room	Eastside Nova 2000 Plasma
Accessories:	Strip burner, coals etc to be selected	
	Electric ignition	
Flue:	Gather box, insulated flue, roof flashing and weatherproof cowl	

4.7 FIREPLACE ROOF COWLS AND FLASHINGS

Type:	Purpose made, galvanised steel, powder coated finish

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

5101G GIB® PLASTERBOARD LININGS

1. GENERAL

This section relates to the supply, fixing and jointing of GIB® plasterboard linings and accessories to timber framed walls and ceilings to form:
- standard systems
- bracing systems
- sound rated systems

Documents

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC B1	Structure
NZBC B2	Durability
NZBC C3	Spread of fire
	NZBC E3/AS1 Internal moisture 3.1 Lining materials
	NZBC F2 Hazardous building materials
NZBC G6/AS1	Airborne and impact sount 1.0 Construciton of wall, floor and ceiling Assemblies
NZS/ISO 140	Acoustics
	140/III: Airborne sound insulation
	140/VI: Impact sound insulation
	140/VIII: Reduction of transmitted impact noise by a standard floor covering
AS/NZS 2588	Gypsum plasterboard
AS/NZS 2589	Gypsum linings - Application and finishing
NZS 3604	Timber framed buildings

BRANZ technical paper P21: A wall bracing test and evaluation procedure

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

FRR	Fire resistance rating
IIC	Impact insulation class
STC	Sound transmission class

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents which refer to work in this section are:

General:	GIB® Site Guide (May 2006)
Sound:	GIB® Noise Control Systems (March 2006)
Bracing:	GIB® Bracing Systems (March 2006)
Ceilings:	GIB® Rondo® Metal Ceiling Batten Systems
Accessories	GIB® Goldline™ Platinum Tape-on Trims

Copies of the above literature are available at

Web:	www.gib.co.nz
Telephone:	0800 100 442

Requirements

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified GIB® systems, GIB® system components, GIB® plasterboard, associated GIB® products or GIB® accessories.

1.5 INSTALLER WORK SKILLS AND QUALIFICATIONS

GIB® plasterboard fixers and plasterers to be experienced competent workers, familiar with GIB® plasterboard lining systems installation and finishing techniques. Submit evidence of experience on request. For example:

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

- National Certificate of Interior Systems; or
- Contractor membership of the Association of Wall and Ceiling Industries New Zealand (AWCINZ)

Performance

1.6 INSPECTIONS AND ACCEPTANCE
Allow for inspection of the finished plasterboard surface:
- before applying sealer and
- before applying finish coatings or decorative papers,
so that after assessment of the type and/or angle of illumination and its effect on the completed decorative treatment, group approval and acceptance of the surface can be given.

1.7 SOUND INSULATION REQUIREMENTS
Provide wall and floor/ceiling systems. Refer to SELECTIONS for system/STC. Include for forming and treating of perimeters of openings and penetrations in the elements to ensure the specified performance. Ensure absence of adjoining flanking paths.

1.8 BRACING REQUIREMENTS
Provide braced wall systems using bracing rated plasterboard sheet to meet the requirements of NZS 3604 when tested to BRANZ technical Paper P21: A wall bracing test and evaluation procedure. Refer to drawings for location and type.

2. PRODUCTS

Materials

2.1 GIB® PLASTERBOARD
Gypsum plaster core encased in a face and backing paper formed for standard and water resistance use to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.
GIB® Standard plasterboard
GIB Braceline® wall bracing plasterboard
GIB Noiseline® high density sound control plasterboard

Components

2.2 CEILING BATTENS
GIB® Rondo® metal ceiling battens, batten joiners and perimeter channel.

2.3 SCREWS
GIB® Grabber® drywall screws.

2.4 NAILS
GIB® Nails (gold passivated).
Size: 30 mm, 40 mm

2.5 METAL ANGLE TRIMS
GIB® galvanized steel slim angle trims.

2.6 CONTROL JOINTS
GIB® Rondo® P35 control joints.

2.7 TAPE ON TRIMS AND EDGES
GIB® Goldline™ tape-on paper tape and galvanized steel trims and edges or GIB®

Accessories

2.8 ADHESIVE
Timber frame: GIBFix® Wood Bond wallboard adhesive.
Timber frame LOSP treated: GIBFix® All-Bond wallboard adhesive.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.9 JOINTING COMPOUND

Bedding compound:	GIB Tradeset®, GIB Lite Blue®, GIB Promix® All Purpose, GIB® AquaMix, GIB Plus 4®
Finishing compound:	GIB ProMix® All Purpose GIB ProMix® Lite, GIB® All Purpose and GIB Plus 4®, GIB® Topcoat

2.10 JOINTING TAPE
GIB® paper jointing tape.

2.11 ACOUSTIC SEALANT
GIB Soundseal® acoustic sealant.

3. EXECUTION

Conditions

3.1 STORAGE
Store GIB® plasterboard sheets and accessories in dry conditions stored indoors out of direct sunlight in neat flat stacks on either an impervious plastic sheet or clear of the floor with no sagging and avoiding damage to ends, edges and surfaces. Reject damaged material. Refer to GIB® Site Guide (May 2006).

3.2 LEVELS OF PLASTERBOARD FINISH
Provide the selected plasterboard surfaces to the pre decorative levels of finish specified in AS/NZS 2589. Refer to GIB® Site Guide (May 2006).

3.3 CONFIRM LEVELS OF PLASTERBOARD FINISH ACCEPTANCE
Before commencing work, agree in writing upon the surface finish assessment procedure necessary to ensure that the levels of finish specified, along with the effect of the type and/or angle of illumination on them, are obtained and are acceptable.

Do not apply decorative treatment until it is agreed in writing by the contractor, subcontractors and decorator that the required plasterboard level of finish has been achieved.

"Levels of plasterboard finish" is a tool for specifying the required quality of finish when installing and flush stopping GIB® plasterboard **prior** to the application of a range of decorative finishes under various lighting conditions. Refer to GIB® Site Guide (May 2006).

3.4 SUBSTRATE
Do not commence work until the substrate is plumb, level and to the standard required by the sheet manufacturer's requirements. Refer to GIB® Site Guide (May 2006).

3.5 TIMBER FRAME MOISTURE CONTENT
Maximum allowable moisture content to AS/NZS 2589 for timber framing at lining: 18% or less for plasterboard linings. Refer to GIB® Site Guide (May 2006).

3.6 PROTECTION
Protect surfaces; cabinetwork, fittings, equipment and finishes already in place from the possibility of water staining and stopping damage. Refer to GIB® Site Guide (May 2006).

Application

3.7 INSTALL CEILING BATTENS
Install to GIB® Rondo™ Ceiling Batten Systems.

3.8 LINING WALLS AND CEILINGS GENERALLY
Form to GIB® Site Guide (May 2006). Ensure bulk insulation thickness shall not exceed that of the wall framing.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.9 BOARD ORIENTATION
Install boards vertically.

3.10 FORM SOUND INSULATION SYSTEMS
Form to GIB® Noise Control Systems (March 2006).

3.11 FORM BRACING SYSTEMS
Form to GIB® Bracing Systems (March 2006).

3.12 FORM CONTROL JOINTS
Form control joints to GIB Ultraline® PLUS Lining System book (February 2006) and GIB® Site Guide (May 2006)

3.13 INSTALL TAPE-ON TRIMS
Install to GIB® Goldline™ Tape-on trims

3.18 DETAILS
Wall ceiling - junction square stop
Window reveals - return gib board into window reveal
Skirting - no skirting, gib board to finish 10mm above floor and stop to bottom edge of gib board

Finishing

3.14 FINISHING GENERALLY
To GIB® Site Guide (May 2006) and AS/NZS 2589.
Skimcoat to achieve a Level 5 to AS/NZD 2589 over a plasterboard surface prepared to Level 5 – Resene Broadwall Surface Preparation should be used for machine application. For manual application use GIB Pus4®

Completion

3.15 REPLACE
Replace damaged sheets or elements.

3.16 CLEAN DOWN
Clean down completed surfaces to remove irregularities and finally sand down with fine paper to the sheet manufacturer's requirements, to leave completely smooth and clean.

3.17 REMOVE
Remove debris, unused materials and elements from the site.

3.18 LEAVE
Leave work to the standard required by following procedures.

4. SELECTIONS

Plasterboard

4.1 STANDARD SYSTEMS WALLS

Location	Plasterboard type / Lining requirements	Thickness	Finish level
All walls except Garage, Guest WC, Bathrooms 1 & 2	GIB® Standard plasterboard	13 mm	5
Garage	GIB Standard plasterboard	13mm	4

4.2 STANDARD SYSTEMS CEILINGS

Location	Plasterboard type / Lining requirements	Thickness	Finish level
All ceilings except garage	GIB® Standard plasterboard	13 mm	5

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

	Garage	GIB Standard plasterboard	13mm	4

4.3 SOUND RATED SYSTEMS

Refer to GIB® Noise Control Systems (March 2006)

Location	Plasterboard type / Lining requirements	STC / System specification	Finish level
Study and Bathroom 1 Hanare and Bathroom 2 Bedroom 3 and Bathroom 2	GIB Standard Plasterboard	55	5 (3 to bathroom side)

4.4 BRACING SYSTEMS

Refer to GIB Bracing Systems (March 2006). For bracing element location refer to drawn documentation.

Accessories

4.5 CEILING BATTENS

Brand/type: GIB® Rondo® Ceiling battens

4.6 TAPE ON EDGE TRIMS

Brand/type: Gib Goldline Platinum tape on L trims and reveals

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

5101H JAMES HARDIE FIBRE CEMENT SHEET LINING

1. GENERAL

This section relates to the supply and installation of James Hardie fibre cement sheet:
- internal wall linings
- soffit linings
- hearth linings

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E3/AS1	Internal moisture, 3.1 Lining materials
AS/NZS 2589.1	Gypsum lining in residential and light commercial construction - Application and finishing - Gypsum plasterboard.
AS/NZS 2908.2	Cellulose-cement products - Flat sheet
NZS 3602	Timber and wood-based products for use in buildings
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles

1.2 MANUFACTURER'S DOCUMENTS

James Hardie documents relating to work in this section are:

Villaboard® Lining
Compressed sheet

Copies of the above literature are available at

Web:	www.jameshardie.co.nz
Telephone:	Ask James Hardie™ on 0800 808 868

Requirements

1.3 NO SUBSTITUTIONS

Substitutions are not permitted to any specified system, or associated components and products.

1.4 COMPLIANCE

Fibre cement sheets to AS/NZS 2908.2

2. PRODUCTS

Materials

2.1 PLAIN FIBRE CEMENT SHEET LININGS

James Hardie Villaboard® Lining treated cellulose fibre in a matrix of cement and sand autoclaved sheet, sealed on face side.

2.2 COMPRESSED FIBRE CEMENT SHEET FLOORING

James Hardie compressed sheet treated cellulose fibre in a matrix of cement and sand autoclaved sheet.

2.3 PACKERS

3 mm Fibre cement packers.

Accessories - plain fibre cement sheet

2.4 NAILS

6 mm and 9 mm linings:	40 mm x 2.8 mm galvanized flathead HardiFlex® nails

2.5 SCREWS FOR POWER SCREW GUN DRIVING

Timber framing

6 mm and 9 mm linings:	VillaDrive 6 gauge x 30 mm self embedding screws

2.6 CONTROL JOINTS SECTION

45 mm x 10 mm shaped PVC control joint or Rondo P35 jointer.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.7 EXTERNAL CORNER SECTIONS
30 mm x 30 mm x 1.2 mm PVC angle.

2.8 POLYETHYLENE TAPE
Self adhesive polyethylene for behind expressed joints and expressed control joints.

2.9 JOINT REINFORCING TAPE
52 mm Wide perforated paper tape.

2.10 WALL BOARD ADHESIVE
Solvent based wall board adhesive.

2.11 BEDDING COMPOUND
James Hardie® Base Coat compound powder.

2.12 FINISHING COMPOUND
James Hardie® Top Coat premixed.

2.13 SEALANT
Silicone or polyurethane sealant. Refer to the James Hardie technical specifications.

3. EXECUTION

Conditions

3.1 MOISTURE CONTENT
Maximum moisture content of timber framing to NZS 3602.

3.2 PROTECT
Protect joinery, fittings and finishes already in place from water staining or damage from lining installation.

3.3 BUILDING
Ensure building is weatherproof before lining work commences.

3.4 STORAGE
Take delivery of sheets dry and undamaged in pallets and stack horizontally on a smooth level surface. Protect edges and corners from damage and cover to keep dry until fixed.

3.5 HANDLING
Avoid distortion and contact with potentially damaging surfaces. Carry sheets vertically. Do not drag sheets across each other, or across other materials. Protect edges, corners and surface finish from damage.

3.6 SUBSTRATE
Do not commence work until the substrate is of the standard required by the relevant manufacturer's technical literature for the specified finish; plumb, level and in true alignment. Maximum moisture content of timber framing to NZS 3602.

3.7 BRACING SYSTEM
Fix sheets in accordance with James Hardie technical specifications.

Application - plain fibre cement sheet

3.8 FIXING WITH BUTT JOINTS
Cut sheet using the appropriate method for the specified finish. Prepare and fix square edged sheets in accordance with James Hardie technical specifications. Include flexible sealant in wet areas.
Joint width: 1 - 2 mm

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.9 FIXING FLUSH JOINTED WALLS PAINTED
Prepare and fix recessed edge sheets to James Hardie technical specifications. Fix with screws and/or nails at edges.

3.10 FIXING FLUSH JOINTED CEILINGS PAINTED
Fix ceiling battens at 600 mm centres maximum. (Do not fix sheets to the underside of roof trusses). Fix sheets in an offset pattern so that adjacent end joints do not coincide. Break the ceiling into bays not exceeding 9 metres x 6 metres and provide control joints at the perimeter of each bay. Provide control joints at the junction of large ceilings and narrow passages.

3.11 FIXING IN CERAMIC TILED AREAS
Prepare and fix sheets, horizontally or vertically, to James Hardie technical specifications.

3.12 PROVIDE VERTICAL CONTROL JOINTS
Provide vertical control joints at 7.2 metre centres maximum for general application and 4.2 metres centres maximum for tiled applications. Provide acoustic sealant in walls having an acoustic rating.

3.13 PROVIDE HORIZONTAL CONTROL JOINTS
Provide horizontal control joints at 7.2 metres centres maximum for general application and 4.2 metre centres maximum for tiled applications.

3.14 PROVIDE EXTERNAL CORNER ANGLE
Provide perforated PVC external corner angle or paper faced rigid spine corner mould to external corners.

3.15 INTERNAL CORNERS
Provide perforated PVC corner mould, or paper faced rigid spine corner mould or solid blocking to internal corners.

3.16 SILICONE JOINTS
Provide polyethylene tape behind joints finished with flexible sealant.

3.17 LEVELS OF FINISH
Refer to AS/NZS 2589.1.

Level 0, 1 and 2: Refer to James Hardie technical specifications

Level 3

Application:	For use in areas which are to receive heavy or medium texture (spray or hand applied) finishes or where heavy paper wall coverings are to be applied as the final decoration.
Jointing/setting:	Joints and corner joints will be set with James Hardie Base Coat reinforced with perforated paper tape and James Hardie Top Coat.
Finish:	This level of finish must be sufficiently smooth to accept vinyl, tiles or textured coatings without blemishes.

Level 4

Application:	This is generally the accepted level of finish for domestic construction. It is used where light textures or wall coverings and smooth textured finishes and satin/flat/low sheen paints are illuminated by non-critical lighting.
Jointing/setting:	Refer to flush jointing recommendations on page 10 James Hardie Villaboard® Lining installation manual.
Finish:	For use where light-texture coatings or wallpaper or other lightweight wall coverings are to be applied. For painted finishes in non-critical lighting areas flat and low-sheen textured paints are to be applied. Gloss and semi-gloss paints are not generally suitable over this level of finish as any minor blemish will show under critical light. The weight, texture and sheen level or wall coverings applied over this level of finish must be carefully evaluated. Joints and fasteners must be adequately concealed if the wallcovering material is lightweight,

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

contains limited pattern, has a gloss finish, or any combination of these features is present. Unbacked vinyl wall coverings are not suitable over this level of finish.

Level 5

Application: This level of finish is for use where gloss or semi-gloss paints are specified or where critical lighting conditions occur on satin, flat or low sheet paints.

Jointing/setting: Typically all joints and corner joints will have tape embedded in James Hardie Base Coat applied over all joints, angles, fastener heads and accessories. A thin skim coat of James Hardie Top Coat must be applied to the entire surface to be plastered. The surface must be finished smooth and free of tool marks and ridges and special care must be taken with the application of the finishing compound to achieve a smooth, true surface suitable for these critical finishes.

Finish: This level of finish is for use where gloss, semi-gloss, low-sheen or non-textured paints are specified or where critical lighting conditions occur.

Refer to SELECTIONS/drawings for required levels of finish.

3.18 JOINT FINISHING FOR LOW SHEEN PAINT
Apply James Hardie Base Coat to fill recess. Firmly embed perforated tape in joints and cover with a thin layer of James Hardie Top Coat over all joints, angles, fastener heads and accessories and allow to dry. Apply a second coat of James Hardie Top Coat over the recess and feather the edges to achieve a level 4 finish.

3.19 JOINT FINISHING FOR TILED AREAS
Joints and corner joints set with James Hardie Base Coat reinforced with perforated paper tape to achieve a level 3 finish.

Application compressed fibre cement sheets

3.20 FIXING
Cut, prepare and fix sheets in accordance with James Hardie technical literature.

Completion

3.21 REPLACE
Replace damaged or marked elements.

3.22 CLEAN
Clean adjoining surfaces and fittings of spots, marks, dust and droppings.

3.23 LEAVE
Leave work to the standard required by following procedures.

3.24 REMOVE
Remove debris, unused materials and components from the site.

4. SELECTIONS

Linings

4.1 PLAIN FIBRE CEMENT SHEET LININGS

Location:	Soffits, front & sides of fireplaces, Guest WC, Bathrooms 1 & 2 walls for tiled finish
Type:	James Hardie Villaboard® Lining
Thickness:	6mm
Fixing method:	~

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

4.2 COMPRESSED SHEET

Location:	Fireplace hearths
Type:	James Hardie Compressed sheet
Thickness:	18 mm

Application - plain fibre cement sheet

4.3 FIXING FLUSH JOINTED WALLS, PAINT

Location:	Fireplace walls
Finish:	Painted
Fasteners:	Screw fixed

4.4 FIXING FLUSH JOINTED CEILINGS, PAINT

Location:	Soffits
Finish:	Painted

4.5 FIXING CERAMIC TILED AREAS

Location:	Guest WC, Bathrooms 1 & 2
Fasteners:	Screw fixed

4.6 LEVELS OF FINISH

To conform with the following levels of finish:

Location	Finish level
Soffits	Level 4
Fireplace walls	Level 5
Fireplace hearths	Level 3
Guest WC, Bathrooms 1&2	Level 3

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

5201 INTERIOR DOORS

1. GENERAL

This section relates to the supply and installation of interior doors.

1.1 RELATED SECTIONS

Refer CS CAVITY SLIDERS for sliding doors
Refer HARDWARE for supply of hardware including locksets, latchsets and privacy sets
Refer PAINTING for painting of doors by specialist painter

1.2 DOCUMENTS

Documents referred to in this section are:

NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber framed buildings
NZS 3610	Specification form profiles of mouldings and joinery

2. PRODUCTS

2.1 TIMBER

To NZS 3602.

2.2 PROFILES

Traditional profiles to NZS 3610. Proprietary profiles and special profiles as detailed.
Pencil radius corners of profiled schedules for paint finish.

2.3 INTERIOR DOORS

Solid/hollow core doors as scheduled.

2.4 INTERIOR CAVITY SLIDER- REFER CS CAVITY SLIDER

2.5 DOOR HINGES

Size and gauge to carry door. 4 hinges per door.

3. EXECUTION

3.1 SITE MEASURE

Confirm framed openings on site for dimension, plumb and straightness prior to fabrication or ordering of timber joinery. Confirm lintel head and sill deflection for sliding or bi-fold door systems is within the manufacturer's specified tolerances. Provide not less than 10 mm unless otherwise required.

3.2 EXECUTION GENERALLY

Manufacture to the methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.3 FACTORY FIT HARDWARE

Factory fit the following where specified: -
- Hinges

Internal doors

3.4 INTERNAL DOOR JAMBS, SOLID REBATED

Door jambs only to full height doors.
Door jambs ex 150 x 50 clear radiata pine with rebated stops and grooved for 13mm thick wall linings as detailed.
Drying and moisture content 10 – 14% EMC at time of delivery to site.
Fix jambs on concealed jamb fixing plates brand name Atak or similar.
Hang all doors on site and check all hinges operate freely. manufacturer's requirements.
Fit hardware before painting.
Remove all doors and hardware and deliver to Specialist Subcontractor for lacquer spray finish.
Install all doors after all flooring and painting completed.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.5 FINISH
Refer PAINTING for spray painting of doors off site.

Completion

3.6 CHECK
Check and adjust operation of all sashes, doors, hardware and furniture.

3.7 TEMPORARY PROTECTION
On completion remove any temporary protection and leave ready for following work.

4. SELECTIONS

4.1 DOOR SCHEDULE

4.1 INTERIOR SOLID CORE DOORS - PAINT

Type:	Solid core
Door facing:	MDF
Clashings:	Nil
Finish:	Lacquer spray finish Refer PAINTING Section
Hardware:	Refer HARDWARE Section

4.2 INTERIOR HOLLOW CORE DOORS - PAINT

Type:	Hollow core
Door facing:	MDF
Clashings:	Nil
Finish:	Lacquer spray finish. Refer PAINTING section
Hardware:	Refer HARDWARE Section
DOOR JAMBS	
Type:	Timber clear radiata pine
Stops:	Rebated
Grooved:	For 13mm wall linings

Accessories

4.3 DOOR HINGES
Interior doors

Brand:	Joinery Developments Ltd
Type:	Loose pin
Size:	100 mm
Code:	20701
Finish:	Satin silver anodised
No:	2 pairs per door

4.12 HARDWARE
Refer CONTRACT Principal supply items
Hardware
~

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

5201C CS FOR DOORS®

1. GENERAL

This section relates to the supply and installation of CS For Doors:
Cavity slider doors

Documents

1.1 DOCUMENTS REFERRED TO
Documents referred to in this section are:

NZS 1170.5	Structural design actions - Earthquake actions – New Zealand
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber framed buildings
NZS 3610	Specification for profiles of mouldings and joinery
NZS 4203	General structural design and design loadings for buildings
NZS 4223.3	Glazing in buildings - Human impact safety requirements

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section are:
CS For Doors® Specifiers Guide

Copies of the above literature are available at

Web:	www.csfordoors.co.nz
Telephone:	0-9-276 0800 Auckland
	021- 630 800 Auckland
	021-276 0800 Waikato/Bay of Plenty
	0-4-473 9994 Wellington
	0-3-348 6158 South Island

Requirements

1.3 NO SUBSTITUTIONS
Substitutions are not permitted to any specified system, or associated components and products.

Warranties

1.4 TRADE WARRANTIES / GUARANTEES
Warrant this work under normal environmental and use conditions against failure of materials and execution. Provide the following CS For Doors warranties:
Standard Cavity Sliders: 10 year warranty

CS For Doors can also recommend an experienced installer. Phone 0800 SLIDER to find out more about this service.

2. PRODUCTS

Materials - general

2.1 TIMBER
Solid timber to NZS 3602 to profiles detailed. Moisture content 16% ex factory.

2.2 INTERIOR TIMBER
To NZS 3602. Moisture content 10-14%.

Materials - doorsets

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.3 STANDARD CAVITY SLIDER UNITS
CS CavitySliderS® doors to profile as scheduled, detailed and dimensioned.

2.4 STANDARD DOORSETS, SLIDING
Frames to profile as detailed and dimensioned.

Components

2.5 DOOR FURNITURE
CS CaviLocK™ architectural handles and locks as scheduled.

2.6 SCREWS
Stainless steel or non-corrodible metal. Length sufficient to penetrate into the background support up to the shank. Screws for fixing hinges, hardware or furniture to match the item being attached.

2.7 NAILS
Length sufficient to penetrate into the background support at least half the nail length, except if into radiata pine then three-fifths their length.

2.8 SLIDING DOOR GEAR
CS CavitySliderS® CS90 kg, CS240 kg, CS500 kg track to suit door size, weight and application. Stainless steel carriages and mount plates are available for the CS240 kg and CS500 kg systems.

Finish

2.9 FINISH
Refer PAINTING for door finishes

3. EXECUTION

Conditions

3.1 GENERALLY
Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.2 DO NOT DELIVER
Do not deliver any elements which cannot be unloaded immediately into suitable storage conditions.

3.3 HANDLE
Handle, unload and store elements without distortion and avoiding pre-finished surfaces rubbing together, and contact with mud, moisture and other damaging materials.

3.4 PROTECT
Protect all elements against damage to arrises and glazing beads. Store frames and doors flat and away from moisture or direct sunlight.

3.5 FABRICATE DOORSETS
Fabricate doorsets in the CS For Doors® factory with doors hung, provision for furniture made, finishes applied and fully operable.

3.6 FABRICATE DOORS
Fabricate doors in the factory, with provision for door furniture.

3.7 CHECK ALL OPENINGS
Check all openings on site for size and standard of execution before installing window or door frames. Installation tolerances of windows subject to earthquake design to comply with NZS 4203 or NZS 1170 Part 5.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Assembly

3.8 TOLERANCES
Construct windows to a dimensional accuracy to comply with NZS 4211, clause 8.

3.9 FABRICATION GENERALLY
Manufacture and fabricate frames and doors as detailed. Install running gear as scheduled. Provide temporary bracing and protection. Temporarily secure all opening elements for transportation.

Application - generally

3.10 FIXING FRAMES
Fix and assemble frames rigidly in place, plumb, level and true to line and face without distortion. Frame end to be concealed where door returns into wall. Wall lining only on opposite end.

3.11 DISTORTION
Do not distort frames when wedging or other packing, or when tightening fixings. If necessary adjust packing and fixings to eliminate binding. Do not cut, plane or sand frames to remedy distortion.

3.12 FIXINGS
Fix frames so that nail heads are covered by applied stops and beads. Punch all nail heads below timber surfaces which will be visible in completed work. Ensure that at least one frame fixing is adjacent to each hanging point.

Application - doorsets

3.13 PROPRIETARY ELEMENTS
Fix in accordance with CS For Doors® requirements.

3.14 INSTALLATION GENERALLY
Frames finished to match the width of lined walls. Wedge frames into opening and nail through into the studs making sure you have one fixing in the vicinity of the lock.

Hang doors on sliding gear as specified and to operate freely. Fit all hardware and door furniture to CS CavitySliderS installation instructions.

3.15 INSTALL STANDARD DOORSETS
Timber stud walls - concealed timber frame return end only: Fix direct to opening and pack, with one fixing in the vicinity of the lock.

3.16 BOTTOM CLEARANCE
Provide for specified floor coverings plus 5 mm clearance at any point of slide. When floor covering is not specified, allow 25 mm total.

3.17 REMOVE DOORS
Remove doors from the frames if necessary to protect them, or for re-finishing, store safely and near completion refit them, all without any damage.

3.18 INSTALL FURNITURE
Install latches, locks and door furniture as scheduled.

3.19 CHECK
Check and adjust operation of all doors, hardware and furniture.

Completion

3.20 PROTECTION
Protect all finishes against damage from adjacent and following work.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.21 REPLACE
Replace damaged, cracked or marked elements.

3.22 TRADE CLEAN
Clean off or remove safety indicators at completion of the building.

3.23 LEAVE
Leave work to the standard required for following procedures.

3.24 REMOVE
Remove safety indicators and protective coverings, and wipe down all doorsets thoroughly to leave them perfectly clean. Remove all debris, unused materials and elements from the site.

4. SELECTIONS

4.1 CS CAVITYSLIDERS® ULTIMATE (FULL HEIGHT)

Location:	Kitchen Corridor 2 (2 doors)
Leaf dimensions:	Kitchen 950 mm wide x 2.700 mm high (to be confirmed on site) Corridor 2 (2 doors)1.500mm wide x 2.700 high (to be confirmed on site)
Door type:	55 mm to be confirmed by supplier
Door finish:	Spray paint finish off site
Single:	Single
Head detail:	Underside of ceiling flush with underside of track
Jamb type:	Concealed and at return into wall end only
Framing/size:	120 mm stud minimum
Lining thickness:	13mm
Gear type & finish:	CS240 kg or CS500 kg track system
Handle type:	Refer to CaviLock specialised hardware

4.2 SPECIALISED HANDLE HARDWARE
Provide the following CS CaviLocK™ specialised handle hardware:

Location:	Handle Type	Finish	Fitting Height to centre	Door Thickness	Comments
	CL200 Passage		1.000mm	55mm	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

1. GENERAL

This section relates to the supply and installation of suspended ceiling systems, including all elements offered to complete the system.

1.1 DOCUMENTS

Documents referred to in this section are:

NZS 4203	General structural design and design loadings for buildings
NZS 4219	Specification for seismic resistance of engineering systems in buildings
AS/NZS 1170.1	Structural design actions - Permanent, imposed and other actions
NZS 1170.5	Structural design actions - Earthquake actions – New Zealand
AS/NZS 2785	Suspended ceilings - Design and installation
ASTM C423	Test method for sound absorption and sound absorption coefficients by the reverberation room method
ASTM C635	Standard practice for installation of metal ceiling suspension systems for acoustical tile and lay-in panels
ASTM E1414	Standard test method for airborne sound attenuation between rooms sharing a common ceiling plenum (two room method)

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
~

Copies of the above literature are available from ~

Web:	~
Email:	~
Telephone:	~
Facsimile:	~

1.3 INSTALLATION

To AS/NZS 2785. Installation by a manufacturer's accredited installer, using the manufacturer's technical services. Accredited installers must be members of the Interior Systems Association (ISA) of New Zealand. Provide evidence of experience, listing completed projects of similar size and complexity.

Installation to comply with the loadings code NZS 4203 or AS/NZS 1170 and NZS 1170.5. Installation to comply with the requirements of NZS 4219; with related building services installations complying specifically with clauses 2.22, 2.25 and 2.29.

2. PRODUCTS

Materials - exposed grid system

2.1 SUSPENSION SYSTEM

Materials:	Hot dipped galvanized steel
Compliance:	AS/NZS 2785, AS/NZS 1170, NZS 1170.5, NZS 4203, ASTM C635

2.2 CEILING TILES

Edge profile:	To suit grid
Performance:	ASTM C423, ASTM E1414

Materials - suspended flush ceilings

2.3 SUSPENSION SYSTEM

Finish:	Hot dipped galvanized steel
Compliance:	AS/NZS 2785, AS/NZS 1170, NZS 1170.5, NZS 4203, ASTM C635

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.4 PLASTERBOARD SHEET
Gypsum plaster core encased in a durable face and backing papers.

2.5 FIBROUS PLASTER SHEET
Gypsum plaster, casting grade reinforced with fibreglass.

Components

2.6 SCREWS
25 mm x 6 gauge non-rusting Type S self-drilling and self-tapping buglehead screws.

3. EXECUTION

3.1 CO-ORDINATE SERVICES
Co-ordinate and co-operate with electrical and mechanical work to avoid conflict between suspension members and luminaires, diffusers, pipework and ducting. Confirm the provision of extra hangers and fixings.

Ensure co-operation with work in and above the ceiling, including the marking of specific ceiling tiles below major access points to above-ceiling services. Colour coded markings to follow the standards laid down by mechanical and electrical services.

3.2 SITE CONDITIONS
Do not begin installation until the building is closed in, fully glazed, the roof watertight, and mechanical and electrical duct work above the ceiling completed.

3.3 INSTALL
Install the system to AS/NZS 2785 minimum standards and the ceiling manufacturer's requirements.

3.4 ACCESSIBILITY
Provide access to the ceiling system and the in-ceiling and above-ceiling services so that maintenance and removal of all parts can be carried out without damage to the ceiling system or panels.

3.5 PENETRATIONS
Accommodate recessed light fittings, air conditioning outlets and other electrical and/or mechanical services that are fixed to or pass through the ceiling system. Provide independent support for these as necessary; ceiling tiles must not support their weight.

3.6 FLUSH CEILING
Install the suspension system to AS/NZS 2785 minimum standards. Screw fix sheets to furring channel sections at the centres required by the ceiling lining manufacturer to AS/NZS 2589. Stagger joints and fully support on sections, with strongbacks at centres to suit the load and the ceiling system manufacturer's requirements. Refer to PLASTERBOARD LININGS for fibrous plaster or plasterboard stopping.

3.7 PROTECT EXISTING WORK
Protect adjacent existing work from damage during the installation.

3.8 REPLACE AND CLEAN
Replace all damaged or marked elements. Clean all soiled or marked units.

3.9 REMOVE
Remove all debris, unused elements and elements from the site.

4. SELECTIONS

4.1 SCHEDULE

Area	Ref	Fire rating	Acoustical rating NRC, CAC, STC

~

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Materials - exposed grid system

4.2 SUSPENSION SYSTEM
Brand: ~
Grid finish/colour: ~

4.3 SUSPENSION SYSTEM, ACOUSTICAL
Brand/type: ~
Module: ~ mm x ~ mm
Face dimension of rail: ~ mm
Grid finish/colour: ~
Materials: ~

4.4 SUSPENSION SYSTEM, FIRE RATED
Brand/type: ~
Module: ~ mm x ~ mm
Face dimension of rail: ~ mm
Grid finish/colour: ~
Materials: ~

4.5 PERIMETER TRIM
Brand/form: ~
Material: ~
Finish/colour: ~
Type: ~

4.6 CEILING TILES
Brand: ~
Type/pattern: ~
Thickness: ~ mm
Size: ~ mm x ~ mm

4.7 CEILING TILES, FIRE RATED
Brand: ~
Type/pattern: ~
Thickness: ~ mm
Size: ~ mm x ~ mm

Materials - suspended flush ceilings

4.8 SUSPENSION SYSTEM
System: ~
Ceiling lining: ~

4.9 PLASTERBOARD SHEET
Brand: ~
Thickness: ~ mm
Type: ~

4.10 FIBROUS PLASTER SHEET
Brand: ~
Thickness: ~ mm
Type: ~

4.11 ACCESS PANELS
Brand/type: ~
Location: ~
Edge detail: ~
Finish/colour: ~
Size: ~ mm x ~ mm

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

5501 HARDWARE

1. GENERAL

This section covers the supply and installation of hardware and furniture
- Interior door hardware including locksets and door stops
- Miscellaneous builders hardware including grilles

Related work

1.1 RELATED SECTIONS
Refer METRO THERMAL HEART WINDOWS AND DOORS for exterior joinery hardware
Refer INTERIOR DOORS for door hinges
Refer CS FOR DOORS for sliding door tracks and door hardware
Refer SANITARY FIXTURES, TAPWARE AND ACCESSORIES for plumbing hardware

Requirements

1.1 NO SUBSTITUTIONS
Substitutions are not permitted to any specified system, or associated components and products.

1.2 SUPPLIER
A specialist in the supply of hardware, employing an experienced architectural hardware representative available to assist during the course of the hardware installation.

1.3 SAMPLES
Submit samples on request of nominated hardware elements, along with the relevant manufacturers' technical literature for review.

2. PRODUCTS

2.1 HARDWARE
Refer to SELECTIONS for type.

2.2 FIXINGS
Provide matching fixings, including screws, clips, bolts and brackets for hardware supplied.

3. EXECUTION

Conditions

3.1 RETAIN
Retain hardware in the manufacturer's original packaging. Ensure that units are complete with fixings and installation instructions. Label each unit separately with its hardware number and door/window number to match the submitted and approved schedule.

3.2 PACKAGE
Package required hardware units and label each package with its hardware and door/window number and location to match the drawings and the submitted and approved schedule. Place packages in cartons selected for "level", "location", and/or "sector" and label the packages and the cartons similarly.

3.3 STORE
Store hardware packages in a shelved, dry and securely locked area. Provide supervision when the secure area is unlocked and packages and cartons are being distributed; signing off each package from the schedule as released.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Installation

3.4 INSPECTION
Before starting the hardware installation, check frames, doors, sashes and adjacent finishes are ready for the proper installation of the hardware.

3.5 LOCATE
Locate hardware units at heights and/or locations shown on the drawings, or as required to comply with relevant Codes and Standards. Before proceeding, confirm any dimension not shown or known.

3.6 CUTTING AND FITTING
Carry out cutting and fitting of the substrate necessary for installing any hardware unit before painting or finishing of that surface. Remove hardware when required for painting, placing it in the packaging or carton originally supplied and returning it to the secure store until ready for re-installation.

3.7 INSTALL HARDWARE
Install each hardware unit in accordance with the hardware manufacturer's requirements using templates and tools supplied or recommended by them. Set units level, plumb and true to line and required location, with all moving parts and actions freely and easily operating. Do not make any modifications to supplied units.

Completion

3.8 ADJUST
Adjust and check each operating hardware unit for correct and smooth functioning. Replace those units that cannot be adjusted if they do not function correctly. Clean units and adjoining surfaces upon completing their installation. Only use lubricant if and when recommended by the hardware manufacturer/supplier.

3.9 REPLACE
Replace damaged or marked elements.

3.10 LEAVE
Leave work with parts fully and freely working and to the standard required by following procedures.

3.11 REMOVE
Remove debris, unused materials and elements from the site.

3.12 PROTECT
Protect hardware units from damage or marking.

3.13 FINAL ADJUSTMENT
Where hardware is installed more than a month prior to project completion, return and make a final check and adjustment of hardware units to ensure they are operating correctly, fitted properly and are undamaged.

4. SELECTIONS

Residential hardware

Refer CONTRACT
The principal will supply all hardware for fixing by the builder

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

6201 TILING

1. GENERAL

This section relates to the supply and setting of ceramic tiles to walls and floors, over:
- concrete substrates
- lined timber substrates

1.1 DOCUMENTS

Documents referred to in this section are:

AS 2358	Adhesives - For fixing ceramic tiles
AS 3740	Waterproofing of wet areas within residential buildings
AS 3958.1	Ceramic tiles, 3958 - Guide to the installation of ceramic tiles
BS EN 14411	Ceramic tiles. Definitions, classification, characteristics and marking
BRANZ Good practice guide	Tiling

1.2 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Mapei

Copies of the above literature are available from ~

Web:	www.mapei.it
Telephone:	09 921 1994
Facsimile:	09 921 1993

1.3 QUALIFICATIONS

Carry out tiling work using competent tilers, experienced with the materials and techniques specified.

1.4 ADHESIVES COMPATIBILITY

Adhesives selected for use on proprietary substrates or waterproof membranes to have documented compatibility approval from the respective manufacturers.

1.5 SAMPLES

Submit samples of the tiles specified, sufficient to show the pattern and the range of colour finish.

1.6 WARRANTY

Warrant this work under normal environmental and use conditions against failure of materials and execution
Warranty period: 2 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

2. PRODUCTS

2.1 TILES

To BS EN 14411. Refer to SELECTIONS for type and location.

2.2 LIQUID WATERPROOFING MEMBRANE

To AS 3740.

2.3 UNDERTILE HEATING

Proprietary electric undertile heating system complete with thermostat/controller.

2.4 CEMENT BASED SCREED

Mix of 3:1 Portland cement, wash-mix sand, gauged with liquid polymer additive to the tile manufacturer's requirements.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.5 TILE ADHESIVE
To AS 2358.

2.6 GROUT
Cement based, compressible and to suit the particular location and use.

2.7 MOVEMENT CONTROL JOINT SEALANT
To BRANZ Good practice guide: Tiling, section 5.0, Detailing.

3. EXECUTION

3.1 HANDLING AND STORAGE
Take delivery of packets of tiles undamaged and dry. Handle tiles with care to avoid chipping, soiling and damage. Store on hard level standings in non-traffic, non work areas that are enclosed, clean and dry.

3.2 CHECK TILES
Check tiles to ensure that they are as specified, from the same batch, of a consistent colour and pattern and sufficient to complete the work. Reject tiles that vary widely in colour or pattern. Reject tiles that are damaged.

3.3 CONFIRM LAYOUT
Before commencing work confirm the proposed layout of tiles and expansion joints and other visual considerations of the finished work.

3.4 SETTING OUT
Before commencing the setting out confirm the number and location of cut tiles. Minimise in number with no cut tiles less than half size and only at the perimeter of the work.

3.5 SUBSTRATE
Ensure that all services and accessories are in place and located to suit the tile layout, with the substrate required for tiling work. Commencement of the work means the substrate and environment are accepted by the tile layer as satisfactory.

3.6 TEMPERATURE
Do not carry out tiling where the ambient temperature is below 5°C, or onto a substrate with a temperature higher than 40°C.

3.7 TILING GENERALLY
Prepare surfaces and carry out the tiling work in accordance with AS 3958, part 1, as modified by BRANZ Good practice guide: Tiling.

3.8 EXISTING SHEET WALL LININGS PREPARATION
Remove all contaminants that may affect bonding or adhesion. Surface to finish clean and dry with a texture providing a complete key, to the sheet manufacturer's requirements and with a maximum variation in the background plane of ± 4 mm in 2 metres.

3.9 CONCRETE FLOORS PREPARATION
Remove from the surfaces all contaminants such as paints, oils, release and curing compounds. Remove all projections, unevenness and loose material to leave a clean, dust and dirt-free surface.

Remove all existing finishes down to the concrete. If the exposed concrete finish is not suitable then scabble the surface to expose the coarse aggregate.

3.10 APPLYING LIQUID WATERPROOFING MEMBRANE
Apply the selected liquid waterproof membrane system to the membrane manufacturer's requirements and in accordance with AS 3740 and to BRANZ Good tiling practice, 7.0 Waterproofing interior wet areas.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Unenclosed shower cubicle
To 1800 mm above floor and 300 mm above shower rose.
To at least 1500 mm from shower rose.
To the floor within 1500mm of the shower rose.

Bath
To 150 mm minimum around the sides and along walls horizontally 150 mm minimum.

Splashback to a vanity
To 300 mm minimum up wall behind the vanity.
To the floor level at least twice the width of the vanity and 500 mm min beyond it at each end.

3.11 LAYING CEMENT SCREED
Apply a proprietary cement slurry bond coat over the whole of the floor to the tile manufacturer's requirements. Mix and place a 40 mm thick mortar bed over the bond coat and firmly tamp, screed and compact to the required level. Form screeds with a deviation from plane of not more than 5 mm over 3 metres.

In waterproofed areas where the cement screed has been laid over the waterproofing membrane, prepare the screed surface by applying a further waterproof coating before laying tiles.

3.12 FALLS
Form screeds in areas where water is used in significant amounts with a deviation from plane of not more than 5 mm over 3 metres. Unless otherwise specified form screeds with the following falls:

1 : 40 minimum For shower bases

3.13 TILE FIXING GENERALLY
Apply adhesive, prepare and fix tiles by the method required by the adhesive manufacturer and tap them firmly into place.

3.14 TILE FIXING, CONCRETE, CEMENT-BASED ADHESIVE, THICK BED
Apply and float thick bed cement-based adhesive to a maximum 6 mm bed thickness to the tile manufacturer's requirements. Rib surface with a notched trowel, press tiles and beat it into place with 3 mm joints, and to obtain required coverage of adhesive on the back of each tile.

3.15 TILE FIXING, CONCRETE, CEMENT-BASED ADHESIVE, THIN BED
Apply and float thin bed cement-based adhesive to a minimum 3 mm bed thickness to the tile manufacturer's requirements. Rib surface with a notched trowel, press tiles and beat it into place with 3 mm joints, and to obtain required coverage of adhesive on the back of each tile.

3.16 TILE FIXING, RIGID SHEET LININGS
Refer to 3801 CARPENTRY for the installation of rigid sheet linings.

Prime the surface after the curing of any waterproof membrane. Spread adhesive to a uniform minimum thickness of 3 mm and rib it with a notched trowel to the tile manufacturer's requirements. Press tiles and beat it into place to obtain the required coverage by adhesive on the back of each tile.

3.17 GROUTING
Remove spacers. Prepare joints, mix and apply proprietary grout and finish off to the grout manufacturer's requirements. Grout to finish uniform in colour, smooth and without voids, pinholes or low spots.

3.18 MOVEMENT CONTROL JOINTS
Minimum width of 6 mm, carried through tile and bedding. Where substantial movement is anticipated, carry through the rigid sheet to the structure. Install joints

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

over expansion joints in structure, at junctions between different backgrounds, where abutting other materials, at storey heights horizontally and 3.0 metres vertically, at internal corners and at junctions with floors and columns.

Ensure joints are clean, formed, filled, and the sealant inserted to the sealant manufacturer's requirements.

3.19 CLEAN
Upon completion of setting and grouting, thoroughly sponge and wash the tiles to leave clean and free of blemish. Finally polish tiles with a clean dry cloth.

3.20 REMOVE
Remove unused materials from the site.

4. SELECTIONS

4.1 TILE ANGLE
Type: polished aluminium
Size 12mm x 2mm
Location; junction of tile and carpet floor finishes

4.2 LIQUID WATERPROOFING FLOORS
Location: Bathrooms 1,2,3
Substrate: concrete
Brand: Mapei
Type: Mapeplastic

4.3 LIQUID WATER PROOFING WALLS
Location: Bathrooms 1,2,3
Substrate; Villaboard
Brand: Mapei
Type: Mapei Gum

TAPE
Brand: Mapei
Type: Mapei band

4.4 FIBREGLASS MESH
Type: fibreglass

4.5 TILE ADHESIVE
Brand: Mapei
Type: Keraflex

4.6 GROUT
Brand: Mapei
Type: Ultracolour plus grout

4.7 SILICONE
Brand: Mapei
Type: Mapesil

4.8 MOVEMENT CONTROL JOINTS

4.9 MOVEMENT CONTROL JOINT SEALANT

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Principal supplied items

The principal will supply the following:

TILES

4.10 EXTERIOR FLOOR TILES

4.11 INTERIOR FLOOR TILES

4.12 INTERIOR WALL TILES

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7101R REHAU HOT AND COLD WATER SYSTEM

1. **GENERAL**

This section relates to **Rehau** Hot and Cold Water System, from rain water tanks to designated points and appliances, the installation of hot water heating appliances, distributing piped hot water to other appliances, and the installation of tapware.

Related work

1.1 RELATED SECTIONS

Refer to SANITARY FIXTURES, TAPWARE AND ACCESSORIES for tapware supply.
Refer to SANITARY PLUMBING for wastes and vents.
Refer to RAINWATER STORAGE TANKS for water supply
Refer to SOLAR HEATING SYSTEM for solar heating

Documents

1.2 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC B2/AS1	Durability
NZBC G12/AS1	Water supplies
NZBC H12/AS1	Energy Efficiency
AS/NZS 2492	Cross-linked polyethylene (PE-X) pipes for pressure applications
AS 2537	Mechanical jointing fittings for use with cross-linked polyethylene (PE-X) pipe for hot and cold water applications
AS/NZS 3500.1	Plumbing and drainage – Water services
AS/NZS 3500.4	Plumbing and drainage – Heated water services
NZS 4607	Installation of thermal storage electric water heaters: valve vented Systems
NZS 4617	Tempering (3-port mixing) valves
ATS 5200.490	Technical Specification for plumbing and drainage products - Cross-linked polyethylene/aluminium/polyethylene-composite pipe systems for pressure applications

Plumbers, Gasfitters and Drainlayers Act 1976
BRANZ Appraisal Certificate 434 (2002) Rehau PE-Xa Piping System.

Documents listed above and cited in the clauses that follow are part of this specification. However this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Rehau Rautitan Installation Systems Technical Information
Rehau Rautitan Plumbing System Product List for New Zealand
Rehau Rautitan his 311 Plumbing System
Rehau Rautitan Stabil Plumbing System

Copies of the above literature are available from **Rehau** (NZ) Ltd

Web:	www.rehau.co.nz
Telephone:	09 272 2264
Facsimile:	09 272 2265

Requirements

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Rehau** or associated products, components or accessories.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1.5 QUALIFICATIONS
Plumbers to be a member of **Rehau** Authorised Installer Network, familiar with the materials and the techniques specified. Carry out all work under the direct supervision of a plumber registered under the Plumbers, Gasfitters and Drainlayers Act 1976.

1.7 INFORMATION FOR MAINTENANCE MANUAL
Supply maintenance manual information to requirements set out in the general section DOCUMENTATION.

1.8 DURABILITY
The work cover by this part of the specification has been designed and installed to achieve a durability of 50 years to comply with NZBC B2 Durability table 1. Refer to the following: BRANZ Appraisal Certificate No. 434 (2002) Rehau PE-Xa Piping System.

Warranties

1.9 WARRANTY
Warrant this work under normal environmental and use conditions against failure of materials and execution.

Refer to the general section WARRANTIES for the required details of when completed warranty must be submitted.

1.10 MANUFACTURERS MATERIAL AND INSTALLATION WARRANTY
Provide a **Rehau** materials and installation warranty certificate in the manufacturer's standard form.

Warranty period: 25 years
From: Date of completion of system testing.

Performance

1.1 SYSTEM DESIGN
Planning, installation and commissioning to comply with AS/NZS 3500 and to **Rehau** technical information.

1.2 TESTING
Confirm the timing before carrying out any tests. Supply potable water and the apparatus needed. Testing method and compliance to AS/NZS 3500.1: section 16.

2. PRODUCTS

Materials

2.1 PE-Xa POLYETHYLENE PIPE
To AS/NZS 2492, peroxide-cross-linked polyethylene (PE-Xa) complete with fittings and accessories brand matched to the pipe manufacturer's requirements with durability to NZBC B2/AS1 Durability, table 1 and NZBC G12/AS1 Water supplies table1. Rautitan his 311 hot and cold water pipes for potable water, for both residential and commercial applications are designed for normal operation of 1MPa at a temperature of 70°C.

2.2 PE-AL-PEX COMPOSITE PIPE
To ATS 5200.490, cross-linked polyethylene/aluminium/polyethylene composite pipe
(PE-AL-PEX) complete with fittings and accessories brand matched to the pipe manufacturer's requirements with durability to NZBC B2/AS1 Durability, table 1 and NZBC G12/AS1 Water supplies table1. Rautitan Stabil hot and cold water pipes for potable water, for both residential and commercial applications are designed for normal operation of 1MPa at a temperature of 70°C.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.3 FITTINGS
Rautitan fittings for the installation system made of special dezincification resistance brass to DIN EN 12164, DIN EN 12165, DIN EN 12168 grade A, stainless steel or red casting brass. Fitting joints to comply with AS 2537.

Rautitan system transition, both made from stainless steel manufactured to DIN EN 10088, part 3 (material designation 1.4404/1.4571) and DZR brass.

Special fittings that are use exclusively in heating installations are made of brass, copper or stainless steel.

The compression sleeves made of thermally distressed brass to DIN EN 12164, DIN EN 12165, and DIN EN 12168.

2.4 FIXINGS AND TOOLS
Brackets, clips, support channels and Rautool kit for system installation.

2.5 VALVES
Pressure reducing or limiting valve, filter, non-return valve, cold water expansion valve, pressure relief or temperature valve, pressure relief valve and isolating valves to NZBC G12/AS1: Water supplies.

2.6 TEMPERING VALVE
Tempering valve to NZS 4617 and to NZBC G12/AS1: Water supplies.

Materials - hot water heating appliances

2.7 ELECTRIC HOT WATER CYLINDER, MAINS PRESSURE
To NZS 4305, ceramic-coated steel thermal storage cylinder, insulated and complete with required fittings.

2.8 ELECTRIC HOT WATER CYLINDER, LOW PRESSURE
To NZS 4305, copper thermal storage cylinder insulated and complete with pressure reducing valve and required fittings.

2.9 ELECTRIC HOT WATER CYLINDER, UNDER-SINK, LOW PRESSURE
To NZS 4305, copper thermal storage cylinder insulated and complete with required fittings.

Components

2.10 INSULATION
Pre-formed pipe sections complete with bends and fittings, with fixing tape to the manufacturer's requirements and to NZBC H12/AS1.

2.11 PROTECTIVE TAPE
Plasticised PVC tape system with primer, mastic fixing and outer coating.

2.12 SEALANT
BRANZ appraised modified MS neutral cure sealant.

3. EXECUTION

Conditions

3.1 HANDLE AND STORE
Handle and store pipes, fittings and accessories to avoid damage. Store on site, under cover out of direct UV radiation, and stacked to eliminate movement and away from work in progress.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Store tapware in a shelved, dry and securely locked area. Retain tapware in the manufacturer's original packaging, complete with all fixings and installation instructions. Label each unit separately with its space/fixture number to match.

3.2 CORE HOLES AND SLEEVES
Review location and fit core holes and sleeves as needed throughout the structure in conjunction with the boxing, reinforcing and placing of concrete. Strip core holes and make good after installation of pipework.

3.3 CONCEALED
Concealed pipework within the fabric of the building unless detailed otherwise. Satin finish chrome plate exposed work, complete with matching ferrule at the surface penetration.

3.4 PIPE PROTECTION
Pipework to be protected by shielding with a suitable protective sleeve, timber or metal, where there is the possibility of penetration by a mechanically driven fixing.

3.5 INGROUND PIPE INSTALLATION
The requirements of AS/NZS 3500.1, 4 & 5 for below ground installations to be followed. Fittings must be adequately protected with an inert water proof material. In soil conditions in which chemical attack or permeation is possible, a suitable protective sleeve must be installed.

3.6 UV PROTECTION FOR INSTALLED PIPEWORK
UV radiation (e.g. sunlight or some types of fluorescent lights) may damage the pipes. Pipes installed in areas where they could be exposed to UV radiation must be completely covered in a suitable manner, e.g. by using a protective sleeve.

3.7 CORROSION
Separate all metals subject to electrolytic action from each other and from treated timber, concrete and other lime substances by space, taping, or separator strips.

3.8 THERMAL MOVEMENT
Accommodate movement in pipes resulting from temperature change by the layout of the pipe runs, by expansion joints and by sleeving through penetrations.

3.9 PIPE SIZE
Flow rates to each outlet to be no less than those given in NZBC G12/AS1: Water supplies, table 3, Acceptable flow rates to sanitary fixtures. Pipe size as determined in table 4, Tempering valve and nominal pipe diameters.

Application - jointing

3.10 JOINTING POLYETHYLENE PIPE
Seal ring compression joints and electrofusion to NZBC G12/AS1: Water supplies.

3.11 CONNECTION TO OTHER PIPE SYSTEMS
When connecting to other pipe systems use a threaded connection to provide a clear separation between both systems.

Application – pipework installation

3.12 WATER SUPPLY
Connect at gate valve on outlet pipe from rainwater tank. Provide back flow prevention to NZBC G12/AS1: Water supplies.

3.13 POTABLE WATER SUPPLY PIPEWORK INSTALLATION
To AS/NZS 3500.1 and 2. From connection point, run pipes complete with all fittings, support and fixing, joins and install to **Rehau** specifications. Size the pipes and branches in straight runs to deliver the acceptable flow rate to NZBC G12/AS1: Water supplies, table 3, Acceptable flow rates to sanitary fixtures at each outlet.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Allow for the expected concurrent use of adjoining fixtures and size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off.

Pipework support spacing to be firmly fixed and buffered to eliminate noise and hammer, with preformed tee-connection take-offs and branches, with machine made 3 diameter bends, complete with necessary valves and fittings. Conceal pipework and pressure test before the wall linings are fixed.

Do not install PE-X or PE-AL-PEX polyethylene pipe in areas exposed to UV radiation (see clause 3.6) or in the flow and return piping to any solar water heating system or uncontrolled heat source (e.g. wood fired heaters).

3.14 HOT WATER PIPEWORK
To AS/NZS 3500.4. Use a take-off spigot to give separate branches to each fitting, lay out pipes with support spacing to NZBC G12/AS1: Water supplies, table 7 Water supply pipework support spacing. Fix firmly and buffer to eliminate noise and hammer, with preformed tee-connection take-offs and branches, and preformed 3 diameter bends, complete with all necessary valves and fittings.

Lag all pipes with rigid insulation to the manufacturer's requirements and G12/AS1: Water supplies.

3.15 EQUIPOTENTIAL BONDING
Earth metallic water supply pipe and metallic sanitary fixtures to NZBC G12/AS1: Water supplies: 9.0.

Application - hot water systems

3.16 HOT WATER CYLINDER INSTALLATION GENERALLY
Install hot water cylinders complete to the manufacturer's requirements and with seismic restraint as required to storage cylinders, to NZBC G12/AS1: Water supplies, 6.10, Water heater installation. Valve-vented systems to NZS 4607. Fit a minimum of 1 metre of copper piping prior to the installation of the Rehau Rautitan his 311 piping system.

3.17 INSTALL LOW PRESSURE UNDER-SINK HOT WATER CYLINDER
Install hot water cylinders complete to the manufacturer's requirements and to NZBC G12/AS1Water supplies, 6.10 Water heater installation. Connect to sink tap.

3.18 INSTALL TEMPERING VALVE
Install 1 metre minimum from outlet of hot water cylinder and to manufacturer's instructions.

Installation – tapware

3.19 INSTALLING APPLIANCE ISOLATING VALVES - CONCEALED
Install isolating valves for appliances in accessible positions. Locate in adjacent cupboards and position to allow for easy connection and operation.

3.20 INSTALLING TAPWARE
Install tapware supplied under SANITARY FIXTURES, TAPWARE AND ACCESSORIES. Install in accordance with the manufacturer's requirements.

Completion

3.21 LABEL
Label all pipework with permanent adhesive markers at 3 metre minimum intervals.

3.22 REPLACE
Replace damaged or marked elements.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.23 LEAVE
Leave work to the standard required by following procedures.

3.24 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

Pipework

4.1 PE-Xa POLYETHYLENE WATER SYSTEM
Brand: Rautitan his 311
Pipe sizes: ~

4.2 PE-AL-PEX COMPOSITE WATER SYSTEM
Brand: Rautitan Stabil
Pipe sizes: ~

4.3 EXPOSED PIPES

4.4 RIGID INSULATION
Brand: Armstrong Nylex ex Forman Insulation
Material: Armaflex

4.5 PROTECTIVE TAPE

Principal supply items

4.6 Refer to CONTRACT for hot water cylinders supplied by principal

4.7 ELECTRIC HOT WATER CYLINDER, MAINS PRESSURE

Or

4.8 ELECTRIC HOT WATER CYLINDER, LOW PRESSURE

4.9 ELECTRIC HOT WATER CYLINDER, UNDER-SINK, LOW PRESSURE

Valves and accessories

4.10 MAIN ISOLATING VALVE

4.11 SANITARY FITTING ISOLATING VALVES
Location: Sinks, basins, WC

4.12 APPLIANCE ISOLATING VALVES - CONCEALED
Appliance: Dishwasher, refrigerator, washing machine

4.13 TEMPERING VALVE

4.14 IN LINE FILTER

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7102 RAINWATER STORAGE TANKS

1. **GENERAL**
This section relates to the installation of domestic rainwater storage tanks.

Related work

1.1 RELATED SECTIONS
Refer to DRAINAGE for drainage
Refer to RAINWATER SYSTEMS for downpipe installation
Refer to ELECTRICAL for electrical connections

Documents

AS/NZS 1260	PVC-U pipes and fittings for drain, waste and vent application
AS 2070	Plastic materials for food contact use
AS/NZS 2845.1	Water supply – Mechanical backflow prevention devices
AS/NZS 3000	Electrical installations
AS/NZS 3500.1	Plumbing and drainage – water services
AS/NZS 3500.3	Plumbing and drainage – stormwater drainage
AS/NZS 4020	Testing of products for use in contact with drinking water
AS/NZS 4130	Polyethylene (PE) pipes for pressure applications
AS/NZS 4766	Polyethylene storage tanks for water and chemicals
ATS 5200.026	Technical Specification for plumbing and drainage products – Coldwater storage
NZBC G1	Personal Hygiene
NZBC G12/AS1	Water Supplies
HB 230	Rainwater Tank Design and Installation Handbook

1.2 ABBREVIATIONS

Requirements

1.3 HEALTH REQUIREMENTS
Refer to The Ministry of Health publication "Household water supplies: The selection, operation, and maintenance of individual household water supplies" for guidance.

1.4 QUALIFICATIONS
Work to be carried out by tradesmen experienced, competent and familiar with the materials and techniques specified.

Warranties

1.5 WARRANTY - MANUFACTURERS
Manufacture's warrantee for the system under normal environmental and use conditions against failure.

Manufacturer's warranty: ~ years

Provide this warranty on the manufacture's standard form.

1.6 WARRANTY - INSTALLERS
Installer's warrantee for the system under normal environmental and use conditions against failure.

Execution warranty: ~ years

Provide this warranty on the installer's standard form.

Performance

1.7 PRODUCER STATEMENT
Provide a producer statement from a suitably qualified person for:
Design and installation of rainwater storage tanks, pumps and filter

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Producer statements to be in the form required by the Building Consent Authority.

1.8 DESIGN AND INSTALLATION
To HB 230 Rainwater Tank Design and Installation Handbook, to AS/NZS 3500.3 and to NZBC G1 and G12/AS1.

1.9 TESTING OF PRODUCTS
Materials used in the manufacture of rainwater tanks to be tested to AS/NZS 4020.

2. PRODUCTS

Components

2.1 RAINWATER STORAGE TANK
Underground tank manufactured from reinforced concrete. To be designed, inspected and certified by a professional consulting engineer in accordance with the specified test method, performance requirements, pressure testing and objects of AS/NZS 4766. Tanks to be fitted with a secure fitting lid to provide internal access for cleaning or inspection.

Accessories

2.2 TANK FITTINGS
Fittings kit supplied with the tank for complete installation.

2.3 UPVC PIPES AND FITTINGS
Unplasticised PVC pipe and fittings to AS/NZS 1260.

2.4 POLYETHYLENE PIPES AND FITTINGS
High density polyethylene pipe and fittings to AS/NZS 4130.

2.5 WATER PUMP
Pump designed to pressurised water supply from tank into the building.

2.6 TANK VENT
Vent with insect proof stainless steel mesh fitted on top of the tank.

2.7 FIRST FLUSH WATER DIVERTER
Wall mounted or underground system specific to installation. To prevent the first flow of water from the roof entering the water storage tank.

2.8 FILTER SYSTEM
Inline cartridge filter housing fitted between the first flush diverter and the inlet, or a 955 micron filter tank screen system fitted within the tank.

2.9 TANK VACUUM SYSTEM
Designed to suck from the bottom of the tank when the tank is full to overflowing. System to include anti siphon device.

2.10 WATER TREATMENT (UV)
Combination filtration and UV disinfection system.

2.11 SEALS
Uniseals for pipe connections to the top of the tank.

2.12 TANK BASE BEDDING
Clean sand or concrete 100 to 150 mm thick.

2.13 CONCRETE
To NZS 3104: Prescribed mix 17.5 MPa: For in situ tank base and water pump pad.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3. EXECUTION

Conditions

3.1 SITE ACCESS
Transportation on site to the position of the tank is at the risk and responsibility of the contractor. Make provision for manoeuvring and unloading of tank.

Application - site

3.2 SITE EXCAVATION FOR UNDERGROUND GROUND TANK
Excavate to required size. Place tank into excavation and connect up to the plumbing system with backflow prevention fitted to AS/NZS 3500.1. Drainage system to AS/NZS 3500.3. Backfill with free draining material to manufacturer's requirements. Ensure tank access lids are designed and installed to prevent child and stormwater ingress.

3.3 LAYING AND JOINTING
Lay in straight lines between changes of line or grade from the lower end of the drain with sockets pointing uphill. Set each pipe true to line and grade and each joint completed before the next pipe is laid.

Application - fittings

3.4 WATER PUMP INSTALLATION
Install pump on a solid base bolted down through base plate. Place weather tight housing over the pump and secure to base. Connect to water supply and power supply

3.5 WATER TREATMENT SYSTEM INSTALLATION
Install ultraviolet light radiation treatment unit between pump and house to manufacturer's specifications. Connect to power supply provided.

3.6 BACK FLOW PREVENTION DEVICES
Install to AS/NZS 2845.1, to AS/NZS 3500.1 and to NZBC G12/AS1.

Application - connections

3.7 FIRST FLUSH WATER DIVERTER
Install either adjacent to the tank or underground, first flush water diverter. Connect downpipes from the roof gutter to the first flush water diverter. Connect the first flush diverter to the top of the tank. Refer to manufacturer's installation details.

3.8 FILTER INSTALLATION
Install proprietary in-line filter before the inlet connection.

3.9 INLET CONNECTION
Install inlet pipe into top of tank at manufacturer's designated mounting area using a Uniseal type connection.

3.10 OUTLET CONNECTION
Install pipe to manufacturer's installation details. To the outlet connect a floating arm draw-off to deliver water from 100 mm below the surface. From the base connection run a flexible hose to the pump. Install ball valve in line between base connection and water pump. Support all pipework at outlet.

3.11 OVERFLOW PIPE
Install pipe to manufacturer's installation details and connect into stormwater system or directed away from base of tank into garden.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.12 PIPE SEALS
Insert Uniseals in clean cut holes of the correct size. Insert Uniseal into hole with widespread facing the pipe to be inserted. Lubricate the pipe with detergent and push through the Uniseal. Use only on top of tank connections.

3.13 ELECTRICAL CONNECTION
Installation to AS/NZS 3000. Allow to connect up water pump and water treatment unit to the power supply as provided.

Commissioning

3.14 POST INSTALLATION TESTING
Test and commission the completed system to manufacturer's requirements and AS/NZS 3500.1.16 Testing and Commissioning. At the completion and testing of the water service, check all valves and other components to confirm their correct performance.

Completion

3.15 REPLACE
Replace damaged or marked elements.

3.16 LEAVE
Leave work to the standard required by following procedures.

3.17 CLEAN
Clean and flush out the whole installation. Remove silt and debris.

3.18 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

Principal supply items

4.1 Refer CONTRACT
Principal will arrange the supply and installation of:

RAINWATER TANKS

Manufacturer:	Duracrete
Tank material:	Concrete
Capacity:	litres
First flush water diverter:	
Filter:	In-line cartridge filter housing
Tank vacuum kit:	
Water pump:	
Water treatment system:	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7103 SANITARY FIXTURES, TAPWARE & ACCESSORIES

1. GENERAL

This section relates to the supply and installation of sanitary fixtures, tapware and sanitary accessories.

Related work

1.1 RELATED SECTIONS
Refer to GLAZING for frameless shower screens.
Refer to ELECTRICAL for electrical connection of accessories.
Refer to HOT AND COLD WATER SYSTEM for hot water cylinders.
Refer to SANITARY PLUMBING for above ground, non pressure sanitary plumbing.

Documents

1.2 DOCUMENTS REFERRED TO
Documents referred to in this section are:

NZBC E3/AS1	Internal moisture
NZBC F2/AS1	Hazardous building materials
NZBC G1/AS1	Personal hygiene
	2.0 Fixture construction and installation
	3.0 Location of sanitary fixtures
	4.0 People with disabilities
NZBC G12/VM1	Water supplies
NZBC G12/AS1	Water supplies
NZBC G13/AS1	Foul water - sanitary plumbing
AS/NZS 1730	Washbasins
AS/NZS 2023	Baths for ablutionary purposes
AS/NZS 3500.2	Plumbing and drainage - sanitary plumbing and drainage
NZS 3662	Performance of showers for bathing
AS/NZS 3718	Water supply – tapware
NZS 4223	Code of practice for glazing in buildings – human impact safety requirements

Plumbers, Gasfitters and Drainlayers Act 1976

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section will be supplied with fittings.

Requirements

1.4 QUALIFICATIONS
Plumbers to be experienced competent workers, familiar with the materials and the techniques specified. Carry out all work under the direct supervision of a plumber registered under the Plumbers, Gasfitters and Drainlayers Act 1976.

1.5 SAMPLES
Submit samples on request of nominated tapware, along with the relevant manufacturers' technical literature for review.

1.6 SUPPLIER
A specialist in the supply of tapware, and employing experienced architectural representatives available to assist during the course of the installation.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2. PRODUCTS

2.1 SANITARY FIXTURES
Refer to SELECTIONS for product selection.

2.2 TAPWARE
Refer to SELECTIONS for product selection.

2.3 SANITARY ACCESSORIES
Refer to SELECTIONS for product selection.

3. EXECUTION

Conditions – sanitary fixtures

3.1 DELIVERY
Only deliver to the site fixtures or fittings that can be immediately unloaded into suitable storage or be placed for direct installation.

3.2 STORAGE AND HANDLING
Take delivery of and store components complete with protective casings and coverings in areas that are enclosed, clean and dry and where no work is being done. Remove protection only to the extent that will allow installation.

3.3 QUALITY STANDARDS
Installation work to comply with NZBC G1/AS1, NZBC G12/VM1, NZBC G12/AS1, NZBC G13/AS1 and the fixture manufacturer's requirements.

3.4 SUBSTRATE
Ensure substrate and fixings will allow work of the specified standard.

3.5 CO-ORDINATION
Do not proceed if the points of supply and drainage services do not match the points of the fixtures without force or distortion.

3.6 INSTALLATION REQUIREMENTS
Install to NZBC G1/AS1, NZBC G12/VM1, NZBC G12/AS1, NZBC G13/AS1, NZBC E3/AS1 and to the fixture manufacturer's installation requirements for each component.

3.7 PROVIDE SUPPORT
Confirm fixing points needed for each unit and provide solid nogging at each fixing bracket location.

Conditions - tapware

3.8 RETAIN
Retain tapware in the manufacturer's original packaging and ensure that units are complete with fixings and installation instructions. Label each unit separately with its fitting name and space number.

3.9 STORE
Store tapware packages in a shelved, dry and securely locked area. Provide supervision when the secure area is unlocked and packages and cartons are being distributed; signing off each package from the schedule as released.

Conditions – sanitary accessories

3.10 RETAIN
Retain fixtures, fittings and hardware in the manufacturer's original packaging and ensure that units are complete with associated fixings and installation instructions. Label each unit separately to match the submitted and approved schedule.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.11 PACKAGE
Package fixtures, fittings and hardware units required in clear plastic and label each to match the drawings and the submitted schedule. Place packages in cartons selected for 'level', 'location', and/or 'sector' and label the packages and the cartons similarly.

3.12 STORE
Store items in a shelved, dry and securely locked area. Provide supervision when the secure area is unlocked and packages and cartons are being distributed; signing off each package from the schedule as released.

3.13 INSPECTION
Before starting the installation of proprietary items, check relevant spaces and wall and floor finishes for any condition that would not allow the proper installation of any unit. Do not proceed until such conditions have been remedied.

Application – sanitary fixtures

3.14 INSTALLING VITREOUS CHINA FIXTURES
Install to NZBC G1/AS1: Part 3, G12/AS1, G13/AS1 and AS/NZS 3500.2. Carry out preparatory and assembly work, including connections to supply and drainage services and the application of slurries and sealants in sequence. Fit the toilet pan in position, plumb, level, flush and rigid without stressing the attachment points of the component.

3.15 INSTALLING WASHBASINS
Install to NZBC G1/AS1, AS/NZS 1730. Set basins firmly to walls or vanities as detailed and to comply with NZBC E3/AS1. Connect through trap to the drainage system.

3.16 INSTALLING VANITIES
Install in accordance with the manufacturer's requirements. Seal top and upstand to wall surface to comply with NZBC E3/AS1.

3.17 INSTALLING SHOWERS
Install to NZBC G1/AS1 and to NZS 3662. Sit tray firmly in place as detailed, to levels shown and connect to drainage service, ready for following work. Lining materials and finishes to comply with NZBC E3/AS1.

3.18 INSTALLING BATHS
Install to NZBC G1/AS1. Set firmly in cradle with required points fully supported, level and flush. Connect to supply and drainage services.

3.19 INSTALLING STAINLESS STEEL FIXTURES
Carry out preparatory work and fit elements in position plumb, level, flush and rigid without stressing the attachment points in sequence. Connect to supply and drainage services.

3.20 INSTALLING SINK BENCHES
Install in accordance with manufacturer's/supplier's requirements. Connect to supply and drainage services.

3.21 INSTALLING TUB UNITS
Install in accordance with manufacturer's requirements. Connect to supply and drainage services.

3.22 INSTALLING CISTERNS
Fit firmly in place and connect the specified cisterns from the supply services through the flush pipes to the relative fixtures in the positions as detailed all plumb and level.

Application – tapware

3.23 GENERAL
Fit specified to AS/NZS 3718 in accordance with the manufacturer's requirements. Maintain safe water temperatures to comply with NZBC G12/AS1.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Installation – sanitary accessories

3.24 INSTALLING ACCESSORIES
Fit specified fittings firmly in place at required dimensions relative to floor and adjoining appliances, all plumb and level.

3.25 LOCATE
Locate units at heights and/or locations shown on the drawings, or as required to comply with NZBC G1/AS1. For any dimension not shown or known, request direction before proceeding.

3.26 CUTTING AND FITTING
Where cutting and fitting of the substrate is necessary for installing any unit, carry out this work before the painting or finishing of that surface. Remove any hardware when required for painting, placing it in the packaging or carton originally supplied and returning it to the secure store until ready for re-installation.

3.27 INSTALLING UNITS
Install each unit in accordance with the proprietary fixture manufacturer's requirements, using the templates and tools supplied or recommended by them. Set units level, plumb and true to line and required location, with moving parts and actions freely and easily operating. Do not make any modifications to supplied units.

Completion

3.28 REPLACE
Replace damaged or marked elements.

3.29 PROTECTIVE COATINGS
Leave fixtures, fittings and accessories clean and unblemished with stickers and protective coatings removed, with supply and drainage connections and all parts fully operating and working. Leave the whole of this work free of blemishes, undamaged and to the standard of finish required for following work.

3.30 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 SHOWER WASTES

Brand:	Allproof
Type:	leak control flanges for tile finish
Dia:	50mm LC-1
	80mm LC-3

Floor waste grate 50mm code:168.80SCP1 square chrome on brass with PVC spigot
80mm code:168.80SGP1 square chrome on brass with PVC spigot

4.2 BATH, BASIN & TUB WASTES

Principal supply items

4.3 Refer CONTRACT
The principal will arrange the supply and delivery to site of all sanitary fixtures, tapware and accessories including

Wall hung wc pans, brackets, inwall cisterns and seats	3
Bath	1
Basins	3
Kitchen sinks	1
Laundry tub	1
Garage tub	1
Taps to the above	
Shower roses and mixers	

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

Hose taps	4

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7105 SOLAR WATER HEATING SYSTEM

1. GENERAL

This section relates to solar water heating systems installed onto a building roof.

1.1 RELATED WORK

Refer to HOT AND COLD WATER SYSTEM for hot and cold water piping, and hot water cylinders.
Refer to RAINWATER STORAGE TANKS for water supply

Building code compliance

1.2 BUILDING CODE DURABILITY

Elements covered by this part of the specification, subject to only normal maintenance are expected to meet the following durability requirements:

NZBC B2	Durability, 15 years, Pipework.

1.3 BUILDING CODE COMPLIANCE

Work covered by this part of the specification complies with the following:

NZBC G12	Water Supplies

Documents

1.4 DOCUMENTS REFERRED TO

Documents referred to in this part of the specification are:

NZBC B1	Structure
NZBC G12	Water supplies
NZS 3604	Timber framed buildings
AS/NZS 1170.2	Structural design actions – Wind actions
AS/NZS 2535.1	Test methods for solar collectors –Thermal performance of glazed liquid heating collectors including pressure drop
AS/NZS 2712	Solar and heat pump water heaters – Design and construction
AS/NZS 3350.1	Safety of household and similar electrical appliances – General requirements
AS/NZS 3500.1	Plumbing and drainage – Water services
AS/NZS 3500.4	Plumbing and drainage – Heated water services
AS/NZS 4020	Testing of products for use in contact with drinking water
NZS 4617	Tempering (3-port mixing) valve

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

RELATED DOCUMENTS

Refer to the following related documents when preparing this section:

AS/NZS 1056.4	Storage water heaters - Daily energy consumption calculations for electric types.
AS 3498	Authorization requirements for plumbing products – Water heaters and hot water storage.
NZS 3501	Specification for copper tubes for water, gas, and sanitation.
AS/NZS 4130	Polyethylene (PE) pipes for pressure applications. (Cold water applications only)
AS 4234	Solar water heaters – Domestic and heat pump – calculations of energy consumption.
NZS 4305	Energy efficiency domestic type hot water cylinders.
NZS 4602	Low pressure copper thermal storage electric water heaters.
NZS 4603	Installation of low pressure thermal storage electrical water heaters with copper cylinders (open vented systems).
NZS 4606	Storage water heaters.
NZS 4607	Installation of thermal storage electric water heaters; valve-vented systems.
NZS 4608	Control valves for hot water systems.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

NZS 4613 Domestic solar water heaters.
NZS 4614 Installation of domestic solar water heating systems.
BRANZ Plumbing and drainage guide.
Solar Industries Association Code of practice for manufacture and installation of solar water heating systems in New Zealand.

1.5 MANUFACTURER'S DOCUMENTS
The following manufacturer's documents relate to work in this section are:
~
Copies of the above literature are available from:
Web: ~
Email: ~
Telephone: ~
Facsimile: ~

Requirements

1.6 QUALIFICATIONS
Work to be carried out by a specialist solar water heating installer or by a registered plumber for the installation of the solar hot water system.

1.7 ON GOING MAINTENANCE INSTRUCTIONS AND OWNERS GUIDE
Provide details of the manufacturer's ongoing maintenance instructions and owners guide to satisfy the performance requirements of AS/NZS 3500.4.12 Operation and maintenance. Provide a copy to the home owner at the completion of the contract.

Warranties

1.8 WARRANTY
Warrant this part of the work under normal environmental and use conditions against failure of materials and execution:
Materials: 2 years from date of commissioning of the installation.
Execution: 2 years from date of commissioning of the installation.

Performance

1.9 PRODUCER STATEMENT - INSTALLATION
Provide a producer statement from the accredited installer in the form acceptable to the Building Consent Authority. The Producer Statement must verify that the installation complies with the AS/NZS 3500.4 Plumbing and drainage – Heated water services, naming the installer and the person responsible for verification of the installation and for the post installation tests.

1.10 MANUFACTURER'S INSPECTIONS
Permit the manufacturer's representative to inspect the work in progress by the accredited installer.

2. PRODUCTS

Materials

2.1 COMBINED WATER STORAGE TANK AND COLLECTOR
Solar hot water system comprising of a combined insulated storage tank and collector panel and complete with electrical booster thermostat and fixing down straps. Manufacturer the solar water heating systems and components to AS/NZS 2712 Solar and heat pump water heaters – Design and construction.

2.2 FLAT PLATE COLLECTOR
Glazed flat plate collector in insulated weatherproof case containing a dark metal absorber plate with either low iron glass or polymer cover. Manufacturer the solar water heating systems and components to AS/NZS 2712 Solar and heat pump water heaters – Design and construction.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.3 EVACUATED - TUBE COLLECTOR
Parallel rows of sealed transparent glass tubes surrounding a tubular absorber and connected to a heat exchanger manifold at the top of the tube array. Manufacturer the solar water heating systems and components to AS/NZS 2712 Solar and heat pump water heaters – Design and construction.

Components

2.4 PIPEWORK
Copper tubing, cross-linked polyethylene pipe, polybutylene pipe (PE-x) or polypropylene random copolymer (PP-r), each used within the temperature / pressure / service life relationship, performance limitations as recommended by the manufacturer, for this application.

2.5 TEMPERING VALVE
Tempering valve to comply with NZS 4617 Tempering (3-port mixing) valve and NZBC G12 AS/1.5 Water supplies table 4 and figure 5, and AS/1.6.4 Temperature control devices.

2.6 CIRCULATING PUMP
Electrical circulating pump complete with pressure switch, electrical connections and fittings.

2.7 TEMPERATURE CONTROL PANEL
Proprietary control panel with temperature sensors to automatically control the use of the circulating pump.

2.8 TIME CLOCK
Proprietary time clock suitable to automatically control the use of the electric booster to the water storage cylinder.

3. EXECUTION

Conditions

3.1 DELIVERY
Take delivery of the solar water heating system and all accessories. Reject any damaged components.

3.2 STORAGE
Store materials and accessories on a level, firm base, in dry conditions, out of direct sunlight and completely protected from weather and damage. Ensure storage areas are away from current work areas. Cover to keep dry until installed.

3.3 BUILDING STRUCTURE
Confirm the building structure is to the standard required by the manufacturer's accredited installer for the installation of the solar water heating system. Install the unit on a roof area that has been constructed to NZS 3604 10 Roof framing and NZBC B1 Structure, and be capable to take the filled weight of the unit.

3.4 CONFIRM LAYOUT
Before commencing work confirm the proposed location of solar water heating collector, layout of pipe runs and positions of valves and pumps.

3.5 CO-ORDINATE SERVICES
Co-ordinate and co-operate with other sub-trades to avoid any conflict with the installation of the system with other subcontractors work.

3.6 PROTECT SURFACES
Protect surfaces, equipment and finishes already in place from the possibility of damage during the installation process.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Application

3.7 INSTALLATION
Install solar water heating system to required configurations.
Locate the heater as close as possible to the most frequently used hot water outlet. Locate in a position as close as possible to the existing hot water heater in pre-heater configurations. Install the solar water heater at least 2.5 metres above the highest hot water outlet to be serviced to provide adequate flow. Complete installation of the solar water heating system to AS/NZS 3500.4.6 Installation of solar water heaters.

3.8 POSITIONING OF COLLECTOR
Locate the solar water heating collector so as to be clear of shade 3 hours either side of solar noon at any time of the year. Install at an angle between 20 and 30 degrees to the horizontal and facing as close as possible to true north. Position the unit as high as possible on the roof to provide the greatest head of water.

3.9 MOUNTING OF COLLECTOR
Install the solar water heating collector to the manufacturer's installation manual, either directly to the roof structure or on a suitable designed frame fixed to the roof structure. Do not rely on the pipe connections for structural strength. To fix the unit to a roof in non-cyclonic conditions select a position on the roof, free of shade of at least 3 metres square. For a tiled roof remove a row of tiles above the unit to expose the rafters, move the unit into place and secure the stainless steel straps to the unit using the M10 bolts supplied. Screw the straps into the rafters and replace the tiles. For a profiled steel roof secure the straps as for a tiled roof. Fix the straps through the peak of the roofing profile into a purlin below using self-tapping stainless steel screws. Isolate the fixing straps from the roofing material with a strip of neoprene rubber.

For fixing solar water heating systems in cyclonic locations use brackets that comply with AS/NZS 1170.2 Structural design actions – Wind actions.

3.10 PLUMBING CONNECTIONS
Plumbing connections are to be carried out by a registered plumber and are to comply with AS 3500.1.2 Materials and products and to AS3500 4.2 Materials and products and the manufacturer's installation manual.

3.11 WET BACK CONNECTION FOR OPEN VENTED INSTALLATION
Connect wetback from a solid fuel heater to the solar water heating system. The piping between the solar water heating system and the wet back to be at least 20 mm diameter. Kept pipe length to a minimum. The pipe returning from the wet back outlet to the solar water heating system should not at any location be less than a 30° angle to the horizontal plane. No valves or constrictions are allowed in the inlet or outlet path between the solar water heating system and the wet back. Fit a thermostat and solenoid valve set at a maximum temperature of 90°C to provide over-heating protection.

3.12 INSTALL ELECTRIC CIRCULATING PUMP
Install primary circulating pump and controller, to draw the colder water from the lower section of the container and to circulate the water through the collectors before returning it to the container. Support the pump rigidly on a properly designed base and the piping system arranged so that no perceptible vibration is transmitted to the collector or the building. Fit the controller in an accessible position with a warning notice affixed to the inside of the controller box showing the voltage used, the control wiring diagram and identification of control components fitted and the name of the supplier.

3.13 TEMPERING VALVES
Install the tempering valve that is part of the system. Where a circulating pump is installed then the tempering valve must be fitted after the circulating pump. Where a circulating pump is not fitted then a regulating device may need to be fitted to the

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

cold water inlet to the tempering valve to avoid a large differential pressure between hot and cold water supplies. Fit a non return valve to the tempering valve.

3.14 ELECTRICAL CONNECTIONS
Connect the solar water heating system with a fixed wiring connection to the weatherproof junction box positioned at the top of the installation. Run wiring in either metal or uPVC conduit. The electrical circuit to have an isolating switch fitted at the electrical switch board to provide a means of isolating the installation in compliance with AS/NZS 3350 1 7.12.2. The element requires a 10 amp single-phase electrical supply for the 1.2kW and 2.4kW elements, or a 15 amp single-phase electrical supply for the 3.6kW element.

Ensure that the cold water inlet pipe and the hot water outlet pipe are earthed. Fill the storage tank with water before the power supply is turned on.

3.15 INSTALL TIME CLOCK
Install a time clock in a position for easy access.

3.16 FROST PROTECTION
Fit frost protection mechanism to the solar water heating system to the manufacturer's recommendations.

Commissioning

3.17 POST INSTALLATION TESTING
Test and commission the completed system to manufacturer's installation manual and AS/NZS 3500.4.11 Testing and commissioning.

Completion

3.18 CLEANING
Remove debris, unused materials and elements from the site. Clean soiled or marked work. Replace damaged, cracked or marked elements. Leave the whole of this work to the standard required by the manufacturer.

4. SELECTIONS

4.1 SOLAR WATER HEATER
Model:
Circulating pump:
Time clock:
Fixing brackets:

4.2 SYSTEM TYPE
System type:

4.3 PIPEWORK
Type:
Size

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7201 GAS SYSTEM

1. GENERAL

This section relates to the fabrication, installation and operation of piping systems and appliances for bottled liquid petroleum (LPG) gas.

1.1 RELATED WORK

Refer to METALWORKER for supply and installation of gas fireplaces.

DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC G10/AS1	Piped services (Gas)
NZBC G11/AS1	Gas as an energy source
NZS 5258	Gas distribution
NZS 5261	Gas Installation
AS/NZS 4129	Fittings for polyethylene pipes for pressure applications
AS/NZS 4130	Polyethylene (PE) pipes for pressure applications – Dimensions for series 2 pipes – gas (nominal outside diameter series)
AS/NZS 4130	Polyethylene (PE) pipes for pressure applications – Dimensions for series 3 pipes – gas (nominal inside diameter series)
AS 5601	Gas Installations
AS 4176	Polyethylene/aluminium and cross linked polyethylene/aluminium macrocomposite pipe systems for pressure applications

Gas Regulations 1993
Plumbers, Gasfitters and Drainlayers Act 1976

1.2 REGULATIONS

Comply with the Gas Regulations, Electricity Regulations and other network utility operator's requirements. Give notices for inspections and carry out tests as required.

1.3 PRIMARY CONNECTION

Include for the cost of the primary gas connection.

1.4 QUALIFICATIONS

Gasfitters to be experienced competent craftsman gasfitters, or registered gasfitters working under the direction of a craftsman gasfitter, familiar with the materials and techniques specified and to the Plumbers, Gasfitters and Drainlayers Act 1976.

1.5 PIPING DESIGN

Design the piping system with pipe sizes to give a minimum pressure at any appliance inlet of 1.13 kPa for natural gas, when all appliances are in use; and with a maximum design pressure drop from meter outlet to any appliance of 80 Pa. All to NZS 5261 and AS 5601.

1.6 PRESSURE TEST

Pressure test the system for leakage to NZS 5261 before pipework is concealed by linings.

1.7 FINAL INSPECTION AND TEST

Submit the work for inspection and test and prove to the satisfaction of the gas retailer that the installation complies with all Acts and Regulations and has been tested for leakage and proved to be sound.

1.8 CERTIFICATION CERTIFICATE

Provide a Gasfitting Certification Certificate as required by Regulation 24 of the Gas Regulations 1993.

2. PRODUCTS

2.1 PIPEWORK GENERAL

Pipework requirements to NZS 5261, NZS 5261 Table 24 - Gas Pipework and AS 5601 Table 3.1 Consumer piping materials and duty limits.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.2 COPPER PIPE
Complete with fittings to NZS 5261.

2.3 MACROCOMPOSITE PIPE
Polyethylene/aluminium and cross linked polyethylene/aluminium macrocomposite pipe systems for pressure applications to AS 4176.

2.4 POLYETHYLENE PIPE
Polyethylene pipes to AS/NZS 4130 Series two, or AS/NZS 4130 Series three. Fittings to AS/NZS 4129.

2.5 ISOLATING VALVES
Manual shut-off valves to NZS 5261.

2.6 LPG BOTTLES
Refer SELECTIONS for supply and installation of 2 gas bottles by the Principal.

3. EXECUTION

3.1 GENERALLY
Carry out the whole of this work to the requirements of NZBC G10/AS1: Piped services (Gas); NZBC G11/AS1: Gas as an energy source and NZS 5261.

3.2 INSTALL CONNECTION
Install connections for 2 LPG bottles
Refer SELECTIONS for supply of bottles.

3.3 INSTALL PIPING
Run the system, completely concealed, in the most suitable type of pipe for each part of the installation, bent, supported, jointed and complete with all fittings to NZS 5261. Confirm the type of pipe and its location. Label pipework to distinguish it from other services.

3.4 INSTALL GAS FIREPLACES
Connect the gas fireplaces to NZS 5261, complete with isolation valves where required and to the appliance manufacturer's requirements.
Refer to METALWORK for the supply and installation of fireplaces complete with flues and cowls.

3.5 REPLACE
Replace damaged, cracked or marked components.

3.6 LEAVE
Leave the installation including appliances clean and in full working order.

3.7 REMOVE
Remove debris and unused materials from the site.

4. SELECTIONS

4.1 GAS APPLIANCES
Refer METAL WORKER for the supply and installation of gas fireplaces:

Appliance	Location	Brand	Type and Model
Gas fireplaces	Living room	Living Flame	Eastside Euro 2000
	Family room	Living Flame	Eastside Nova 2000 Plasma

Refer manufacturer for supply pipe size

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Principal supplied items

4.2 Refer CONTRACT
Principal shall arrange the supply of the following:

BOTTLED GAS SYSTEM
2 LPG bottles

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7402 SANITARY PLUMBING

1. GENERAL

This section relates to above ground gravity flow sanitary plumbing.

Related work

1.1 RELATED SECTIONS
Refer to SANITARY FIXTURES, TAPWARE AND ACCESSORIES for sanitary fixtures tapware and accessories.

1.2 DOCUMENTS
Documents referred to in this section are:

NZBC G1/AS1	Personal hygiene
	2.0 Fixture construction and installation
	3.0 Location of sanitary fixtures
NZBC G13/AS1	Foul water - sanitary plumbing
AS/NZS 3500.0	Plumbing and drainage - Glossary of terms
AS/NZS 3500.2	Plumbing and drainage - Sanitary plumbing and drainage
, copper pluNZBC G12/AS1	Water supplies
AS 2887	Plastic waste fittings
AS/NZS 1260	PVC pipes and fittings for drain, waste and vent applications
AS/NZS 2032	Installation of PVC pipe systems
BS EN 12524	Corrosion protection of metals. Electrodeposited coatings of nickel,nickel plus chron

Plumbers, Gasfitters and Drainlayers Act 1976

1.3 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section are:
OdourVac Ventilation System

Copies of the above literature are available by phoning
Ventilation Systems Ltd
Phone: 09 837 5945
Fax: O9 836 1096

1.4 QUALIFICATIONS
Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act 1976.

2. PRODUCTS

2.1 UPVC WASTE, DISCHARGE AND VENT PIPES
uPVC pipe to AS/NZS 1260 complete with fittings brand-matched to the pipe manufacturer's requirements.

2.2 EXPOSED PIPES AND TRAPS
Chrome plate on copper pipes and associated copper and brass fittings.
White polybutylene or PVC, including all associated fittings.

3. EXECUTION

3.1 EXECUTION GENERALLY
Carry out this work and complete all tests to AS/NZS 3500.2.
Carry out this work and complete all tests to NZBC G1/AS1: 2.0, 3.0 and G13/AS1.

3.2 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating actual contact or continuity of water between dissimilar metals.

3.3 INSTALL TRAPS, WASTE AND VENT PIPES
Connect waste outlets to traps and run waste pipes and back vents concealed, sized and fixed to AS/NZS 3500.2 /NZBC G13/AS1. Discharge wastes into the drainage system

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

stack, soil pipe, or gully trap as shown. Bird proof mesh to all roof vents and vermin proof mesh to all untrapped waste pipes.

3.4 INSTALL ELECTRIC PAN VENTS
Install electric pan vents to manufacturers' requirements. Leave ready for electrical connection by electrician.

3.5 PENETRATIONS
At penetrations through constructions provide and fit collars and escutcheon plates to match pipework.

3.6 TEST
Test soil and waste disposal systems to ensure no leakage exists and leave in proper working order.

3.7 CLEAN UP
Remove labels and clean fittings. Remove unused materials from the site.

4. SELECTIONS

4.1 UPVC WASTE, DISCHARGE AND VENT PIPES
Brand/type: ~

4.2 EXPOSED PIPES AND TRAPS
Brand/type: Chrome finish

4.3 MISCELLANEOUS ITEMS
Pan vents: Odor Vac Ventilation system

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7403 DRAINAGE

1. GENERAL

This section relates to the supply and laying of gravity foul water, stormwater and field drains.

Related work

1.1 RELATED SECTIONS
Refer to WASTEWATER TREATMENT SYSTEM for on site disposal system.
Refer to RAINWATER STORAGE SYSTEMS for water tanks

1.1 DOCUMENTS REFERRED TO
Documents referred to in this section are:

NZBC B1/AS1	Structure – general, 6.0 Drains
NZBC E1/AS1	Surface water 3.0 Drainage system materials and construction
To NZBC E2/AS1	External moisture 12.3 Drainage
NZBC G13/AS2	Foul Water – drainage
AS/NZS 1254	PVC pipes and fittings for storm and surface water applications
AS/NZS 1260	PVC pipes and fittings for drain, waste and vent applications
AS/NZS 1546.1	On-site domestic wastewater treatment units - Septic tanks
AS/NZS 1547	On site domestic wastewater management
AS/NZS 2032	Installation of PVC pipe systems
AS/NZS 2033	Installation of Polyethylene pipe systems
AS/NZS 2566.1	Buried Flexible Pipelines - Structural Design
AS/NZS 2566.2	Buried Flexible Pipelines - Installation
AS/NZS 3500.2	Plumbing and drainage - Sanitary plumbing and drainage
AS/NZS 3500.3	Plumbing and drainage - Stormwater drainage
AS/NZS 4671	Steel reinforcing materials
AS/NZS 5065	Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications
NZS 3104	Specification for concrete production

Plumbers, Gasfitters and Drainlayers Act 1976

1.2 AS-BUILT DRAWINGS
Supply a 1:100 scale as-built drawing of drains and fittings to the territorial authority and to the owner on completion.

1.3 QUALIFICATIONS
Drainlayers to hold a current licence within the terms of the Plumbers Gasfitters & Drainlayers Act 1976 and be experienced, competent and familiar with the materials and techniques specified.

2. PRODUCTS

2.1 CONCRETE
17.5 MPa prescribed mix to NZS 3104.

2.2 REINFORCEMENT
Plain round and/or deformed steel bars, Grade 300 to AS/NZS 4671.

2.3 UPVC PIPES
uPVC Pipes bends, junctions, fittings and joints to AS/NZS 1254 and AS/NZS 1260.

2.4 POLYETHYLENE PIPES
Polyethylene pipes and fittings to AS/NZS 5065.

2.5 FIELD DRAINS
Plastic piping for field drains perforated (straight sections or coiled) with filter fabric to prevent silting of the pipe.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.6 GULLY TRAPS
To NZBC G13/AS2: 3.3 Gully traps, complete with grating.

2.7 SURFACE WATER SUMP GRATINGS
Cast iron frame with lift-up grating.

2.8 STRIP DRAIN CHANNEL
Proprietary, modular, variable invert, PVC or precast concrete drainage channel sections and drainage sump, embedded in site concrete and fitted with selected metal gratings.

2.9 INSPECTION COVERS
Cast iron frame with screw-down cover.

2.10 DRAINAGE AND FILLING MATERIALS

Granular:	Clean gravel or crushed stone or a blend of these. Particle size from minimum 7 mm to maximum 20 mm.
Selected:	Fine grain soil or granular material suitable for bedding; excluding topsoil.
Ordinary:	Top soil or other excavated materials.

3. EXECUTION

3.1 EXCAVATE
Excavate for drains to a firm even base with correct gradients set in straight runs.

3.2 MANUFACTURER'S REQUIREMENTS
All drainage installations to the pipe and fitting manufacturer's requirements.

3.3 DRAINAGE GENERALLY
Carry out drainage work and tests to AS/NZS 3500.2 (sanitary drainage) AS/NZS 3500.3 (stormwater drainage) as modified by NZBC B1/AS1: 6.0. Lay uPVC pipe systems to relevant sections of AS/NZS 2032, NZS 2566.1 and AS/NZS 2566.2. Lay polyethylene pipes and fittings to relevant sections of AS/NZS 2033 and NZS 2566.1.

3.4 LAY FOUL WATER DRAINS
Lay drains in straight runs to correct gradients, to discharge into the network utility operator's sewer. Set inspection fittings on a concrete base.

3.5 INSTALL GULLY TRAPS
Set on concrete 50 mm above the surrounding ground or paving and brought up to protect the top of the fitting. Trowel off.

3.6 LAY STORMWATER DRAINS
Confirm the required location of downpipes and finished ground levels before commencing pipework. Set downpipe bends in concrete with the concrete brought up to protect the top of the bend from damage. Lay drains in straight runs to correct gradients to discharge into rainwater storage tanks. Lay overflow drain from rainwater tank and discharge to pond.

3.7 LAY SUBSOIL DRAINS
Lay perforated piping firmly in a granular bed in straight runs to correct gradients, discharging into a cesspit. Carry the granular bed up over the pipes without disturbing them to a total depth of 300 mm and cover with geotextile fabric to the pipe manufacturer's requirements. Carry the high end of all lines up to the surface to allow for flushing out and finish with a protected removable cap.

3.8 INSTALL STRIP DRAIN CHANNEL
Excavate trench and form site concrete base to fall. Set interlocking channel sections, sumps and accessories in place, all in accordance with the channel manufacturer's requirements. Check falls and install gratings and covers.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.9 INSTALL SURFACE WATER SUMP
To NZBC E1/AS1, complete with ceramic half-siphon pipe and cast iron frame with a lift out grating.

3.10 INSTALL STORMWATER INSPECTION CHAMBERS
To NZBC E1/AS1, with a 75 mm fall across the chamber and with channels to form a cascade where necessary. Channel top should be 100 mm above the pipe soffit. Bench from channels at 1V on 10H. Benching should be made of 17.5 MPa concrete vibrated to smooth finish. Plastering is not allowed. Fit a cast iron cover and frame.

3.11 INSTALL FOUL WATER INSPECTION CHAMBERS
To NZBC G13/AS2, with ceramic channels to form a 75 mm fall across the chamber. Channel top should be 100 mm above the pipe soffit. Bench from channels 1V on 10H. Benching should be made of 17.5 MPa concrete vibrated to smooth finish. Plastering is not allowed. Fit a cast iron cover and frame.

3.12 SOAKHOLES OR TRENCHES
Dispose of stormwater on site as shown on the drawings, by soakage, to suit local geology and soil structure; all as directed by the territorial authority.

3.13 OVERFLOW PIPE FROM WATER STORAGE TANKS
Overflow pipe to discharge into pond through outfall structure designed by Geotechnical engineer.

3.14 CONCRETE ENCASEMENT
Concrete encase shallow drains and drains under driveways, on a 100 mm deep 17.5 MPa concrete bed reinforced with three 10 mm mild steel bars. Surround pipes with a polythene membrane to allow movement and encase in 100 mm 17.5 MPa concrete.

3.15 FIELD TEST
Field test drains for watertightness (UPVC to AS/NZS 2032 or AS/NZS 2566. 2 Appendix N) to the satisfaction of the territorial authority inspector.

3.16 BACKFILL
Backfill drain lines in 150 mm layers, well tamped but without disturbing the drains. Finish off with 150 mm of topsoil, slightly mounded above the finished ground line.

3.17 WASTEWATER TREATMENT SYSTEM
Refer to WASTEWATER TREATMENT SYSTEM for supply and installation of system

4. SELECTIONS

4.1 UPVC PIPES

4.2 FIELD DRAINS
Pipe brand/type: 100mm diameter
Fabric brand/type: Filter cloth

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7404 WASTE WATER TREATMENT SYSTEM

1. GENERAL

This section relates to the installation and management of on-site domestic wastewater treatment systems.

Related work

1.1 RELATED SECTIONS

Refer to DRAINAGE for drainage
Refer to SANITARY PLUMBING for above ground pipework
Refer to ELECTRICAL for electrical connections

Documents

AS/NZS 1260	PVC-U pipes and fittings for drain, waste and vent application
AS/NZS 1546.1	On-site domestic wastewater treatment units – Septic tanks
AS/NZS 1546.3	On-site domestic wastewater treatment units – Aerated wastewatertreatment systen
AS/NZS 1547	On-site domestic wastewater management
AS 2439.2	Perforated plastics drainage and effluent pipe and fittings – Perforatedeffluent pipe a
AS/NZS 3000	Electrical installations
NZS 3104	Specification for concrete production
AS/NZS 4130	Polyethylene (PE) pipes for pressure applications
NZBC G13	Foul Water

1.2 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
Cleanstream

Copies of the above literature are available from ~
Web: www.cleanstream.co.nz

1.3 ABBREVIATIONS

AWTS	Aerated wastewater treatment system
O & M	Operation and maintenance
ETS	Evapo-transpiration–seepage

1.4 DEFINITIONS

Land application:	Means the application of effluent to areas of land for further treatment.
Wastewater:	Wastewater is defined as FOUL WATER in the New Zealand BuildingCode.

Requirements

1.5 OPERATION AND MAINTENANCE

Provide to the owner and regulatory authority, specific O & M guidelines for the on-site system as designed and installed. Refer to AS/NZS 1547 for basic technical information covering operation, maintenance and monitoring of on-site domestic wastewater systems.

1.6 DESIGN

Specific design of wastewater treatment system by the manufacturer or consulting engineer experienced in wastewater disposal.

1.7 STRUCTURE

Construct from durable materials, to be watertight, impervious to contamination from waste contained within and from groundwater, be capable of withstanding vertical, lateral and uplift loads, prevent direct flow of wastewater between inlet and outlet, avoid foul air and gases and provide access for the removal of waste contents.

1.8 QUALIFICATIONS

Work to be carried out by tradesmen experienced, competent and familiar with the materials and techniques specified.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Warranties

1.9 WARRANTY - MANUFACTURERS
Manufacture's warrantee for the system under normal environmental and use conditions against failure.

Tank warranty:	15 years
Pump and electronics	1 year

Provide this warranty on the manufacture's standard form.

1.10 WARRANTY - INSTALLERS
Installer's warrantee for the system under normal environmental and use conditions against failure.

Execution warranty: 1 year

Provide this warranty on the installer's standard form.

Performance

1.11 PRODUCER STATEMENT
Provide a producer statement from a suitably qualified person.
Producer statements to be in the form required by the Building Consent Authority.

1.12 INSTALLATION CERTIFICATION
Certify the installation to AS/NZS 1547. The certificate to be issued to and held by the regulatory authority.

2. PRODUCTS

Components

Refer to SELECTIONS for aerated wastewater treatment system

2.1 AERATED WASTEWATER TREATMENT SYSTEM
- Tank construction to AS/NZS 1546.1 manufactured from 30 MPa reinforced concrete, or
- Tank construction to AS/NZS 1546.1 manufactured from glass fibre reinforced concrete, or
- Tank construction to AS/NZS 1546.1 manufactured from polyethylene.

Tank to have manufacturers name and other required information as per AS/NZS 1546.3.3.3.1.

2.2 PUMP
Submersible high-head pump designed to carry screened effluent from septic tanks to dispersal field.

2.3 FILTER FOR TANK VENT
Activated carbon filter fitted to the tanks vent to absorb odours.

2.4 EFFLUENT FILTER
Proprietary septic tank effluent filter installed either in the tank or outlet pipe.

2.5 CONTROL PANEL / ALARM SYSTEM
Control / Alarm panel with horn and light warning of low and high liquid levels.

2.6 DISTRIBUTION BOX
Precast concrete or concrete block construction, located between AWTS and the land application system, to direct flow of effluent to different parts of absorption area.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Accessories

2.7 UPVC PIPES AND FITTINGS
Unplasticised PVC pipe and fittings to AS/NZS 1260.

2.8 POLYETHYLENE PIPES AND FITTINGS
High density polyethylene pipe and fittings to AS/NZS 4130. Perforated pipe for dispersal in land application areas to AS 2439 part 2.

2.9 BEDDING, SURROUND AND FILLING MATERIALS

Granular:	Clean gravel or crushed stone or a blend of these. Particle size from minimum 7 mm to maximum 20 mm.
Selected:	Fine grain soil or granular material suitable for bedding and excluding topsoil, organic matter and rubbish.
Ordinary:	Top soil or other excavated materials excluding organic matter and rubbish.

2.10 CONCRETE
To NZS 3104:

- Prescribed mix 17.5 MPa:	For in situ bases, anchors and pipe surrounds.
- Prescribed mix 14 MPa:	For bedding only.

3. EXECUTION

Conditions

3.1 EXCAVATION
Open not more than 120 metres of trench at any one time. Excavated trench to a minimum width of pipe diameter plus 300 mm. Do not batter or cut the trench wider above the top of the pipe.

For deep excavation, trench width to be sufficient to provide safe access and to accommodate shoring to OSH requirements. Width of bottom of trench up to 300 mm above top of pipe to be pipe diameter plus 300 mm.

Maintain free of water and free of all falling material.

3.2 BEDDING
Place to NZBC G13/AS2: Foul water drainage, 5.0 Installation, figure 7, Bedding and backfilling, using compacted granular material to avoid differential settlement and to obtain longitudinal support of the pipe.

3.3 SURROUND AND BACKFILL
Place to NZBC G13/AS2: Foul water drainage, figure 7 Bedding and backfilling, using compacted granular material and compacted fill. Compact in layers not exceeding 100 mm.

3.4 SETTING OUT
Position on site wastewater treatment system to comply with local authority approval. Use string line, boning rod or laser equipment methods. Use surveying and levelling equipment to accurately set out design invert levels.

3.5 LAYING AND JOINTING
Lay in straight lines between changes of line or grade from the lower end of the drain with sockets pointing uphill. Set each pipe true to line and grade and each joint completed before the next pipe is laid. Cap ends of uncompleted runs each day to prevent entry of foreign matter. Test drains and backfill progressively to minimise site disruption. Concrete cap trenches to drains with less than 375 mm cover.

3.6 LAYING FOUL WATER DRAINS
Lay the drainage system from soil stacks and gully traps, including access chambers, inspection chambers, bends, junction inspections, buchan traps and vents (fresh air inlets). Discharge into the network utility operator foul water system to their requirements.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.7 DIFFERENTIAL SETTLEMENT
Provide flexible jointing, bedding and surrounding of pipes at junctions with manholes, foundation walls and other points where differential settlement may occur.

Application - fittings

3.8 CONSTRUCT GULLY TRAPS
Set in a minimum 75 mm thick concrete with top surround 25 mm above paving and 100 mm above other surfaces, to NZBC G13/AS2: Foul water drainage, 3.3 Gully traps.

3.9 CONSTRUCT ACCESS CHAMBERS
Construct as detailed on a poured concrete footing using precast concrete units and a removable cast iron cover, to NZBC G13/AS2: Foul water drainage, 5.7 Access points. Provide all necessary haunching to channels.

3.10 CONSTRUCT INSPECTION CHAMBERS
Construct as detailed on a poured concrete footing to NZBC G13/AS2: Foul water drainage, 5.7 Access points. Provide all necessary haunching to channels.

3.13 INSTALL WASTEWATER TREATMENT SYSTEM
Install to manufacturer's requirements. In situations when flotation due to hydrostatic uplift from a high water table is possible, anchor the AWTS to manufacturer's instructions. Connect to pipe systems and electrical supply. Installation completed by manufacturer's licensed installer.

Application - connections

3.14 SEPTIC TANK DISPERSAL METHOD FOR LAND APPLICATION SYSTEM
The following systems to be verified by specific design:
- irrigation by surface drip system
Carry out installation of system to comply with the design and to AS/NZS 1547.
Place filter cloth above the distribution aggregate to prevent soil incursion.

3.15 ELECTRICAL CONNECTION
Installation to AS/NZS 3000. Allow to connect up to the power socket as provided.

3.16 CONTROL AND ALARM SYSTEM
Install the control and alarm system in a weatherproof housing located in readily visible position.

3.17 TEMPORARY BRIDGES
Provide temporary bridges over trenches to prevent heavy construction traffic damaging pipes after backfilling.

Completion

3.18 REPLACE
Replace damaged or marked elements.

3.19 LEAVE
Leave work to the standard required by following procedures.

3.20 CLEAN
Clean and flush out the whole installation. Remove silt and debris.

3.21 REMOVE
Remove debris, unused materials and elements from the site.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

4. SELECTIONS

Principal supply items

4.1 Refer to CONTRACT
The principal will arrange the supply and installation of:

AERATED WASTEWATER TREATMENT SYSTEM
Manufacturer: Cleanstream
Tank: Precast concrete
Material:
Type:
Control and alarm system:
Filter:
Dispersal system;

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

7503 UNDERFLOOR HEATING

1. GENERAL

This section relates to the supply and installation of a Hydronic Underfloor Heating (UFH) system.

Related work

1.1 RELATED SECTIONS

Refer to GAS SYSTEM for gas supply and water heating system for underfloor heating.
Refer to ELECTRICAL for electric power supply and water heating system for underfloor heating.
Refer to CONCRETE for under slab insulation.

Documents

1.2 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC B2	Durability
NZBC F10	Piped services
NZBC G11	Gas as an energy source
NZBC G12	Water supplies
NZS 3500.4	Plumbing and drainage - Heated water systems
BS EN 1264	Floor heating - Systems and components
BS 7291	Thermoplastic pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings

Gas Regulations 1993
Electricity Regulations 1997
Plumbers, Gasfitters and Drainlayers Act 1976

Documents listed above and cited in the clauses that follow are part of this specification. However this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:
~

1.4 ABBREVIATIONS

The following abbreviations are used in this specification.

UFH	Underfloor Heating

Requirements

1.5 ACCREDITED INSTALLERS

Installers shall be accredited by the proprietary UFH manufacturer. The installer is responsible to insure any equipment connected to the controls and supplied by others is suitable for the purpose and installed to manufactures requirements.

1.6 QUALIFICATIONS

Plumbers to be certified installers, familiar with the materials and the techniques specified. Carry out all work under the direct supervision of a plumber registered under the Plumbers, Gasfitters and Drainlayers Act 1976.

1.7 MAINTENANCE MANUAL

Supply maintenance manual information to requirements set out in the general section DOCUMENTATION.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Documentation

1.8 LAYOUT DRAWINGS
Provide drawing to owner for review before installation takes place.

1.9 AS-BUILT DOCUMENTS
Provide as-built information to the owner within 10 working days of practical completion, including:
Photographs recording actual layout.
Drawings showing the as built layout.

Warranties

1.10 WARRANTY
Warrant this part of the work under normal environmental and use conditions against failure of materials and execution.

Warranty period: 5 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

Performance

1.11 GENERAL INSPECTIONS
Inspection of the work to take place at each of the stages as scheduled. Confirm a written programme to facilitate these inspections, including notification when each stage of the work is ready for inspection.

1.12 FINAL INSPECTION AND TEST
Submit the work for inspection and test and prove to the satisfaction of the network utility operator that the installation complies with all Acts and Regulations and has been tested for leakage and proved to be sound.

Testing should be at the time of completion. Confirm this timing before carrying out any tests. Test and demonstrate the system according to piping manufacturer's specifications.

2. PRODUCTS

Materials

2.1 PIPEWORK
To BS 7291, AS 2492, NZBC B2 Durability, NZBC F10 Piped services, NZBC G12 Water supplies. Refer to the SELECTIONS for pipe type and size.

2.2 CONTROLS
Controls include water temperature controls, boiler controls and air temperature controls. Refer to SELECTIONS for type.

2.3 INSULATION – SOLID CONCRETE FLOOR
Polystyrene under slab. Refer to SELECTIONS for thickness.

Components

2.4 MANIFOLD
Thermostatically controlled multi-valve manifold to control the temperature of the water and control the flow rate to the various zones. The manifold is available in a range of sizes. Refer to SELECTIONS for port arrangement.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

2.5 PUMPING UNIT
Pump to take heated water from the primary boiler and inject the water down to the required temperature for the UFH. Refer to SELECTIONS for type.

2.6 MIXING VALVE
Mixing valve to mix the 80 °C water from the boiler with the cooler water from the return of the floor heating circuits. Refer to SELECTIONS for type.

2.7 THERMOSTATS
Programmable thermostats complete with setback temperature reduction mode. Refer to manufacturer for options to use in wet areas. Refer to SELECTIONS for type and location.

2.8 HEAT SOURCE
Refer to SELECTIONS for type.

Finishes

2.9 FLOOR COVERING
Refer to SELECTIONS for type of floor covering.

3. EXECUTION

Conditions

3.1 GENERALLY
To NZS 3500.4, BS EN 1264, NZBC B2 Durability, NZBC F10 Piped services, NZBC G11 Gas as an energy source, NZBC G12 Water supplies. Confirm suitability of heat source, concrete/screed, insulation, floor finishes with the manufacturer before installation of the UFH system.

3.2 INSTALLATION
Ensure the area for installation remains dry and weathertight by incorporating a damp-proof membrane in the floor slab. Lay insulation to the total area of the installation, with edge insulation on all internal and external wall lines. If the floor construction is a two part slab with the walls already in place edge insulation is required around the walls to prevent heat loss up the walls.

Application

3.4 HEAT SOURCE
Confirm suitability of the heat source with the UFH system, before connecting it to the UFH installation. Comply with NZS 3500.4 and Electricity Regulations 1997. When using a gas heat source comply with Gas Regulations 1993.

3.5 PIPEWORK LAYOUT
Lay pipes to provide an even spread of heat and a relatively even surface temperature across the area to UFH manufacturer's recommendations. Lay pipes to the layout pattern recommended by the manufacturer and approved by the owner. Insure the layout allows for increased heat required against colder exterior surfaces (perimeter zone).

3.6 INSTALL PIPEWORK – TIED TO REINFORCEMENT
Pipework to be cable tied to the concrete mesh. Lay pipes in a continuous length from the manifold in the pre-designed configuration. Connections must not be made in the area to be concreted. Pipes start and finish at the manifold position. Run pipes to the corresponding port on the manifold. Do not cross pipes over in the floor. Allow for pressure testing of the pipework to 600kpa. Leave at this pressure until concrete is cured.

© CIL Masterspec Basic 2008

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

3.9 CONDUIT SLEEVING
Sleeve all flow pipes with conduit sleeving where the pipe enters and returns from concrete for the first metre to manufacturer's requirements. Sleeve across construction joints in floor.

3.10 FILLING AND PRESSURE TESTING
Pressure test the system with water to ensure all joints are watertight and no damage has occurred to the pipe during installation.

3.11 CONNECT TO HEAT SOURCE
Install pump and manifold when wall finishes are completed. Connect heat source to pump pack using recommended pipe and fittings to manufacturer's installation instructions.

Finishing

3.12 INITIAL START UP
The start up procedure following installation to be done to BS EN 1264 and to UFH manufacturer's requirements.

Completion

3.13 COMMISSIONING
Commission the UFH system. Pipes flushed and refilled with the use of an inhibitor. Following the initial start up period commission the system with all floor coverings laid to ensure the system can be correctly balanced. Ensure the complete central heating system, including radiators if present, is working to required operational temperature. Adjust each circuit slowly via the valves on the manifold to ensure an even flow and heat up is achieved.

3.14 FLOOR FINISHES
Run the system for two weeks before the floor covering is finally laid. Use adhesive suitable for temperatures up to 40°C.

3.15 REPLACE
Replace damaged or marked elements.

3.16 LEAVE
Leave work to the standard required by following the UFH system manufacturer's recommended procedures.

3.17 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 DESIGN INFORMATION

Insulation:	50mm polystyrene
Heat source:	Heat pump
Floor covering:	Refer to Principal

4.2 PIPES

Manufacturer:	~
Pipe:	~ m x ~ mm
Layout pattern:	to manufacturer's design

4.3 MANIFOLD

Manufacturer:	~
Number:	~ ports

4.4 MIXING VALVE

Manufacturer:	~
Type:	~

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE
MANGAWHAI

4.5 PUMP
Manufacturer: ~
Type: ~

4.6 THERMOSTATS
Manufacturer: ~

Location	Type

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

DATE _____ REF 5780

PROJECT New house for Glenn & Kyoko Reid
at De Boer Lane Manganuhai

****All structurally designed timber elements designed using VSG8, MSG8****

Brief
Structural design of house including roof beams as advised and slab/footing design and wall bracing.

Beam (1)	- 1
Beam (2)	- 2
Beam (3)	- 3
Beam (4)	- 4
Wall Bracing	- 5, 6, 7
House Piers	- 8
Garage Piers	- 9
K - Brace	- 10
Suspended floor	- 11
Conc. floorbeam	- 12
Beam (5)	- 13
Pile check	- 14

* Geotekh report by John Hawley Consulting

19 Okahu Street. P O Box 42248, Orakei. Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email – Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

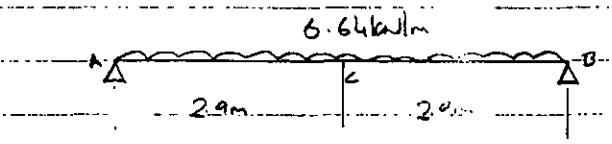
Beam (1) (span = 5.8m)

$G = 2 \times 0.4 + 3.3 \times 0.9$
$= 3.77 kN/m$

$Q = 5.3 \times 0.25$
$= 1.325 kN/m$

Factored for UL: $= 6.64 kN/m$

" " Defl: $= 3.77 kN/m$



$R_A = R_B = \frac{6.64 \times 5.8}{2}$
$= 19.3 kN$

so $M^* = BM_C = 19.3 \times 2.9 - 6.64 \times 2.9 \times 1.45$
$= 28.0 kN.m$

Try 180PFC

$M_{def} = 28 \times 0.568$
$= 15.9 kN.m$

so $\Delta_c = \frac{50 \times 15.9 \times 5.8^2}{1610}$
$= 18.9 mm$ so NOT ok.

Try 200PFC

$\Delta_c = 14 mm$. so OK 8mm precamber.

ADOPT 200PFC FOR BEAM (1)

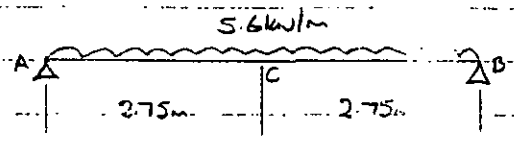
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Beam ② (span = 5.5m)

$G = 3.8 \times 0.9$
$= 3.42 kN/m$
$Q = 3.8 \times 0.25$
$= 0.95 kN/m$

Factored for ULS $= 5.6 kN/m$

" " Defled $= 3.42 kN/m$



$R_A = R_B = \frac{5.6 \times 5.5}{2}$
$= 15.4 kN.$

So $M^* = BM_C = 15.6 \times 2.75 - 5.6 \times 2.75 \times 1.375$
$= 21.2 kN.m$

Try 180PFC

$M_{def} = 21.2 \times 0.611$
$= 12.95 kN.m$

So $\Delta_c = \frac{50 \times 12.9 \times 5.5^2}{1410}$
$= 13.9 mm$ So OK. 8mm precamber.

ADOPT 180PFC FOR BEAM ②

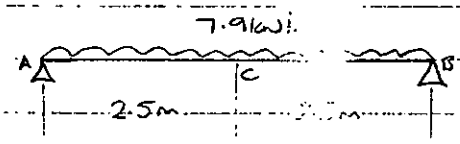
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Beam (3) (Span = 5m)

$G = 5.3 \times 0.9$
$= 4.8 kN/m$
$Q = 5.3 \times 0.25$
$= 1.325 kN/m$

Factored for UL $= 7.9 kN/m$

" " Defl. $= 4.8 kN/m$



$R_A = R_B = \frac{7.9 \times 5}{2}$
$= 19.75 kN$

So $M^* = R_A l_c = 19.75 \times 2.5 - 7.9 \times 2.5 \times 1.25$
$= 24.7 kN.m$

Try 180PFC

$M_{def} = 24.7 \times 0.607$
$= 15.0 kN.m$

So $\Delta_c = \frac{50 \times 15.0^2}{1410}$
$= 13.3 mm$ so OK 8mm precamber.

ADOPT 180PFC FOR BEAM (3)
8mm precamber.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

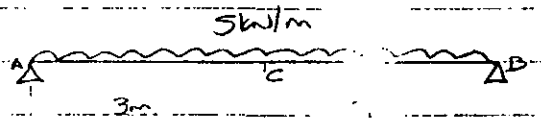
Beam (4) (span = 6m)

G = 3.4×0.9
= 3.06kN/m

Q = 3.4×0.25
= 0.85kN/m

Factored for ULS 5.0kN/m

" " Deflection 3.06kN/m



$R_A = R_B = \frac{5 \times 6}{2}$
= 15kN

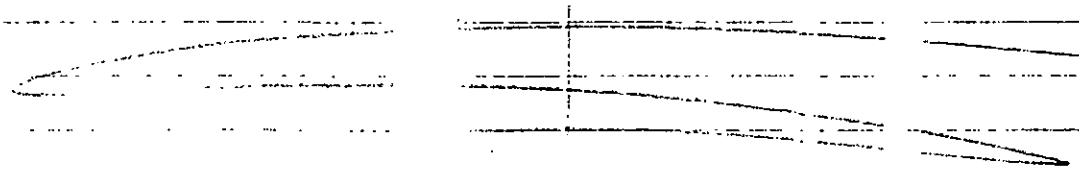
∴ $M^* = BM_C = 15 \times 3 - 5 \times 3 \times 1.5$
22.5kN.m

Try 200PFC

$M_{dsh} = 22.5 \times 0.613$
= 13.8kN.m

∴ $\Delta_c = \frac{50 \times 3.8 \times 6^2}{1910}$
= 13mm so OK 8mm precamber

ADOPT 200PFC FOR BEAM (4)
8mm precamber



RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

all Bracing

Wind speed

$V_2 = V \, M_{LS} \, M_{2cA} \, M_t \, M_w$

$= 45 \times 0.93 \times 0.91 \times 1 \times 1$

$= 38.1 \, m/s$

so $q_z = 0.6 \times 38.1^2$

$= 0.87 kPa$

Wind

N-S

Area $= 60.6 \times 3.8$

$= 154.3 m^2$ 418

Force $= 0.87 \times$ ~~154.3~~ $\times 1.2$

House $= 117.45 kN$ Garage $= 43.6 kN$

So BU's required $= 20 \times 117.45$ House $= 2349$ BU's

" " $= 20 \times 43.6$ Garage $= 872$ BU's

E-W

Garage

Area $= 23.6 \times 3.8$

$= 89.7 m^2$

Force $= 0.87 \times 89.7 \times 1.2$

$= 93.6 kN$

So BU's required $= 20 \times 93.6$ $= 1873$ BU's

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

House

Area 2.4×3.8

$9.1 m^2$

Force $0.87 \times 85.1 \times 1.2$

$88.8 kN$.

BU's req. $= 20 \times 88.8$ $= 1777$ BU's

EQ

Plan Area $= 7 \times$ [illegible] $+ 36 \times 10.6 + 7 \times 14 + 23 \times 15$

$= 897.6 m^2$

BU's required $= L\ 897.6$ $= 3590$ BU's

* → 1958. for House

* → 1632 BU's for Garage.

Special Braces

House

E-W

k-brace BU's required $= 2394.4 - 1570$

$= 824.4$ BU's

$= 41.2 kN$

N-S

7 × block piers $\approx (35[illegible].777) \div 20 = 140.65 kN$

$140.65 \div 7 = 20.1 kN$ per pair

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Garage

E-W

≈ 1873 BU's 78 BU's = 995 BU's

= 49.8 kN.

4 Block Piers ∴ $\frac{49.8}{4}$

= 12.45 kN per pier.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

House Piers.

$F = 20.1 kN$.

so $OTM = 20.1 \times 2.1 m$
$= 56.3 kN.m$

1000 × 200 piers.

pier steel required — 1/D20 each end and vertical D10@400 horiz.

Check 600 × 200 footing (3.2m long)

steel required → 2/D20 top & bottom TF cover.
D10 stirrups @ 200 ctrs

$RM = 0.8 \times 2.7 \times 24 - 0.2 \times 0.4 + 0.4 \times 0.3 \times 24 \times 3 \times 1.5$
$+ 4 \times 5 \times 0.9 \times 0.8 + 2 \times 0.125 \times 3 \times 1.5 \times 24$
$= 4.15 + 12.96 + 14.4 + 27$
$= 58.5 kN.m$ so OK.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Garage Piers.

$F = 12.45kN$

so OTM $= 12.45 \times 3$
$= 34.9kN$.

1000-200 pier

pier steel required ... 1/D16 each end vert.
D10 @ 400cts horiz.

Check 600x200 footing (3 bay)

steel required → 2/D16 along top & bottom
D10 @ 400cts. vert.

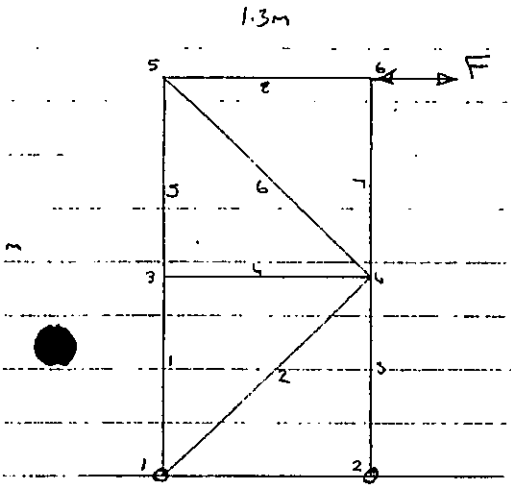
RM $= 0.8 \times 2.7 \times 24 \times 0.2 \times 0.4 + 5.5 \times 4 \times 0.9 \times 0.8$
$+ 2 \times 0.6 \times 0.2 \times 24 \times 2 + 2 \times 0.1 \times 24 \times 2 \times 2$
$= 4.15 + 15.84 + 11.52 + 19.2$
$= 50.71kN.m$ so OK

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

- Brace

F = 41.2kN.

1.3m long



(Structure 27) feb 08

R_A = 41.2kN

R_B = 82.4kN.

N* = 82.4kN.

Check 89x89x5RHS

Δ_S = 1.9mm so OK

ϕN = 449kN. so OK

Footing

7.8m long. ~~400~~ 500 x 400

OTM = 41.2 x 2.6
= 107.1kN.m

RM = 7.8 x 0.4 x 0 x 24 x 3.9
= 1168 kN.m so OK

M* = 107.1kN.m

400x400 conc. steel required → 3/H20 top & bottom.
D10 @ 200 cts stirrups.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

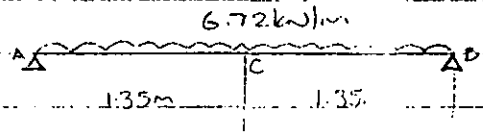
Suspended floor

$G = 0.15 \times 24 \times 1$
$= 3.6 kN/m$

$Q = 1 \times 1.5$
$= 1.5 kN/m$

Factored for ULS $= 1.2 \times 3.6 + 1.6 \times 1.5$
$= 6.72 kN/m$

" " Defl $= 3.6 + 0.4 \times 1.5$
$= 4.2 kN/m$



$R_A = R_B = \frac{6.72 \times 2.7}{2}$
$= 9.1 kN.$

so $M^* = BM_C = 9.1 \times 1.35 - 6.72 \times 1.35 \times 0.675$
$6.16 kN.m$

Check 125mm slab

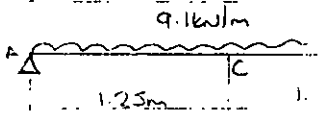
steel required → D12 @ 300ctrs. 40mm bottom cover.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Inc. floorbeam

UDL

ULS = 9.1kN/m



$R_A = R_B = \frac{9.1 \times 2.5}{2}$

$= 11.38kN$

To $M^* = BM_C$ $11.38 \times 1.25 - 9.1 \times 1.25 \times 0.625$

7.1kN.m

Check 400×300 deep

steel required → 2/N16 along top & bottom.

@200crs stirrups.

OR

600min ×200 block with 300×200 fcd.

steel required → 1/D16 top & bottom.

D10@ xx crs. Vert.

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

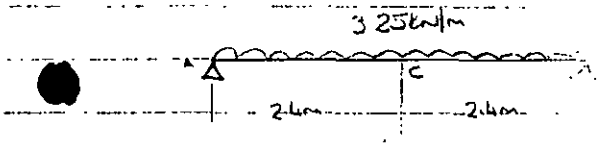
Beam ⑤ (span = 4.8m)

$G = 3.2 \times 0.4 + 0.4 \times 0.$
$= 1.64 kN/m$

$Q = 3.2 \times 0.25$
$= 0.8 kN/m$

Factored for ULS = 3.25kN/m

" " Deflection = 1.64kN/m



$R_A = R_B = \frac{3.25 \times 4.8}{2}$
$= 7.8kN.$

∴ $M^* = BM_C = 7.8 \times 2.4 - 3.25 \times 2.4 \times 1.2$
$= 9.36kN.m$

Check FB25L

$\phi M_b = 19.7 kN.m$ ∴ OK

$M_{def} = 9.36 \times 0.505$
$= 4.72 kN.m$

∴ $\Delta_c = \frac{1500 \times 4.72 \times 4.8^2}{2080} \times 1.3$
$= 10.2mm$ ∴ OK

ADOPT FB25L FOR BEAM ⑤

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

1a Check

Load

ULS = 11.38 × 2
= 22.8 kN.

allowable skin friction 25kPa.

Check 1m embedment 300 dia

area = 0.942 m²

so allowable load = 25 . 0.942
= 23.6 kN. so OK

ACCEPT 300 dia. CONC. PILES 1.0 M EMBEDMENT INTO NATURAL CLAY

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref No. 5780 **07/05/08**

Reid House De Boer Lane Mangawhai
Calculation of Total Bracing Units per Floor
Architect – Sang Architects

Brace Num.	Brace Type	Length (m)	Height (m)	Angle (deg)	Seismic BU's/m	Seismic BU's	Wind BU's/m	Wind BU's
1	BL1a	2.40	2.7		115	245	130	277
2	BL1a	3.00	2.7		115	307	130	347
3	BL1a	2.20	2.7		115	225	130	254
4	-	0.00	2.7		0	0	0	0
5	-	0.00	2.7		0	0	0	0
6	-	0.00	2.7		0	0	0	0
7	-	0.00	2.7		0	0	0	0
8	-	0.00	2.7		0	0	0	0
9	-	0.00	2.7		0	0	0	0
10	-	0.00	2.7		0	0	0	0
11	-	0.00	2.7		0	0	0	0
12	-	0.00	2.7		0	0	0	0
13	-	0.00	2.7		0	0	0	0
14	-	0.00	2.7		0	0	0	0
15	-	0.00	2.7		0	0	0	0
16	-	0.00	2.7		0	0	0	0
17	-	0.00	2.7		0	0	0	0
19	-	0.00	2.7		0	0	0	0
20	-	0.00	2.7		0	0	0	0
21	-	0.00	2.7		0	0	0	0
22	-	0.00	2.7		0	0	0	0
23	-	0.00	2.7		0	0	0	0
24	-	0.00	2.7		0	0	0	0
25	-	0.00	2.7		0	0	0	0
26	-	0.00	2.7		0	0	0	0
27	-	0.00	2.7		0	0	0	0
28	-	0.00	2.7		0	0	0	0
29	-	0.00	2.7		0	0	0	0
30	-	0.00	2.7		0	0	0	0

House in North-South Direction

Seismic	3590	Required	**777**	BU's Actual
Wind	2349	Required	**878**	BU's Actual

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

Committed to effective, innovative and economical use of sustainable building materials

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref No. 5780 **07/05/08**

Reid House De Boer Lane Mangawhai
Calculation of Total Bracing Units per Floor
Architect – Sang Architects

Brace Num.	Brace Type	Length (m)	Height (m)	Angle (deg)	Seismic BU's/m	Seismic BU's	Wind BU's/m	Wind BU's
1	GS1a	6.30	2.7		65	364	75	420
2	BL1a	4.00	2.7		115	409	130	462
3	BL1a	4.00	2.7		115	409	130	462
4	BL1a	3.80	2.7		115	388	130	439
5	-	0.00	2.7		0	0	0	0
6	-	0.00	2.7		0	0	0	0
7	-	0.00	2.7		0	0	0	0
8	-	0.00	2.7		0	0	0	0
9	-	0.00	2.7		0	0	0	0
10	-	0.00	2.7		0	0	0	0
11	-	0.00	2.7		0	0	0	0
12	-	0.00	2.7		0	0	0	0
13	-	0.00	2.7		0	0	0	0
14	-	0.00	2.7		0	0	0	0
15	-	0.00	2.7		0	0	0	0
16	-	0.00	2.7		0	0	0	0
17	-	0.00	2.7		0	0	0	0
19	-	0.00	2.7		0	0	0	0
20	-	0.00	2.7		0	0	0	0
21	-	0.00	2.7		0	0	0	0
22	-	0.00	2.7		0	0	0	0
23	-	0.00	2.7		0	0	0	0
24	-	0.00	2.7		0	0	0	0
25	-	0.00	2.7		0	0	0	0
26	-	0.00	2.7		0	0	0	0
27	-	0.00	2.7		0	0	0	0
28	-	0.00	2.7		0	0	0	0
29	-	0.00	2.7		0	0	0	0
30	-	0.00	2.7		0	0	0	0

House in East-West Direction

Seismic	2394.4	Required	**1570**	BU's Actual
Wind	1777	Required	**1784**	BU's Actual

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref No. 5780
Reid House De Boer Lane Mangawhai
Calculation of Total Bracing Units per Floor
Architect – Sang Architects

Brace Num.	Brace Type	Length (m)	Height (m)	Angle (deg)	Seismic BU's/m	Seismic BU's	Wind BU's/m	Wind BU's
1	BL1a	3.80	2.7		115	388	130	439
2	BL1a	3.80	2.7		115	388	130	439
3	-	0.00	2.7		0	0	0	0
4	-	0.00	2.7		0	0	0	0
5	-	0.00	2.7		0	0	0	0
6	-	0.00	2.7		0	0	0	0
7	-	0.00	2.7		0	0	0	0
8	-	0.00	2.7		0	0	0	0
9	-	0.00	2.7		0	0	0	0
10	-	0.00	2.7		0	0	0	0
11	-	0.00	2.7		0	0	0	0
12	-	0.00	2.7		0	0	0	0
13	-	0.00	2.7		0	0	0	0
14	-	0.00	2.7		0	0	0	0
15	-	0.00	2.7		0	0	0	0
16	-	0.00	2.7		0	0	0	0
17	-	0.00	2.7		0	0	0	0
19	-	0.00	2.7		0	0	0	0
20	-	0.00	2.7		0	0	0	0
21	-	0.00	2.7		0	0	0	0
22	-	0.00	2.7		0	0	0	0
23	-	0.00	2.7		0	0	0	0
24	-	0.00	2.7		0	0	0	0
25	-	0.00	2.7		0	0	0	0
26	-	0.00	2.7		0	0	0	0
27	-	0.00	2.7		0	0	0	0
28	-	0.00	2.7		0	0	0	0
29	-	0.00	2.7		0	0	0	0
30	-	0.00	2.7		0	0	0	0

Garage in East-West Direction

Seismic	1632	Required	**777**	BU's Actual
Wind	1873	Required	**878**	BU's Actual

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Smith and Henry Brace Code Definitions

GS1a & GS2	Standard GIB bracing, see Winstones Manual for details
BL1, BL1a, BLP, BLG	Braceline GIB bracing, see Winstones Manual for details
FX1 – FX3	Flexibrace braces, see Lumberlok Manual for details
SP1 – SP10	Ecoply Panelbraces, see CHH Manual for details
S&H-1 to S&H-3	Braces to specific Smith and Henry details

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **07/05/08**

Floorbeam Reinforcing
Reid House

Bending Reinforcing

Effective Depth	225 mm
Width:	400 mm
Fc:	20 Mpa
Fy:	300 Mpa
M*	7.1 kNm

Area of steel Required As: 1.25 cm^2

Bar Diameter	No. of Bars
10mm	1.60
12mm	1.11
16mm	0.62
20mm	0.40
24mm	0.28

As Min: 3.35 cm^2

Bar Diameter	No of Bars
10mm	4.27
12mm	2.97
16mm	1.67
20mm	1.07
24mm	0.74

As Max: 21.68 cm^2

Bar Diameter	No of Bars
10mm	27.61
12mm	19.18
16mm	10.78
20mm	6.9
24mm	4.8

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **11/04/08**

Garage Pier Footing Reinforcing
Reid House

Bending Reinforcing

Effective Depth	500 mm
Width:	200 mm
Fc:	4 Mpa
Fy:	300 Mpa
M*	34.9 kNm

Grade C masonry

Area of steel Required As: 3.18 cm^2

Bar Diameter	No. of Bars
10mm	4.06
12mm	2.82
16mm	1.58
20mm	1.01
24mm	0.70

As Min: 1.67 cm^2

Bar Diameter	No of Bars
10mm	2.12
12mm	1.47
16mm	0.83
20mm	0.53
24mm	0.37

As Max: 4.82 cm^2

Bar Diameter	No of Bars
10mm	6.14
12mm	4.26
16mm	2.4
20mm	1.53
24mm	1.07

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **11/04/08**

Garage Pier Reinforcing
Reid House

Bending Reinforcing

Effective Depth	900 mm
Width:	200 mm
Fc:	4 Mpa
Fy:	300 Mpa
M*	34.9 kNm

Grade C masonry

Area of steel Required As: 1.58 cm²

Bar Diameter	No. of Bars
10mm	2.02
12mm	1.40
16mm	0.79
20mm	0.50
24mm	0.35

As Min: 3.00 cm²

Bar Diameter	No of Bars
10mm	3.82
12mm	2.65
16mm	1.49
20mm	0.96
24mm	0.66

As Max: 8.67 cm²

Bar Diameter	No of Bars
10mm	11.04
12mm	7.67
16mm	4.31
20mm	2.76
24mm	1.92

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

Committed to effective, innovative and economical use of sustainable building materials

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **11/04/08**

House Pier Footing Reinforcing
Reid House

Bending Reinforcing

Effective Depth	525 mm
Width:	200 mm
Fc:	20 Mpa
Fy:	300 Mpa
M*	56.3 kNm

Area of steel Required As: 4.37 cm^2

Bar Diameter	No. of Bars
10mm	5.56
12mm	3.86
16mm	2.17
20mm	1.39
24mm	0.97

As Min: 3.91 cm^2

Bar Diameter	No of Bars
10mm	4.98
12mm	3.46
16mm	1.95
20mm	1.25
24mm	0.87

As Max: 25.29 cm^2

Bar Diameter	No of Bars
10mm	32.21
12mm	22.38
16mm	12.58
20mm	8.05
24mm	5.59

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David I. Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **11/04/08**

House Pier Reinforcing
Reid House

Bending Reinforcing

Effective Depth	900 mm
Width:	200 mm
Fc:	4 Mpa
Fy:	300 Mpa
M*	56.3 kNm

Grade C masonry

Area of steel Required As: 2.62 cm^2

Bar Diameter	No. of Bars
10mm	3.34
12mm	2.32
16mm	1.30
20mm	0.83
24mm	0.58

As Min: 3.00 cm^2

Bar Diameter	No of Bars
10mm	3.82
12mm	2.65
16mm	1.49
20mm	0.96
24mm	0.66

As Max: 8.67 cm^2

Bar Diameter	No of Bars
10mm	11.04
12mm	7.67
16mm	4.31
20mm	2.76
24mm	1.92

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **11/04/08**

K-Brace Footing Reinforcing
Reid

Bending Reinforcing

Effective Depth	325 mm
Width:	400 mm
Fc:	20 Mpa
Fy:	500 Mpa
M*	107.1 kNm

Area of steel Required As: 8.59 cm^2

Bar Diameter	No. of Bars
10mm	10.94
12mm	7.60
16mm	4.27
20mm	2.74
24mm	1.90

As Min: 2.91 cm^2

Bar Diameter	No of Bars
10mm	3.70
12mm	2.57
16mm	1.45
20mm	0.93
24mm	0.64

As Max: 15.37 cm^2

Bar Diameter	No of Bars
10mm	19.58
12mm	13.6
16mm	7.65
20mm	4.89
24mm	3.4

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David I. Smith MIPENZ(Structural)CPEng., Principal

Committed to effective, innovative and economical use of sustainable building materials

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

SMITH & HENRY
CONSULTING ENGINEERS

Ref: 5780 **07/05/08**

Slab Reinforcing
Reid House

Bending Reinforcing

Effective Depth	75 mm
Width:	1000 mm
Fc:	20 Mpa
Fy:	300 Mpa
M*	6.16 kNm

Area of steel Required As: 3.35 cm²

Bar Diameter	No. of Bars
10mm	4.27
12mm	2.97
16mm	1.67
20mm	1.07
24mm	0.74

As Min: 2.80 cm²

Bar Diameter	No of Bars
10mm	3.56
12mm	2.47
16mm	1.39
20mm	0.89
24mm	0.62

As Max: 18.06 cm²

Bar Diameter	No of Bars
10mm	23.01
12mm	15.98
16mm	8.99
20mm	5.75
24mm	4

19 Okahu Street, P O Box 42248, Orakei, Auckland 1005.
Phone 09 5221333 Fax 09 5244912
Email - Smithandhenry@xtra.co.nz
David L Smith MIPENZ(Structural)CPEng., Principal

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Softek Services Ltd
REID HOUSE
K-BRACE - REID HOUSE

*** MEMBER FORCES ***

Load Case Results

Mem No.	Load Case	Axial @ LJ (kN)	Shear @ LJ (kN)	BM @ LJ (kN-m)	Axial @ GJ (kN)	Shear @ GJ (kN)	BM @ GJ (kN-m)
1	1	-41.148	.125	.116	41.148	-.125	.046
	2	41.148	-.125	-.116	-41.148	.125	-.046
2	1	-58.198	-.141	-.116	58.198	.141	-.144
	2	58.198	.141	.116	-58.198	-.141	.144
3	1	82.400	.024	0.000	-82.400	-.024	.031
	2	-82.400	-.024	0.000	82.400	.024	-.031
4	1	.375	-.580	-.392	-.375	.580	-.363
	2	-.375	.580	.392	.375	-.580	.363
5	1	-40.568	.499	.345	40.568	-.499	.304
	2	40.568	-.499	-.345	-40.568	.499	-.304
6	1	56.709	.055	.075	-56.709	-.055	.026
	2	-56.709	-.055	-.075	56.709	.055	-.026
7	1	.508	.563	.401	-.508	-.563	.330
	2	-.508	-.563	-.401	.508	.563	-.330
8	1	.563	-.508	-.330	-.563	.508	-.330
	2	-.563	.508	.330	.563	-.508	.330

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Softek Services Ltd
REID HOUSE
K-BRACE - REID HOUSE

*** ANALYSIS HISTORY ***

Structure Degrees of Freedom 14
Structure Half-Bandwidth 9
Structure Stiffness Elements 126

Member with maximum half-bandwidth 5

Number of Support Joints and Springs 2

*** SUPPORT REACTIONS ***

Load Case Results

Joint Number	Load Case	X-Reaction (kN)	Y-Reaction (kN)	Z-Reaction (kN-m)
1	1	-41.176	-82.400	0.000
	2	41.176	82.400	0.000
2	1	-.024	82.400	0.000
	2	.024	-82.400	0.000

*** JOINT DISPLACEMENTS ***

Load Case Results

Joint Number	Load Case	X-Displ. (mm)	Y-Displ. (mm)	Rotation (rad)
1	1	0.00000	0.00000	-.00052
	2	0.00000	0.00000	.00052
2	1	0.00000	0.00000	-.00064
	2	0.00000	0.00000	.00064
3	1	.81422	.16822	-.00064
	2	-.81422	-.16822	.00064
4	1	.81268	-.33686	-.00059
	2	-.81268	.33686	.00059
5	1	1.94726	.33406	-.00071
	2	-1.94726	-.33406	.00071
6	1	1.94496	-.33893	-.00072
	2	-1.94496	.33893	.00072

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

REID HOUSE MANGAWHAI

TABLE 2 BUILDING ENVELOPE RISK MATRIX Paragraph 3.1.2, Figure 1

NORTH ELEVATION Risk Severity

Risk Factor	LOW	SCORE	MEDIUM	SCORE	HIGH	SCORE	VERY HIGH	SCORE	SUBTOTALS FOR EACH RISK FACTOR
Wind Zone (per NZS 3604	0		0		1	1	2		1
Number of storeys	0	0	1		2		4		0
Roof/wall intersection design	0	0	1		3		5		0
Eaves width	0	0	1		2		5		0
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							Total risk score		1

EAST ELEVATION

Risk Factor	LOW	SCORE	MEDIUM	SCORE	HIGH	SCORE	VERY HIGH	SCORE	SUBTOTALS FOR EACH RISK FACTOR
' Zone (per NZS 3604	0		0		1		2		1
Number of storeys	0	0	1		2		4		0
Roof/wall intersection design	0	0	1		3		5		0
Eaves width	0	0	1		2		5		0
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							Total risk score		1

SOUTH ELEVATION

Risk Factor	LOW	SCORE	MEDIUM	SCORE	HIGH	SCORE	VERY HIGH	SCORE	SUBTOTALS FOR EACH RISK FACTOR
Wind Zone (per NZS 3604	0		0		1		2		1
Number of storeys	0	0	1		2		4		0
Roof/wall intersection ign	0	0	1		3		5		0
es width	0	0	1		2		5		0
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							Total risk score		1

WEST ELEVATION

Risk Factor	LOW	SCORE	MEDIUM	SCORE	HIGH	SCORE	VERY HIGH	SCORE	SUBTOTALS FOR EACH RISK FACTOR
Wind Zone (per NZS 3604	0		0		1		2		1
Number of storeys	0	0	1		2		4		0
Roof/wall intersection design	0	0	1		3		5		0
Eaves width	0	0	1		2		5		0
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							Total risk score		1

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

A P G THOMPSON LTD
MECHANICAL CONSULTANTS

54 New North Road
Eden Terrace
Auckland
P.O. Box 5152, Wellesley St
Ph: 09-309-5626
Fax: 09-307-0274
Email: APG@xtra.co.nz

ref.1676-2

24 April 2008

Ms Margaret Parker
Sang Architects & Company Ltd
11 Glenfell Place
Epsom
AUCKLAND

Dear Margaret

GLENN & KYOKO REID HOUSE – DE BOER LANE, MANGAWHAI
- ENERGY ANALYSIS

We have completed the analysis required by NZS 4218:2004 and would comment as follows:

- The glazing areas are such that double glazing is required.
- The insulation above the ceiling should be 100mm batts.
- The walls require insulation. Probably the most effective solution is to fit batts into the timber framing.

The result of the above treatments would be compliance with the equations in Table C1, Climate zone 1 with glazing area greater than 30% of wall area.

Yours faithfully
APG THOMPSON LTD

A Thompson

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

APPENDIX C
HEAT LOSS EQUATION TABLES

(Normative)

Table C1 – Reference heat loss equations – non-solid construction

Area of glazing	Climate zone	Reference building heat loss equation
≤ 30 % of total wall area	1	$HL_{Reference} = \frac{A_{Roof}}{1.9} + \frac{A_{Wall}}{1.5} + \frac{A_{Floor}}{1.3} + \frac{A_{Glazing}}{0.15}$
	2	$HL_{Reference} = \frac{A_{Roof}}{1.9} + \frac{A_{Wall}}{1.5} + \frac{A_{Floor}}{1.3} + \frac{A_{Glazing}}{0.15}$
	3	$HL_{Reference} = \frac{A_{Roof}}{2.5} + \frac{A_{70\,\%\ of\ total\ wall\ area}}{1.9} + \frac{A_{Floor}}{1.3} + \frac{A_{30\,\%\ of\ total\ wall\ area}}{0.26}$
> 30 % of total wall area	1	$HL_{Reference} = \frac{A_{Roof}}{1.9} + \frac{A_{Wall}}{1.5} + \frac{A_{Floor}}{1.3} + \frac{A_{30\,\%\ of\ total\ wall\ area}}{0.15} + \frac{A_{Glazing} - A_{30\,\%\ of\ total\ wall\ area}}{0.22}$
	2	$HL_{Reference} = \frac{A_{Roof}}{1.9} + \frac{A_{Wall}}{1.5} + \frac{A_{Floor}}{1.3} + \frac{A_{30\,\%\ of\ total\ wall\ area}}{0.15} + \frac{A_{Glazing} - A_{30\,\%\ of\ total\ wall\ area}}{0.26}$
	3	$HL_{Reference} = \frac{A_{Roof}}{2.5} + \frac{A_{Wall}}{1.9} + \frac{A_{Floor}}{1.3} + \frac{A_{30\,\%\ of\ total\ wall\ area}}{0.26} + \frac{A_{Glazing} - A_{30\,\%\ of\ total\ wall\ area}}{0.31}$

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Cleanstream on Site Wastewater Design

Prepared For: GLEN REID

Legal Description: LOT 3 DP 31942

Intended Water Supply: TANK

Effluent Loading and Design:

- Number of Bedrooms 3
- Number of Persons 5
- Waste Flow Allowance (Ltrs/Person/Day) 140
- Total Daily Wastewater Flows (Litres/Day) 700

Effluent Disposal Design:

- Long Term Acceptance Rate (~~Litres~~ M²/Day) 5
- Building Occupancy Allowance 5
- Number of Bedrooms 3

Wastewater Flow Design Allowances:

- Flow Allowance 700
- Occupancy Numbers 5
- Total Daily Wastewater Flows (Litres/Day) 700
- Irrigation Area Required (M²) 200
- Minimum Irrigation Line Required (Mtrs) 200
- Recommend 0.6 . LPH Self Compensating Drip Line
- Resource Consent Discharge Required NO
- Geology ; 200 TOP SOIL - TREELINE DRIPLINE
- Topography SLIGHT SLOPE

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Date: 1

Cleanstream on Site Wastewater Design

Available Clearances:

- Boundries Min. 1.5m ✓
- Waterways Min 20m ✓
- Wells/Bores/Spring Min 20m ✓
- Embankments Min 6m ✓
- Buildings Min 3m ✓
- Other Specify BOUNDARY PLANTED ARIALINE

Depth of Seasonal Water Table: Summer BELOW . 600 m
Winter Meters BELOW . 600 m

Need for Surface Cut Off Drains: NO - GRASS PADDOCK.

Reserve Area Available: YES 1 HA

Percolation Testing Carried Out: NO

Soil Drainage Category : 5

Comments:

A secondary treatment plant would be most suited for this site. Effluent disposal through drip irrigation into planted area of suitable species to absorb moisture. Area to be mulched over after planting.

Signed ..... Dated 23/2/08.....

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

*Clean*stream Aerated Treatment System Technical Specifications

System Design: **Tank:**

- Manufactured from steel reinforced concrete 85 mpa strength.
- 10,500 Litre Capacity.
- 8,000 Litre Treatment capacity.
- 2,500 Litre Emergency Storage.

Treatment Design:

- Six Chamber System
- Chamber One 2.3 M^3 Septic Tank.
- Chamber Two 1.2 M^3 Aeration Chamber.
- Chamber Three 1.2 M^3 Anoxic Chamber.
- Chamber Four 1.5 M^3 Aeration Chamber.
- Chamber Five 1.3 M^3 Settlement Chamber.
- Chamber Six .5 M^3 Pump Chamber.

Treatment Performances:

- The *Clean*stream process has been developed for average households of up to eight persons based on tank water supply with allowances of 140 litres per person per day.
- Expected treatment for loadings up to 1,000 litres per day BOD5 Mg per Litre <15. Suspended Solids Mg per Litre <30. Nitrate Nitrogen Mg N per Litre <10. Loadings above 1,000 Litres per day require a specific design.
- Reference: Whangarei District Council Laboratory Report 14th March 2002.

Effluent Disposal:

- Disposal of treated effluent is dispersed through self compensating drip irrigation. Before entry into the irrigation line the effluent is passed through 120 micron Arkal Disc Filter. Area of disposal is site specific and requires individual calculations for efficient disposal.

Maintenance:

- A six monthly maintenance agreement must be in place for the efficient performance of the *Clean*stream process. The *Clean*stream System is monitored by a smart alarm situated in the owner's home. If a fault occurs the alarm will sound and a light will pinpoint the exact nature of the problem.

Whangarei District Council Laboratory 14th March 2002:

Results:

Your Reference	Site 1 A	Site 1 B	Site 2 A	Site 2 B	Site 3 A	Site 3 B
Our Reference	01/668	01/669	01/671	01/670	01/672	01/673
Suspended Solids (mg/lL)	3	2	18	11	26	27
Biochemical Oxygen Demand (5) (mg/L)	3	2	2	4	13	11
Ammonia Nitrogen (mgN/L)	0.48	0.45	0.45	1.58	3.95	3.07
Nitrate Nitrogen (mgN/L)	7.0	7.0	8.5	7.0	9.5	9.0

The above test samples were taken following peak morning loads 10am – 11am.

- Site One. 4 person household.
- Site Two. 6 person household.
- Site Three. 8 person household.

A Before Arkal Filter
B After Arkal Filter

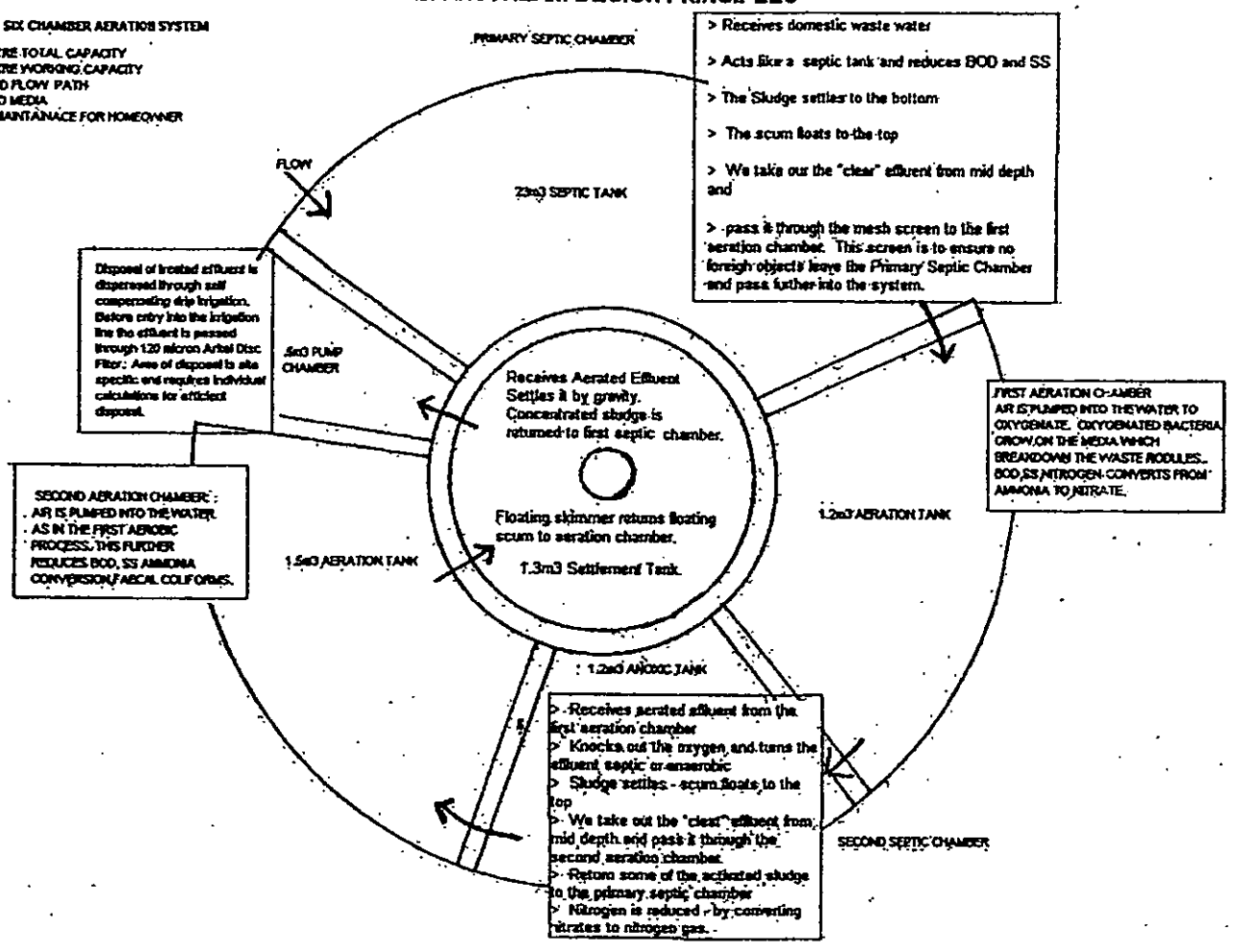
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

URACRETE
PRECAST TO LAST

CLEANSTREAM DESIGN PRINCIPLES

FEATURES: SIX CHAMBER AERATION SYSTEM

- 10,500 LITRE TOTAL CAPACITY
- 8,000 LITRE WORKING CAPACITY
- IMPROVED FLOW PATH
- FLOATING MEDIA
- LOWER MAINTAINACE FOR HOMEOWNER



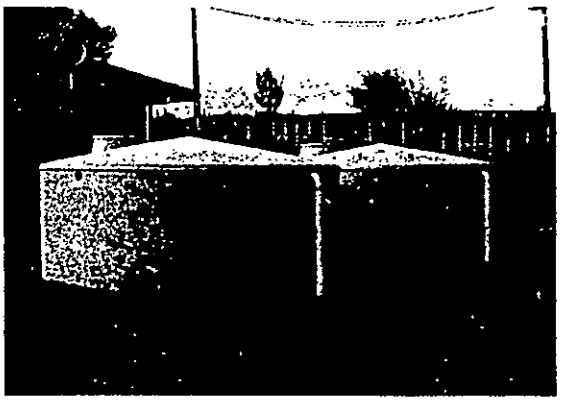
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

DURACRETE
PRECAST TO LAST

Awarded the New Zealand Concrete Society Technology Award 2003

WHY BUY A DURACRETE CONCRETE WATER STORAGE TANK?

Modern technology has transformed the quality, strength and durability of Duracrete concrete water tanks. Duracrete Products Ltd, through its development of technology was recognised by the NZ Concrete Society, being awarded the 2003 Technology Award for outstanding innovation, in the advancement of concrete practice in design and construction. Duracrete Products Ltd has since been a leader in producing tanks that are superior in strength and quality to the traditional methods of manufacture. Duracrete Products Ltd is also dedicated to producing products to the highest quality possible through continuing development of new technologies.



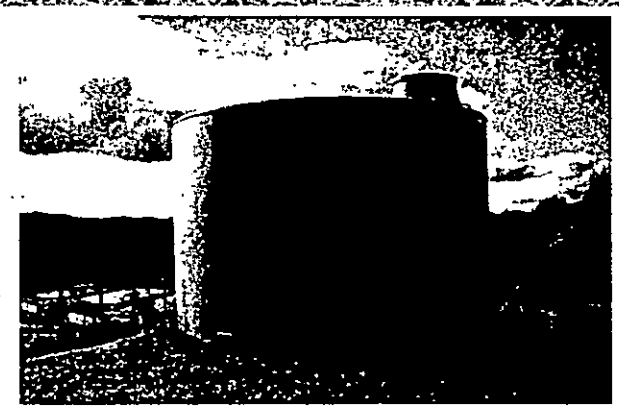


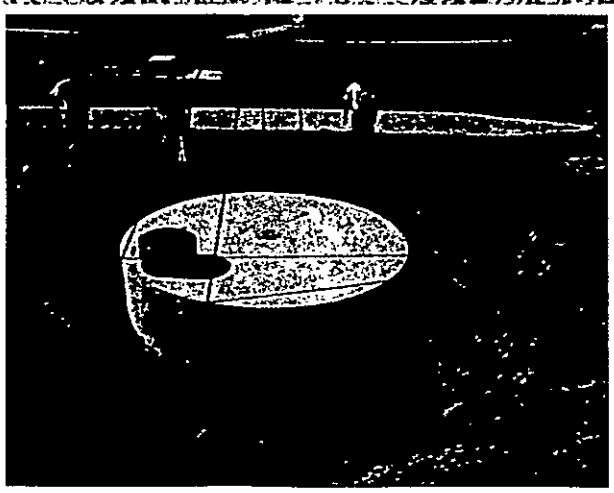
FOR DEPENDABILITY

Concrete has been used over many centuries, as far back as Roman times and has proved to stand the test of time. During periods of disaster such as fire, flooding, cyclones or earthquake, drinking water is crucial for survival. Duracrete concrete tanks offer a secure water storage option.

FOR PERFORMANCE

Duracrete concrete storage tanks can be used in many situations for reliable and convenient water storage. They provide high strength for buried or partially buried applications, including uses in industry, agriculture, horticulture and domestic households.





ADVANTAGES OF DURACRETE TANKS

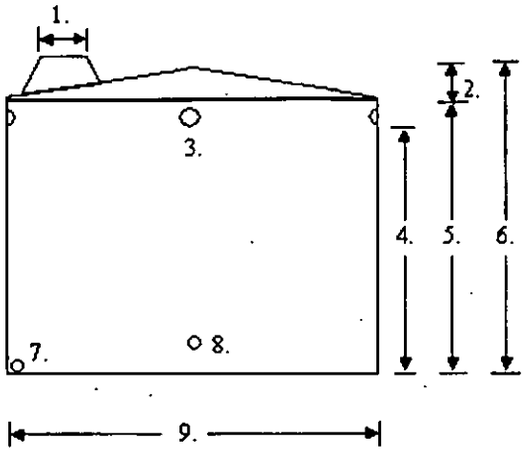
- Provides a cool, clean and healthy environment for household water.
- Will not fail in the event of fire.
- Does not need protecting from stock.
- Does not require anchoring restraints in high wind areas.
- Can be buried or partially buried in confined or restricted situations (refer to technical specifications on reverse).
- Manufactured from natural raw materials produced within New Zealand.

STANDARD FEATURES: • Convenient easy connection points • Bolted lid access for security • Clean out fitting for easy flushing

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

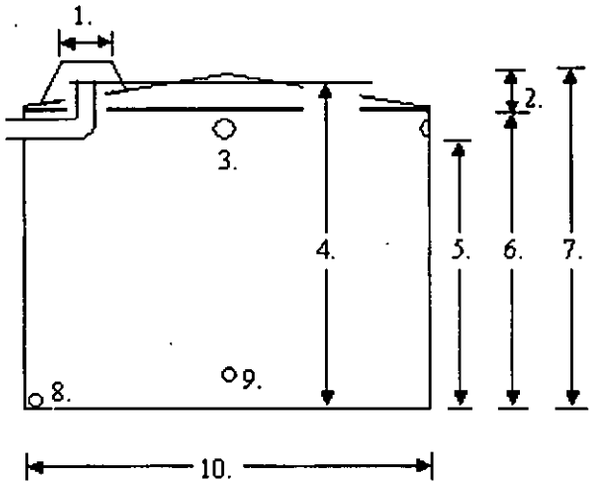
TECHNICAL SPECIFICATIONS

STANDARD 25,000 LITRE TANK Suitable for above ground installations or buried to wall height only.
8.25 Tonne Weight • 65mm Wall Thickness • 100mm Floor Thickness • 80 MPA Concrete Strength.



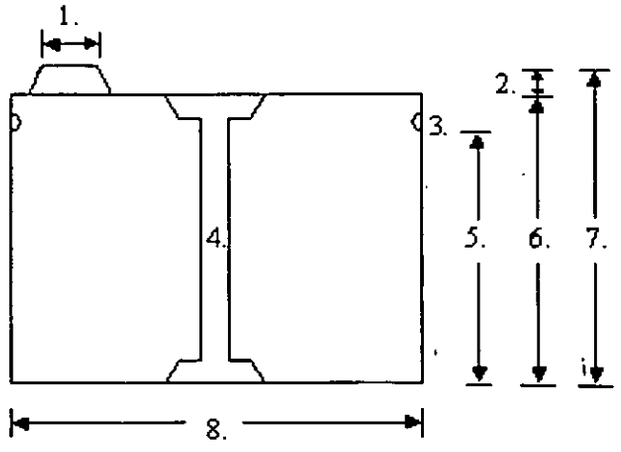
Ref.	Description	Measurement
1.	Hatch opening	550 mm
2.	Height of apex	350 mm
3.	Inlet and overflow options	110 mm
4.	Water level height	2.40 m
5.	Total wall height	2.55 m
6.	Overall height	2.90 m
7.	Drain	50 mm
8.	Outlet	40 mm
9.	Outside diameter	3.70 m

LOW PROFILE 25,000 LITRE TANK (Note: water can be stored in roof area)
7.4 Tonne Weight • 65mm Wall Thickness • 100mm Floor Thickness • 80 MPA Concrete Strength.



Ref.	Description	Measurement
1.	Hatch opening	550 mm
2.	Height of apex	350 mm
3.	Overflow (4 positions)	110 mm
4.	Water level height	2.70 m
5.	Height to overflow	2.20 m
6.	Total wall height	2.40 m
7.	Overall height	2.75 m
8.	Drain	50 mm
9.	Outlet	40 mm
10.	Outside diameter	3.70 m

UNDERGROUND 22,500 LITRE TANK for buried situations. 300mm maximum ground cover.
Tonne Weight • 65mm Wall Thickness • 100mm Floor Thickness • 80 MPA Concrete Strength.

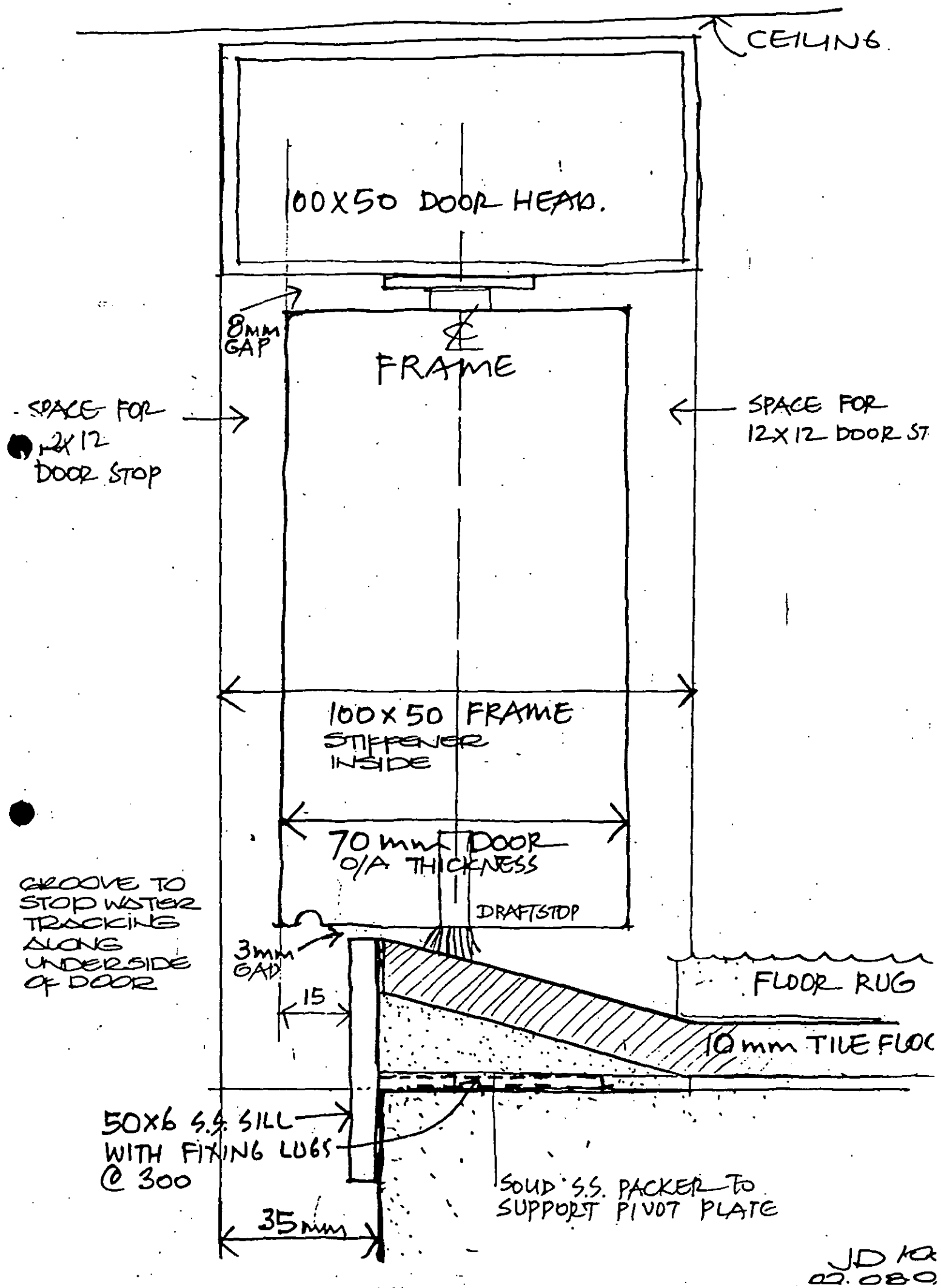


Ref.	Description	Measurement
1.	Hatch opening	550 mm
2.	Permitted ground cover	300 mm
3.	Overflow/inlet, 4 positions	110 mm
4.	Support column (diameter)	150 mm
5.	Water level height	2.25 m
6.	Total wall height	2.55 m
7.	Overall height	2.85 m
8.	Outside diameter	3.70 m

Your Supplier:

Duracrete Products Limited
Saleyards Road, Kauri
PO Box 4194 Kamo
Whangarei
Phone (09) 435 2412
Fax (09) 435 2432
www.duracrete.co.nz

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ



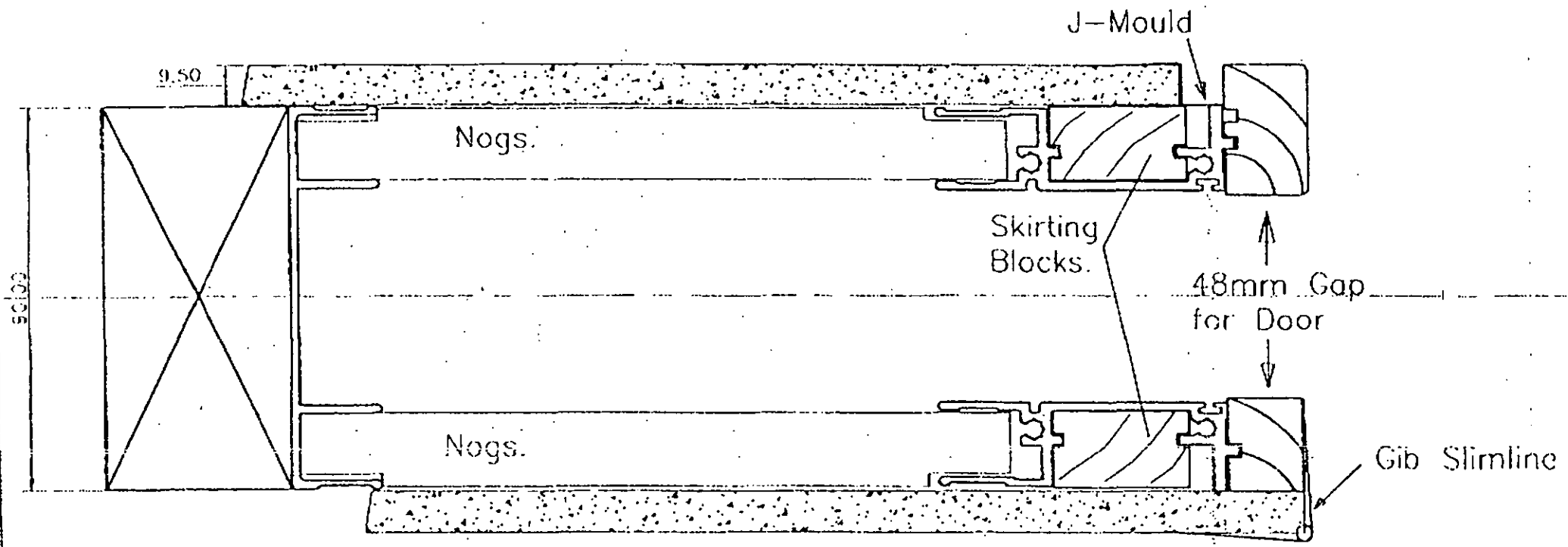
JD 10
02.080

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Cavity Sliders Ltd

All Drawings remain the Property of
Cavity Sliders Ltd - Auck, New Zealand
Cavity Sliders PTY - Sydney, Australia

Negative Detail this Side



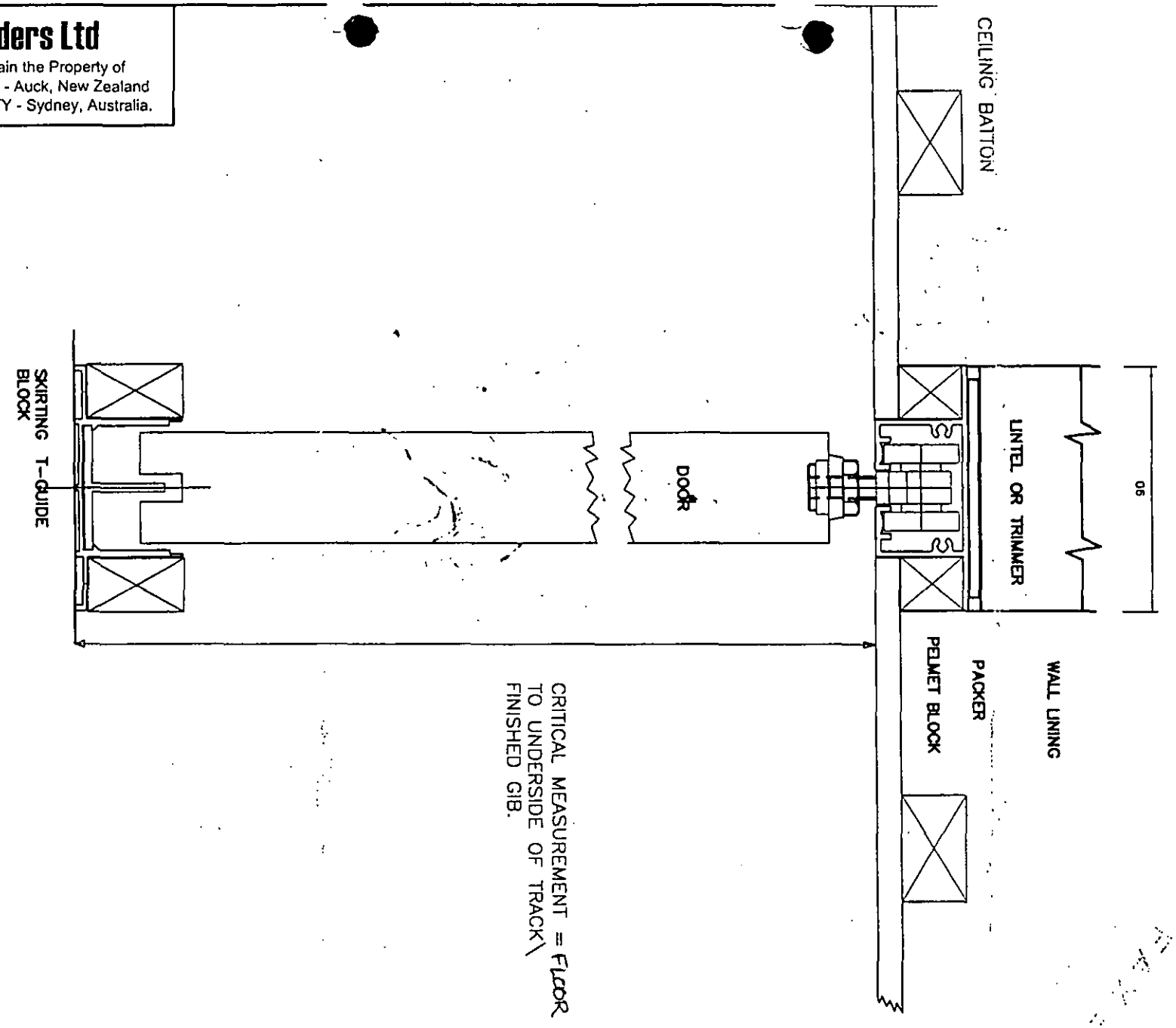
Square Stopped Detail This Side – Special Option

Please Note: Cavity Sliders Ltd warns that any square stop detail may finish with visible crack lines. We do not gaurantee against this happening with this or any detail.

Drawn By	A Hendriks	Part Name/Description: Detail Showing Square Stopped & Negative Detail with 9.5mm Gib	Revision # 1
Date Drawn	20/3/01		Date Revised 30/4/01
Checked	AH		File/Stock Code Jamb Detail

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Cavity Sliders Ltd
All Drawings remain the Property of
Cavity Sliders Ltd - Auck, New Zealand
Cavity Sliders PTY - Sydney, Australia.

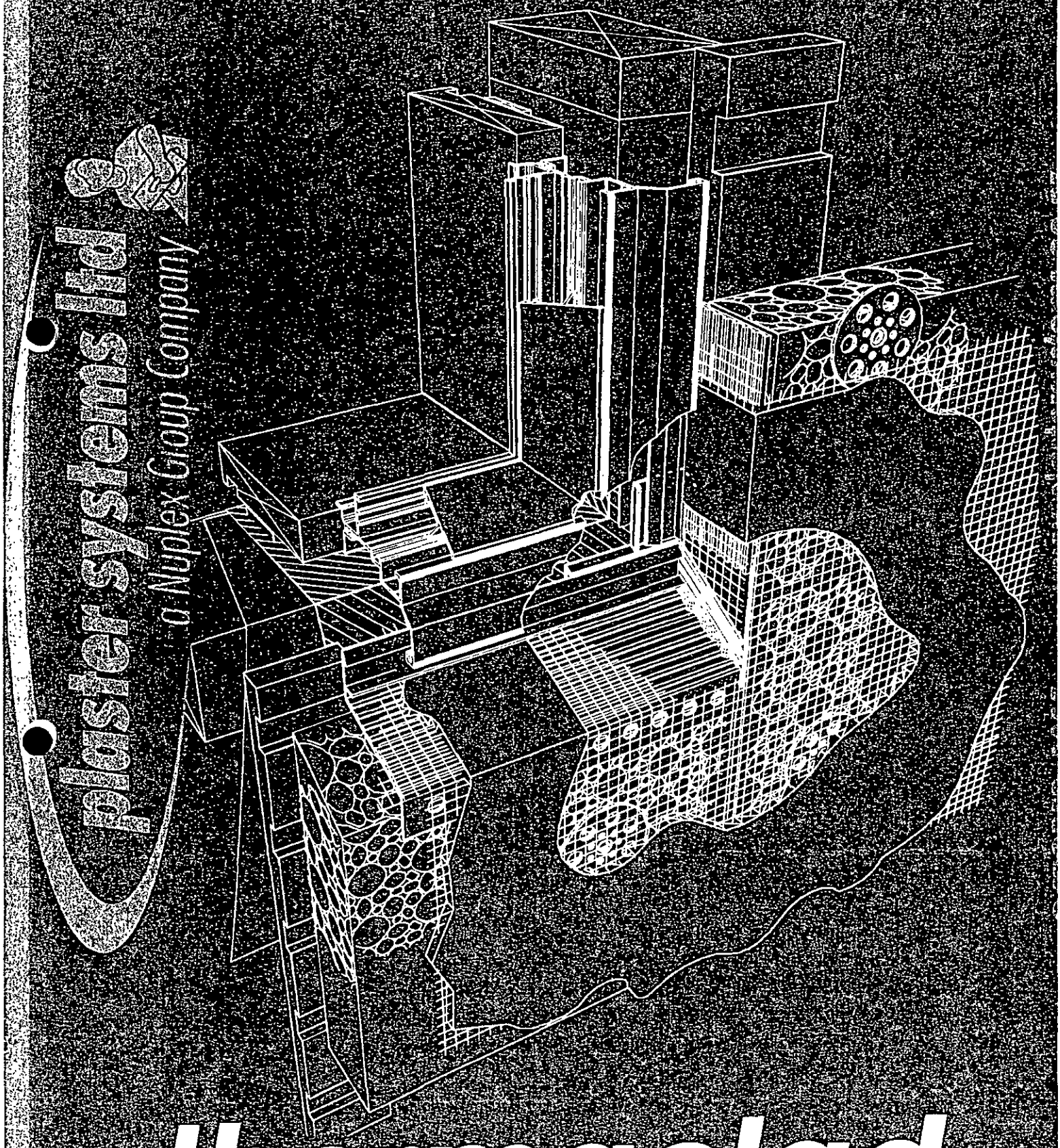


Drawn By	AH	Part Name/Description	Revision #
Date Drawn	20/2/01	FULL HEIGHT DETAIL SECTIONAL ELEVATION	Date Revised
Checked			File/Stock Code

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

insulclad®

CAVITY BASED EXTERIOR PLASTER CLADDING SYSTEM



Insulation Systems Pty Ltd
A Nuplex Group Company

thermaclad®

CAVITY BASED EXTERIOR PLASTER CLADDING SYSTEM

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

plaster systems ltd
a Nuplex Group Company

BUILDERS HELP GUIDE

insulclad

thermaclad

Prior to the installation of the cladding:

- ☐ The supporting structure has been constructed from timber treated to H1.2.
- ☐ All handrail walls have been constructed from H3.1 treated timber.
- ☐ The supporting structure must comply with the relevant provisions of the NZBC and all walls studs must not exceed 600mm centres – nogs at maximum 800mm centres.
- ☐ All internal corners have been constructed using double studs and double nogs have been provided under all windows.
- ☐ All windows have been installed a minimum of 22mm and a maximum of 23mm off the framing. Where the chosen cladding system cannot be used under certain aluminium extrusions (i.e. a ranchslider at deck level) alternative waterproofing options have been provided.
- ☐ Fixing has been provided for all sheet edges (i.e. soffits)
- ☐ A minimum slope of 15° has been provided to all plastered copings, handrail tops and parapets. If the coping/parapet wall top is going to be wider than 250mm a minimum slope of 30° must be provided.
- ☐ All kickout flashings, apron flashings and flashings between dissimilar materials are in place.
- ☐ Minimum heights to finished floor levels above adjoining ground are recognised and have been provided for. Where concrete driveways or paths are to be installed above the bottom edge of the chosen cladding system, the paving has been designed to slope away from the house and a slip layer (i.e. building paper) will be placed between the cladding and the paving to stop the two surfaces from bonding together. A minimum height of 150mm from paved ground to bottom plate will be maintained in all circumstances.
- ☐ All exterior tanking/waterproofing of decks, roofs etc has been completed according to the manufacturers specifications and theoretical finished outside floor levels have been considered and comply with the NZBC.
- ☐ Breather type building paper has been applied to the entire structure.
- ☐ All guttering should stop 20mm short of finished plaster line. Where gutters are concealed i.e. Klass Fascia, fascia also stops short. Refer AHI Roofing details.
- ☐ All framing is flush and fair.
- ☐ The Protecto 'Sill Flashing System' (or similar) has been installed around all windows and penetrations and all penetrations have been air sealed against a foam or PEF backing rod.
- ☐ Control joints have been provided according to the manufacturers specifications.
- ☐ The Building Wind Zone is known and documented and the plasterer has been informed
- ☐ Fixing blocks are in place for all external fixings including, taps, light fittings, handrails, clothes lines, aerials etc.
- ☐ All pipes and meter-boxes are flashed appropriately. All pipes have the building paper turned to the outside of the building and have been taped to the outside of the building paper using an appropriate flashing tape. Alternatively a flashing or similar has been fitted.
- ☐ The timber moisture content has been checked and is documented.

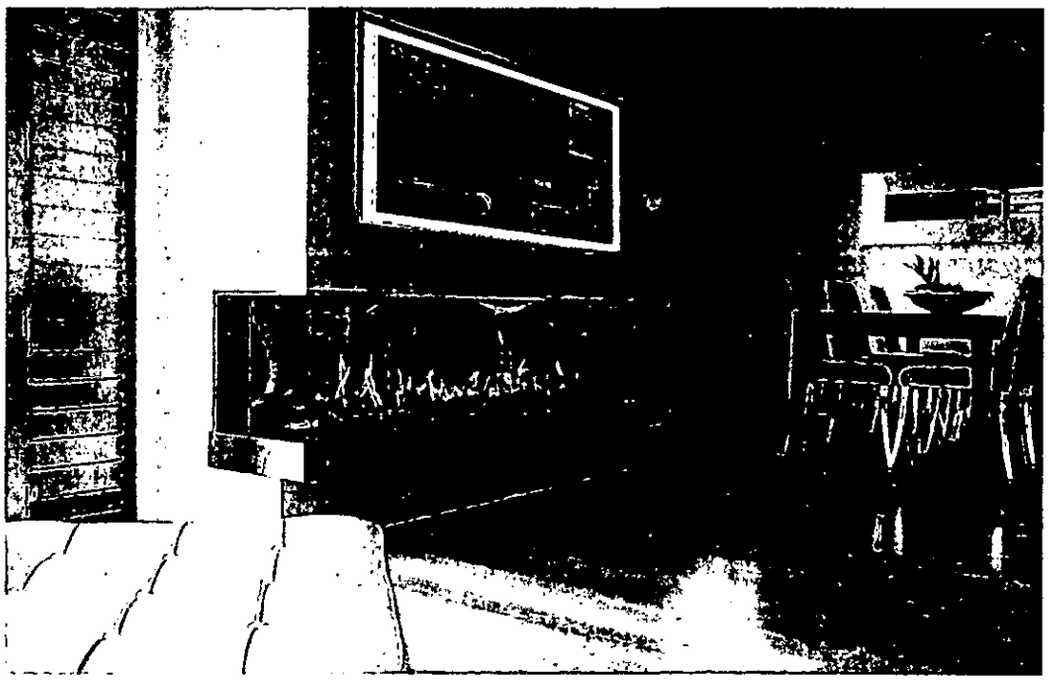
© Copyright 2007

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

LIVING FLAME

February 2006

Installation & Operating Instructions
Eastside



Eastside

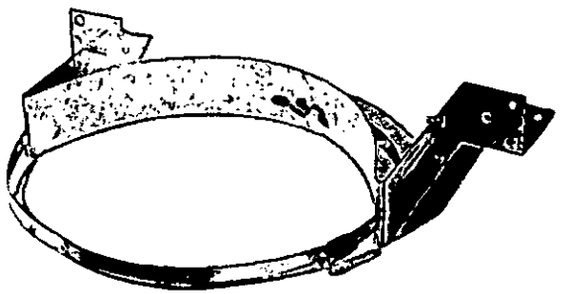
Part One

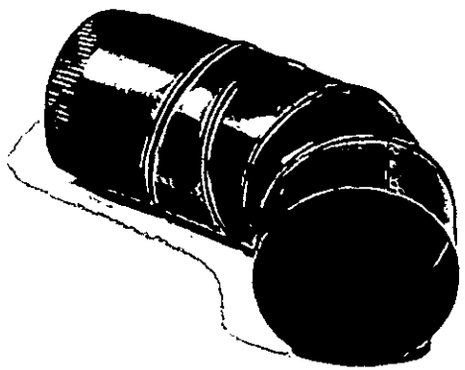
Technical details subject to change
Please ensure you have the latest specifications

Living Flame

Fully adjustable bend
Bracket and strap

Drawing Number 4.





© copyright Living Flame 2002

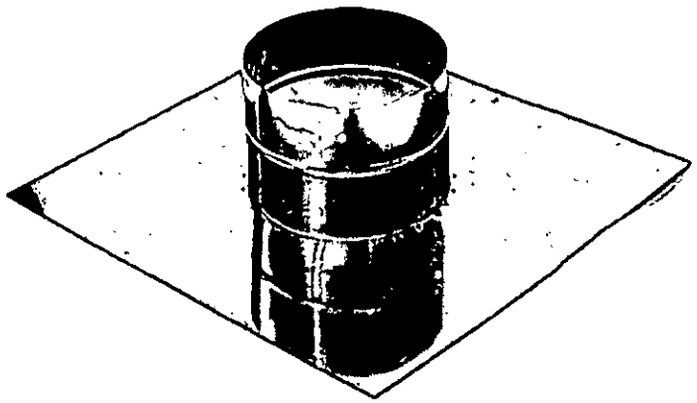
RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Living Flame

Spigot plate
Cowl and windskirt

Drawing No 4a.





© copyright Living Flame 2006

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Noise Control Systems for Residential Dwellings

MARCH 2006

INTRODUCTION

Providing noise control in the 21st century presents new challenges for homeowners and specifiers. For example, home theatres and stereos deliver unprecedented sound levels, often over 100 dBA and causing particular nuisance at low frequencies.

The different sounds of our modern lifestyles within the confined area of a family home often compete with the different expectations of the occupants. Young adults stay at home longer, long stay guest rooms are popular and parents and children co-exist with competing requirements.

To ensure a comfortable family environment it is important to plan for noise control in the home.

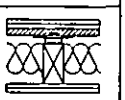
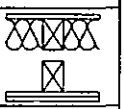
Different areas of the home will require different levels of noise reduction and the designer should play an important part in the process by endeavouring to isolate areas of high volume noise from those requiring near silence e.g. home theatre from bedrooms.

Internal passages, bathrooms and wardrobes etc, can generally isolate such rooms.

As a rule of thumb the following STC values will reduce the sound type and sound pressure given to an acceptable level for most people. It is intended as a guide to assist the designer and homeowner to make an informed choice of what areas and noise level reduction is required.

STC	NOISE	ROOMS
35	Standard walls: Quiet speech, low level sound	Passage walls, kitchen
42-45	Normal speech, snoring, background music	Bedrooms, home office
48-52	Raised voices, children at play, loud snoring	Master bedroom, rumpus, bathroom/toilet
55-62	Loud music, extreme raised voice, machinery	Home theatre, rumpus, garage/workshop

Special care should also be taken with plumbing noise and impact sound associated with shower and toilet areas.

SUGGESTED SYSTEMS							
SPECIFICATION No.	LB/NLB	STC	RW	FRR	LINING REQUIREMENTS	PAGE	
GNT103	LB	44	-	-	1 x 10mm GIB Noiseline® one side 2 x 10mm GIB Noiseline® other side	47	
GNT104	LB	46	-	-	2 x 10mm GIB Noiseline® each side	47	
GBT(L)A 45r	LB	55	54	(45)/45/45	2 x 13mm GIB® Standard Plasterboard each side	21	
GBT(L)IC 60	LB	62	60	(60)/60/60	2 x 10mm GIB Noiseline® each side	25	
GBT(L)A 30b	LB	58	57	(30)/30/30	2 x 10mm GIB Noiseline® one side 1 x 10mm GIB Noiseline® on other side	17	
GBDFA 30d	LB	51	IIC 68	-	1 x 13mm GIB Noiseline®	49	Floor Ceiling
GBDFA 60c	LB	56	IIC 72	60/60/60	2 x 13mm GIB Noiseline®	40	Floor Ceiling

RECEIVED: 16 Jan 2013 SCANNED: 16 Jan 2013 BOX: 3 BATCH: 99376 DOC: KDCAAQAJ

Two Way FRR – Timber Frame with GIB Rail®

MARCH 2006

SPEC No.	LOADBEARING CAPACITY	STC	RW	FIRE RESISTANCE RATING	LINING REQUIREMENTS
GBT(L)A 45r	LB	55	54	(45)/45/45	2 x 13mm GIB® Standard Plasterboard each side

FRAMING

Framing to comply with:

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZ 3602)
- Studs at 600mm centres maximum
- Nogs at 1350mm centres maximum.

Height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

SOUND CONTROL INFILL

R1.8 (75mm) Pink® Batts® glasswool insulation installed between the studs and nogs.

FASTENING THE GIB RAIL®

The rail shall be fixed horizontally at 600mm centres using 32mm x 8g GIB® Grabber® Wafer Head Self Tapping Screws through the base flange into each stud. The base flange shall point downwards and the open edge upwards. The top rail shall be fastened with its upper edge below the top plate but no more than 75mm below the ceiling line. The bottom rail 50mm from the floor line. The bottom rail only may be fixed with its base flange up or down for ease of attachment. Splice rails directly over the studs by nestling (not butting) with no more than a 20mm overlap. Drive the fastener through both flanges into the stud.

LINING

2 layers of 13mm GIB® Standard Plasterboard fixed vertically each side of the frame. Vertical joints of the outer layer are offset 600mm from those of the inner layer. Use full height sheets where possible. Sheet joints are touch fitted and must occur over timber on the framing side. Where sheet end joints are unavoidable they must be over nogs or rail and outer layer joints offset from those on the inner layer.

ACOUSTIC SEALANT

A bead of GIB Soundseal® acoustic sealant is required around the perimeter of the inner lining, the outer lining is then bedded onto the bead.

FASTENING THE LINING

Framing Side

INNER LAYER: 41mm x 6g GIB® Grabber® High Thread Drywall Screws or 40mm x 2.8mm GIB® Nails.

OUTER LAYER: 51mm x 7g screws as above.

GIB Rail® Side

INNER LAYER: 25mm x 6g GIB® Grabber® Self Tapping Drywall Screws.

OUTER LAYER: 41mm x 6g screws as above.

Fastening Centres

Fixings at 300mm centres to each stud and plate, and along each rail. Place fasteners no closer than 12mm to the sheet edge.

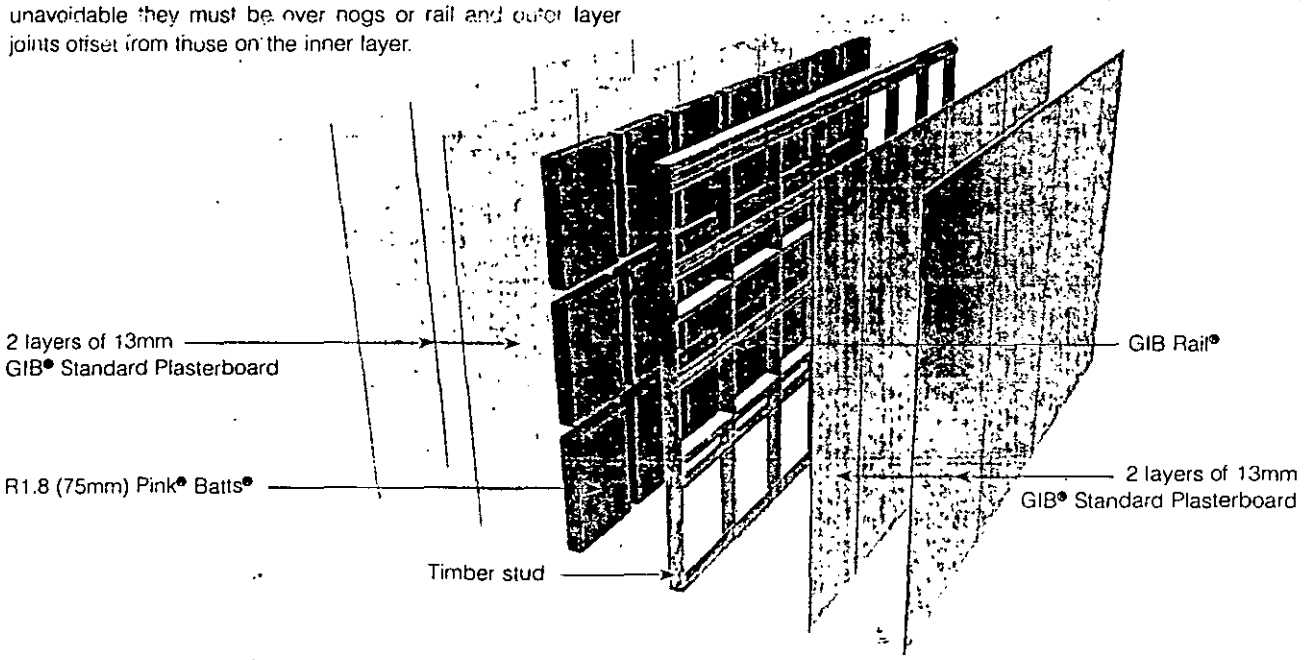
Important: When fastening the lining through the GIB Rail®, set the screws to the side of the studs. The screws must not touch or penetrate the framing.

JOINTING

INNER LAYER: Unstopped.

OUTER LAYER: All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide". Wall to ceiling junctions are to be reinforced with paper tape and square stopped or finished with GIB-Cove®.

STUD SIZE	SPACE BETWEEN FRAMES	PARTITION WIDTH
90mm	N/A	155mm



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow system specifications.